

REX AMERICAN RESOURCES Corp
Form 10-K
March 29, 2018

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

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

FOR THE FISCAL YEAR ENDED JANUARY 31, 2018 COMMISSION FILE NO. 001-09097

REX AMERICAN RESOURCES CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	31-1095548
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

7720 Paragon Road, Dayton, Ohio	45459
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code (937) 276-3931

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

<u>Title of each class</u>	<u>Name of each exchange on which registered</u>
Common Stock, \$.01 par value	New York Stock Exchange

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

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

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

Indicate by check mark whether the registrant has submitted electronically 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 during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of 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. ☐

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 ☐ Smaller reporting company ☐
(Do not check if a 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 ☒

At the close of business on July 31, 2017 the aggregate market value of the registrant's outstanding Common Stock held by non-affiliates of the registrant (for purposes of this calculation, 799,281 shares beneficially owned by directors and executive officers of the registrant were treated as being held by affiliates of the registrant), was \$576,633,450.

There were 6,496,518 shares of the registrant's Common Stock outstanding as of March 28, 2018.

Documents Incorporated by Reference

Portions of REX American Resources Corporation's definitive Proxy Statement for its Annual Meeting of Shareholders on June 6, 2018 are incorporated by reference into Part III of this Form 10-K.

Forward-Looking Statements

This Form 10-K contains or may contain forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995. Such statements can be identified by use of forward-looking terminology such as “may,” “expect,” “believe,” “estimate,” “anticipate” or “continue” or the negative thereof or other variations thereon or comparable terminology. Readers are cautioned that there are risks and uncertainties that could cause actual events or results to differ materially from those referred to in such forward-looking statements. These risks and uncertainties include the risk factors set forth from time to time in the Company’s filings with the Securities and Exchange Commission and include among other things: the impact of legislative changes, the price volatility and availability of corn, distillers grains, ethanol, non-food grade corn oil, gasoline, natural gas, our ethanol and refined coal plants operating efficiently and according to forecasts and projections, changes in the international, national or regional economies, weather, results of income tax audits, changes in income tax laws or regulations and the effects of terrorism or acts of war. The Company does not intend to update publicly any forward-looking statements except as required by law. Other factors that could cause actual results to differ materially from those in the forward-looking statements are set forth in Item 1A.

Available Information

REX makes available free of charge on its Internet website its annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC. REX’s Internet website address is www.rexamerican.com. The contents of the Company’s website are not a part of this report.

PART I

Item 1. Business

References to “we”, “us”, “our”, “REX” or “the Company” refer to REX American Resources Corporation and its majority owned subsidiaries.

Fiscal Year

All references in this report to a particular fiscal year are to REX’s fiscal year ended January 31. For example, “fiscal year 2017” means the period February 1, 2017 to January 31, 2018. We refer to our fiscal year by reference to the year immediately preceding the January 31 fiscal year end date.

Overview

REX was incorporated in Delaware in 1984 as a holding company. Our principal offices are located at 7720 Paragon Road, Dayton, Ohio 45459. Our telephone number is (937) 276-3931. We have been an investor in ethanol production facilities beginning in 2006. We are currently invested in three ethanol production entities; we have a majority ownership interest in two of these entities. We also own a majority interest in an entity that owns and operates a refined coal facility. We may make additional investments in the energy or other industries in the future. In the third quarter of fiscal year 2017, we began reporting the results of our refined coal operation as a new segment as a result of the August 10, 2017 acquisition of an entity that operates a refined coal facility (see Note 3 to the Consolidated Financial Statements). Prior to the acquisition, we had one reportable segment, ethanol. Beginning with the third quarter of fiscal year 2017, we have two reportable segments: i) ethanol and by-products and ii) refined coal.

Our ethanol operations are highly dependent on commodity prices, especially prices for corn, ethanol, distillers grains, non-food grade corn oil and natural gas. As a result of price volatility for these commodities, our operating results can fluctuate substantially. The price and availability of corn is subject to significant fluctuations depending upon a number of factors that affect commodity prices in general, including crop conditions, weather, federal policy and foreign trade. Because the market prices of ethanol and distillers grains are not always directly related to corn prices, at times ethanol and/or distillers grains prices may lag movements in corn prices and, in an environment of higher corn prices or lower ethanol/distillers grains prices, reduce the overall margin structure at the plants. As a result, at times, we may operate our plants at negative or minimally positive operating margins.

We expect our ethanol plants to produce approximately 2.8 gallons of denatured ethanol for each bushel of grain processed in the production cycle. We refer to the actual gallons of denatured ethanol produced per bushel of grain processed as the realized yield. We refer to the difference between the price per gallon of ethanol and the price per bushel of grain (divided by the realized yield) as the “crush spread.” Should the crush spread decline, it is possible that our ethanol plants will generate operating results that do not provide adequate cash flows for sustained periods of time. In such cases, production at the ethanol plants may be reduced or stopped altogether in order to minimize variable costs at individual plants. We also expect our ethanol plants to produce approximately 15.0 pounds of dried distillers grains and 0.8 pounds of non-food grade corn oil for each bushel of grain processed.

We attempt to manage the risk related to the volatility of commodity prices by utilizing forward grain purchase, forward ethanol, distillers grains and non-food grade corn oil sale contracts and commodity futures agreements as management deems appropriate. We attempt to match quantities of these sales contracts with an appropriate quantity of grain purchase contracts over a given period of time when we can obtain an adequate gross margin resulting from the crush spread inherent in the contracts we have executed. However, the market for future ethanol sales contracts generally lags the spot market with respect to ethanol price. Consequently, we generally execute fixed price contracts for no more than four months into the future at any given time and we may lock in our corn or ethanol price without having a corresponding locked in ethanol or corn price for short durations of time. As a result of the relatively short period of time our fixed price contracts cover, we generally cannot predict the future movements in the crush spread for more than four months; thus, we are unable to predict the likelihood or amounts of future income or loss from the operations of our ethanol facilities. We utilize derivative financial instruments, primarily exchange traded commodity future contracts, in conjunction with certain of our grain procurement activities.

Commodity prices in fiscal year 2017 were subject to significant volatility. For fiscal year 2017, the average Chicago Board of Trade (“CBOT”) near-month corn price ranged from a low of approximately \$3.29 per bushel in August 2017 to a high of approximately \$4.02 per bushel in July 2017. Corn prices benefitted throughout the year from consecutive strong corn harvests in 2016 and 2017. Ethanol prices had significant fluctuations ranging from approximately \$1.26 per gallon in December 2017 to a high of approximately \$1.67 per gallon in April 2017. Ethanol prices were influenced by many factors throughout the year including low energy prices, varying levels of domestic and import/export ethanol demand and increases in United States ethanol production.

On August 10, 2017, we purchased for approximately \$12.0 million, the entire ownership interest of an entity that owns a refined coal facility through a 95.35% owned subsidiary. We began operating the refined coal facility immediately after the acquisition. We expect that the revenues from the sale of refined coal produced in the facility will be subsidized by federal production tax credits through November 2021, subject to meeting qualified emissions

reductions as governed by Section 45 of the Internal Revenue Code (“IRC”). In order to maintain compliance with Section 45 of the Internal Revenue Code, we are required to test every six months, through an independent laboratory, the effectiveness of our operations with respect to emissions reductions. Annually, the IRS publishes the amount of federal income tax credit earned per ton of refined

coal produced and sold for a given calendar year. We expect to earn credits at the rate of approximately \$6.91 per ton of refined coal produced and sold during fiscal year 2017.

Net income attributable to REX common shareholders was approximately \$39.7 million in fiscal year 2017 compared to approximately \$32.3 million in fiscal year 2016. The current year benefitted from reductions in our effective tax rate resulting from tax reform legislation and the impact of Section 45 federal income tax credits from our refined coal operations. Gross profit in fiscal year 2017 was significantly lower compared to fiscal year 2016, primarily a result of lower crush spreads and distillers grains pricing as well as the impact of our refined coal facility which generated a gross loss. Due to the inherent volatility of commodity prices within the ethanol industry, the uncertainty regarding future refined coal production and associated financial results, and the impact of tax reform legislation, we cannot predict the likelihood of future operating results being similar to the fiscal year 2017 results.

During fiscal year 2013, we entered into a joint venture with Hytken HPGP LLC (“Hytken”) to file and defend patents for eSteam technology relating to heavy oil and oil sands production methods, and to attempt to commercially exploit the technology to generate license fees, royalty income and development opportunities. The patented technology is an enhanced method of heavy oil recovery involving zero emissions downhole steam generation. To date, we have paid approximately \$1.8 million for our ownership interest, patent and other expenses, but have not successfully demonstrated that the technology is commercially feasible. We own 60% and Hytken owns 40% of the entity named Future Energy, LLC (“Future Energy”), an Ohio limited liability company. Future Energy is managed by a board of three managers, two appointed by us and one by Hytken.

We plan to seek and evaluate various investment opportunities including energy related, agricultural or other ventures we believe fit our investment criteria. We can make no assurances that we will be successful in our efforts to find such opportunities.

Ethanol and by-products Overview

We began investing in the ethanol industry during fiscal year 2006. The form and structure of our investments is tailored to the specific needs and goals of each project and the local farmer group or investor with whom we are partnering. We generally participate in the management of our projects through our membership on the board of managers of the limited liability companies that own the plants.

We have equity investments in three entities engaged in the production of ethanol as of January 31, 2018. The following table is a summary of our ethanol investments at January 31, 2018 (gallons in millions):

Entity	Trailing 12	REX's Current	Current Effective
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	Months Ethanol Gallons Shipped	Ownership Interest	Ownership of Trailing 12 Months Ethanol Gallons Shipped
One Earth Energy, LLC	123.1	75.1	% 92.4
NuGen Energy, LLC	132.9	99.5	% 132.2
Big River Resources, LLC:			
Big River Resources W Burlington, LLC	107.9	10.3	% 11.1
Big River Resources Galva, LLC	126.4	10.3	% 13.0
Big River United Energy, LLC	129.5	5.7	% 7.4
Big River Resources Boyceville, LLC	57.0	10.3	% 5.9
Total	676.8		262.0

4

Ethanol Industry

Ethanol is a renewable fuel source produced by processing corn and other biomass through a fermentation process that creates combustible alcohol that can be used as an additive or replacement to fossil fuel based gasoline. The majority of ethanol produced in the United States is made from corn because of its wide availability and ease of convertibility from large amounts of carbohydrates into glucose, the key ingredient in producing alcohol that is used in the fermentation process. Ethanol production can also use feedstocks such as grain sorghum, switchgrass, wheat, barley, potatoes and sugarcane as carbohydrate sources. Most ethanol plants have been located near large corn production areas, such as Illinois, Indiana, Iowa, Minnesota, Nebraska, Ohio and South Dakota. Railway access and interstate access are vital for ethanol facilities due to the large amount of raw materials and finished goods required to be shipped to and from the ethanol plant facilities.

According to the Renewable Fuels Association (“RFA”), the United States ethanol industry produced an estimated 15.8 billion gallons of ethanol in 2017. Approximately 14.4 billion gallons were blended domestically and approximately 1.3 billion gallons were exported in 2017. According to the RFA, as of January 2018, the United States ethanol industry consists of 211 plants (201 operating) in 28 states with an annual capacity of approximately 16.2 billion gallons (approximately 15.8 billion gallons at operating plants) of ethanol production. The RFA estimates that, as of January 2018, approximately 465 million gallons per year of additional production capacity is under construction or expansion.

On December 19, 2007, the Energy Independence and Security Act of 2007 (the “Energy Act of 2007”) was enacted. The Energy Act of 2007 established new levels of renewable fuel mandates, including two different categories of renewable fuels: conventional biofuels and advanced biofuels. Corn-based ethanol is considered a conventional biofuel which is subject to a renewable fuel standard (“RFS”) of 15.0 billion gallons annually through 2022. After 2022, RFS volumes will be determined by the Environmental Protection Agency (“EPA”) in coordination with the Secretaries of Energy and Agriculture.

The federal government mandates the use of renewable fuels under RFS II, established in October 2010. The EPA has the authority to waive the mandates in whole or in part if one of two conditions is met: 1) there is inadequate domestic renewable fuel supply, or 2) implementation of the mandate requirement severely harms the economy or environment of a state, region or the United States. In 2014, 2015 and 2016, the EPA took action to reduce the volumes for both conventional biofuels and advanced biofuels.

The U.S. Federal District Court for the D.C. Circuit ruled on July 28, 2017, in favor of the Americans for Clean Energy and its petitioners against the EPA related to its decision to lower the 2016 volume requirements. The Court concluded the EPA erred in how it interpreted the “inadequate domestic supply” waiver provision of RFS II, which authorizes the EPA to consider supply-side factors affecting the volume of renewable fuel available to refiners, blenders, and importers to meet the statutory volume requirements. The waiver provision does not allow the EPA to consider the volume of renewable fuel available to consumers or the demand-side constraints that affect the consumption of renewable fuel by consumers. As a result, the Court vacated the EPA’s decision to reduce the total renewable fuel volume requirements for 2016 through its waiver authority, which the EPA is expected to address.

Pursuant to RFS II, if mandatory renewable fuel volumes are reduced by at least 20% for two consecutive years, the EPA is required to modify, or reset, statutory volumes through 2022. While conventional ethanol maintained 15.0 billion gallons, 2018 is the first year the total proposed renewable volume obligations (“RVOs”) are more than 20% below statutory volumes levels. Thus, the EPA Administrator directed his staff to initiate the required technical analysis to perform any future reset consistent with the reset rules. The reset will be triggered if the 2019 RVOs continue to be more than 20% below the statutory levels, and the EPA

will be required to modify statutory volumes through 2022 within one year of the trigger event, based on the same factors used to set the RVOs post-2022.

Obligated parties use renewable identification numbers (“RINs”) to show compliance with RFS-mandated volumes. RINs are attached to renewable fuels by producers and detached when the renewable fuel is blended with transportation fuel or traded in the open market. The market price of detached RINs affects the price of ethanol in certain markets and influences the purchasing decisions by obligated parties. Certain obligated parties petitioned the EPA to move the point of obligation from refiners and importers of fuel to fuel blenders. In November 2017, the EPA denied this petition to change the point of obligation under RFS II to the parties that own the gasoline before it is sold.

On January 26, 2018, in separate court actions, both Valero Energy and American Fuel and Petrochemical and Manufacturers challenged the EPA regarding the EPA’s management of the U.S. biofuel mandate. Amongst their challenges are the EPA’s November 2017 decision to reject proposed changes to the structure of the RFS including the point of obligation, and the plaintiffs are seeking a review of the annual Renewable Volume Obligations rule set by the EPA for 2018 and 2019.

Ethanol Production

The plants we have invested in are designed to use the dry milling method of producing ethanol. In the dry milling process, the entire corn kernel is first ground into flour, which is referred to as “meal,” and processed without separating out the various component parts of the grain. The meal is processed with enzymes, chemicals and water, and then placed in a high-temperature cooker. It is then transferred to fermenters where yeast is added and the conversion of sugar to ethanol begins. After fermentation, the resulting liquid is transferred to distillation columns where the ethanol is separated from the remaining “stillage” for fuel uses. The anhydrous ethanol is then blended with a denaturant, such as natural gasoline, to render it undrinkable and thus not subject to beverage alcohol tax. With the starch elements of the corn consumed in the above described process, the principal co-product produced by the dry milling process is dry distillers grains with solubles, or DDGS. DDGS is sold as a protein used in animal feed, which recovers a portion of the corn cost not absorbed in ethanol production. We also generate revenues from the sale of non-food grade corn oil produced at our facilities. Non-food grade corn oil is sold to the animal feed market, as well as biodiesel and other chemical markets.

The Primary Uses of Ethanol

Blend component. Today, much of the ethanol blending in the U.S. is done to meet the RFS. Currently, ethanol is blended into approximately 98% of the gasoline sold in the United States, the majority as E-10 (a blend of 10% ethanol and 90% gasoline), according to the RFA. Going forward, the industry is attempting to expand the E-85 market, as well as to raise the federal cap on ethanol blend above the current 10% for most vehicles in use. The EPA has approved the use of 15% ethanol in gasoline for cars, SUV’s and light duty trucks made in 2001 and later. Despite this, it will take time for this measure to be implemented, and it is still being met with great resistance. Ethanol

accounted for approximately 10.1% of the total U.S. gasoline supply for 2016 and 2017.

Clean air additive. Ethanol is employed by the refining industry as a fuel oxygenate, which when blended with gasoline, allows engines to combust fuel more completely and reduce emissions from motor vehicles. Ethanol contains 35% oxygen, which results in more complete combustion of the fuel in the engine cylinder. Oxygenated gasoline is used to help meet certain federal and air emission standards.

Octane enhancer. Ethanol increases the octane rating of gasoline with which it is blended. As such, ethanol is used by gasoline suppliers as an octane enhancer both for producing regular grade gasoline from lower octane blending stocks and for upgrading regular gasoline to premium grades.

Legislation

The United States ethanol industry is highly dependent upon federal and state legislation. See Item 1A. Risk Factors for a discussion of legislation affecting the U.S. ethanol industry.

Refined Coal Overview

On August 10, 2017, we purchased the entire ownership interest of an entity that owns a refined coal facility through a 95.35% owned subsidiary. We began operating the refined coal facility immediately after the acquisition. Using licensed technology, our plant applies two separate chemicals to convert feedstock coal into refined coal, which is sold to the end user of the refined coal. We expect that the revenues from the sale of refined coal produced in the facility will be subsidized by federal production tax credits through November 2021, subject to meeting qualified emissions reductions as governed by Section 45 of the Internal Revenue Code (“IRC”). In order to maintain compliance with Section 45 of the IRC, we are required to test every six months, through an independent laboratory, the effectiveness of our operations with respect to emissions reductions. Annually, the IRS publishes the amount of federal income tax credit earned per ton of refined coal produced and sold for a given calendar year. We expect to earn credits at the rate of approximately \$6.91 per ton of refined coal produced and sold during fiscal year 2017.

Section 45 of the IRC was created by Congress to encourage the development and use of environmentally sound solutions to control harmful emissions during energy production and to facilitate and move the United States towards better compliance with global environmental energy standards. The American Jobs Creation Act of 2004 amended Section 45 of the IRC by adding provisions to incentivize the production of emission reducing refined coal. To qualify for tax credits under Section of the IRC, a process must reduce coal emissions of nitrogen oxide by 20% and either sulfur dioxide or mercury by 40%. The tax credits can be earned for refined coal produced and sold by our facility through November 2021.

Facilities

At January 31, 2018, our consolidated ethanol entities own a combined 477 acres of land and two facilities that shipped a combined quantity of approximately 256 million gallons of ethanol in fiscal year 2017. We also own our corporate headquarters office building, consisting of approximately 7,500 square feet, located in Dayton, Ohio. We own a refined coal plant that is located on leased property on the site of an electrical generating station.

Employees

At January 31, 2018, we had 120 employees at our two consolidated ethanol plants and at our corporate headquarters. None of our employees are represented by a labor union. We expect this employment level to remain relatively stable. We consider our relationship with our employees to be good.

Service Marks

We have registered the service marks “REX”, and “Farmer’s Energy”, with the United States Patent and Trademark Office. We are not aware of any adverse claims concerning our service marks.

Item 1A. Risk Factors

We encourage you to carefully consider the risks described below and other information contained in this report when considering an investment decision in REX common stock. Any of the events discussed in the risk factors below may occur. If one or more of these events do occur, our results of operations, financial condition or cash flows could be materially adversely affected. In this instance, the trading price of REX stock could decline, and investors might lose all or part of their investment.

Risks Related to our Ethanol and by-Products Business

The ethanol industry is changing rapidly which could result in unexpected developments that could negatively impact our operations.

According to the RFA, the ethanol industry has grown from approximately 1.5 billion gallons of domestic annual ethanol production in 1999 to approximately 15.8 billion gallons in 2017. Thus, there have been significant changes in the supply and demand of ethanol over a relatively short period of time which could lead to difficulty in maintaining profitable operations at our ethanol plants.

The financial returns on our ethanol investments are highly dependent on commodity prices, which are subject to significant volatility, uncertainty and regional supply shortages, so our results could fluctuate substantially.

The financial returns on our ethanol investments are highly dependent on commodity prices, especially prices for corn, natural gas, ethanol, dried distillers grains, non-food grade corn oil and unleaded gasoline. As a result of the volatility of the prices for these items, our returns may fluctuate substantially and our investments could experience periods of declining prices for their products and increasing costs for their raw materials, which could result in operating losses at our ethanol plants.

Our returns on ethanol investments are highly sensitive to grain prices. Corn is the principal raw material our ethanol plants use to produce ethanol and co-products. As a result, changes in the price of corn can significantly affect our businesses. Rising corn prices result in higher production costs of ethanol and co-products. Because ethanol competes with non-corn-based fuels, our ethanol plants may not be able to pass along increased grain costs to our customers. At certain levels, grain prices may make ethanol uneconomical to produce.

The price of corn is influenced by weather conditions and other factors affecting crop yields, transportation costs, farmer planting decisions, exports, the value of the U.S. dollar and general economic, market and regulatory factors.

These factors include government policies and subsidies with respect to agriculture and international trade and global and local demand and supply. The significance and relative effect of these factors on the price of corn is difficult to predict. Any event that tends to negatively affect the supply of corn, such as adverse weather or crop disease, could increase corn prices and potentially harm the business of our ethanol plants. Increasing domestic ethanol capacity could boost the demand for corn and result in increased corn prices. Much of the Midwestern United States experienced drought conditions during 2012 which led to a smaller harvest of corn and increased corn prices. Our ethanol plants may also have difficulty, from time to time, in physically sourcing corn on economic terms due to regional supply shortages or unfavorable local pricing. Such a shortage or price impact could require our ethanol plants to suspend operations which would have a material adverse effect on our consolidated results of operations.

The spread between ethanol and corn prices can vary significantly. The gross margin at our ethanol plants depends principally on the spread between ethanol and corn prices. Fluctuations in the spread are likely to continue to occur. A sustained narrow or negative spread, whether as a result of sustained high or increased corn prices or sustained low or decreased ethanol prices, would adversely affect the results of operations at our ethanol plants.

Our risk management strategies may be ineffective and may expose us to decreased profitability and liquidity. In an attempt to partially offset the impact of volatility of commodity prices, we enter into forward contracts to sell a portion of our ethanol and distillers grains production and to purchase a portion of our corn and natural gas requirements. The financial impact of these risk management activities is dependent upon, among other items, the prices involved and our ability to receive or deliver the commodities involved. Risk management activities can result in financial loss when positions are purchased in a declining market or when positions are sold in an increasing market. In addition, we may not be able to match the appropriate quantity of corn contracts with quantities of ethanol, distillers grains and non-food grade corn oil contracts. We vary the amount of risk management techniques we utilize, and we may choose not to engage in any risk management activities. Should we fail to properly manage the inherent volatility of commodities prices, our results of operations and financial condition may be adversely affected.

The market for natural gas is subject to market conditions that create uncertainty in the price and availability of the natural gas that our ethanol plants use in their manufacturing process. Our ethanol plants rely upon third parties for their supply of natural gas, which is consumed as fuel in the production process. The prices for and availability of natural gas are subject to volatile market conditions. These market conditions often are affected by factors beyond the ethanol plants' control, such as weather conditions, overall economic conditions and foreign and domestic governmental regulation and relations. Significant disruptions in the supply of natural gas could impair or completely prevent the ethanol plants' ability to economically manufacture ethanol for their customers. Furthermore, increases in natural gas prices or changes in our natural gas costs relative to natural gas costs paid by competitors may adversely affect results of operations and financial position at our ethanol plants.

Fluctuations in the selling price of commodities may reduce profit margins at our ethanol plants. Ethanol is marketed as a fuel additive to reduce vehicle emissions from gasoline, as an octane enhancer to improve the octane rating of gasoline with which it is blended and, to a lesser extent, as a gasoline substitute. As a result, ethanol prices are influenced by the supply and demand for gasoline and our ethanol plants' results of operations and financial position may be materially adversely affected if gasoline demand or prices decrease.

Distillers grains compete with other protein based animal feed products. The price of distillers grains may decrease when the prices of competing feed products decrease. The prices of competing animal feed products are based in part on the prices of the commodities from which their products are made. Historically, sales prices for distillers grains have tracked along with the price of corn. However, there have been instances when the price increase for distillers grains has lagged price increases in corn prices.

The production of distillers grains has increased as a result of increases in dry mill ethanol production in the United States. This could lead to price declines in what we can sell our distillers grains for in the future. Such declines could have an adverse material effect on our results of operations.

Increased ethanol production or decreases in demand for ethanol may result in excess production capacity in the ethanol industry, which may cause the price of ethanol, distillers grains and non-food grade corn oil to decrease.

According to the RFA, domestic ethanol production capacity is approximately 16.2 billion gallons per year as of January 2018. The RFA estimates that, as of January 2018, approximately 465 million gallons per year of additional production capacity is under construction or expansion. In addition, certain operating plants have qualified as efficient ethanol producers through the EPA pathway assessment, and are expanding, or planning to expand their capacity. The EPA set the RFS requirement to be satisfied by corn-derived ethanol at 15.0 billion gallons for 2017 and 2018. Excess capacity in the ethanol industry could have an adverse effect on the results of our operations. In a manufacturing industry with excess capacity, producers have an incentive to manufacture additional products for so long as the price exceeds the marginal cost of production (i.e., the cost of producing only the next unit, without regard for interest, overhead or fixed costs). This incentive could result in the reduction of the market price of ethanol to a level that is inadequate to generate sufficient cash flow to cover costs.

Excess capacity may also result from decreases in the demand for ethanol, which could result from a number of factors, including, but not limited to, regulatory developments and reduced U.S. gasoline consumption. Reduced gasoline consumption could occur as a result of increased prices for gasoline or crude oil, which could cause businesses and consumers to reduce driving or acquire vehicles with more favorable gasoline mileage or acquire non-gasoline powered vehicles.

In addition, because ethanol production produces distillers grains and non-food grade corn oil as co-products, increased ethanol production will also lead to increased supplies of distillers grains and non-food grade corn oil. An increase in the supply of distillers grains and non-food grade corn oil, without corresponding increases in demand, could lead to lower prices or an inability to sell our ethanol plants' distillers grains and non-food grade corn oil production. A decline in the price of distillers grains or non-food grade corn oil could have a material adverse effect on the results of our ethanol operations.

The price of ethanol and distillers grains may decline as a result of trade restrictions or duties on ethanol and distillers grains exports from the United States or from unfavorable foreign currency exchange rates.

The United States exported approximately 1.3 billion gallons of ethanol in 2017. If producers and exporters of ethanol are subject to trade restrictions, or additional duties are imposed on exports, it may make it uneconomical to export ethanol. China raised its 5% tariff on U.S. fuel ethanol to 30%, effective January 1, 2017 and has threatened additional tariff increases in response to recently announced U.S. tariffs. Furthermore, unfavorable changes in foreign currency exchange rates could reduce the demand for United States ethanol exports. This could result in an oversupply of ethanol in the United States which could have a material adverse effect on the results of our ethanol operations.

Exports of distillers grains produced in the United States have been increasing in recent years. However, the export market may be jeopardized if foreign governments impose trade barriers or other measures to protect the foreign local markets. In January 2016, the China Ministry of Commerce announced it had initiated anti-dumping and countervailing duty investigations of U.S. dried distillers grains exports to China. China also announced it had established anti-dumping duties on imports of U.S. dried distillers grains that range from 42.2% to 53.7% and also had established countervailing duties that range from 11.2% to 12%. If producers and exporters of distillers grains are subjected to trade barriers when selling distillers grains to foreign customers, there may be a reduction in the price of

distillers grains in the United States. In addition, foreign currency exchange rate fluctuations could reduce the demand for United States exports of distillers grains. Declines in the price we receive for our distillers grains could lead to decreased revenues and may result in our inability to operate our ethanol plants profitably.

Future demand for ethanol is uncertain and changes in overall consumer demand for transportation fuel could affect demand.

There are limited markets for ethanol other than what is federally mandated. Increased consumer acceptance of E15 and E85 fuel is likely necessary in order for ethanol to achieve significant market share growth beyond federal mandate levels.

We depend on our partners to operate certain of our ethanol investments.

Our investments currently represent both majority and minority equity positions. Day-to-day operating control of minority owned plants generally remains with the local investor group. We do not have the ability to directly modify the operations of these plants in response to changes in the business environment or in response to any deficiencies in local operations of the plants. In addition, local plant operators, who also represent the primary suppliers of corn and other crops to the plants, may have interests, such as the price and sourcing of corn and other crops, that may differ from our interest, which is based solely on the operating profit of the plant. The limitations on our ability to control day-to-day plant operations could adversely affect plant results of operations.

We may not successfully acquire or develop additional ethanol investments.

The growth of our ethanol business depends on our ability to identify and develop new ethanol investments. Our ethanol development strategy depends on referrals, and introductions, to new investment opportunities from industry participants, such as ethanol plant builders, financial institutions, marketing agents and others. We must continue to maintain favorable relationships with these industry participants, and a material disruption in these sources of referrals would adversely affect our ability to expand our ethanol investments.

Any expansion strategy will depend on prevailing market conditions for the price of ethanol and the cost of corn and natural gas and the expectations of future market conditions. There is increasing competition for suitable sites for ethanol plants. Even if suitable sites or opportunities are identified, we may not be able to secure the services and products from contractors, engineering firms, construction firms and equipment suppliers necessary to build or expand ethanol plants on a timely basis or on acceptable economic terms. Construction costs may increase to levels that would make a new plant too expensive to complete or unprofitable to operate. Additional financing may also be necessary to implement any expansion strategy, which may not be accessible or available on acceptable terms. New and more stringent environmental regulations could increase the operating costs and risks of new plants, which, in turn could discourage us from further expansion. In addition, failure to adequately manage the risks associated with additional ethanol investments could have a material adverse effect on our business.

Our ethanol plants may be adversely affected by technological advances and efforts to anticipate and employ such technological advances may prove unsuccessful.

The development and implementation of new technologies may result in a significant reduction in the costs of ethanol production. For instance, any technological advances in the efficiency or cost to produce ethanol from inexpensive cellulosic sources such as corn stalk, wheat, oat or barley straw could have an adverse effect on our ethanol plants, because our plants are designed to produce ethanol from corn, which is, by comparison, a raw material with other high value uses. We cannot predict when new technologies may become available, the rate of acceptance of new technologies by competitors or the costs associated with new technologies. In addition, advances in the development of alternatives to ethanol could significantly reduce demand for or eliminate the need for ethanol.

Any advances in technology which require significant unanticipated capital expenditures to remain competitive or which reduce demand or prices for ethanol would have a material adverse effect on the results of our ethanol operations.

In addition, alternative fuels, additives and oxygenates are continually under development. Alternative fuel additives that can replace ethanol may be developed, which may decrease the demand for ethanol. It is also possible that technological advances in engine and exhaust system design and performance could reduce the use of oxygenates, which would lower the demand for ethanol, and the results of our ethanol operations may be materially adversely affected.

The U.S. ethanol industry is highly dependent upon a myriad of federal and state legislation and regulation and any changes in legislation or regulation could materially and adversely affect our results of operations and financial position.

The Energy Independence and Security Act of 2007 (EISA) established RFS II, which modified the renewable fuel standard from prior legislation. EISA increased the amount of renewable fuel required to be blended into gasoline and required a minimum usage of corn-derived renewable fuels of 12.0 billion gallons in 2010, increasing annually by 600 million gallons to 15.0 billion gallons in 2015 through 2022, with no specified volume subsequent to 2022. The EPA has the authority to assign the mandated amounts of renewable fuels to be blended into transportation fuel to individual fuel blenders. RFS II has been a primary factor in the growth of ethanol usage. Over the past several years various pieces of legislation have been introduced to the U.S. Congress that were intended to reduce or eliminate ethanol blending requirements. To date, none of the bills have been successful but they are an indication of the continued effort to undermine the EISA. For example, on January 3, 2017, the Leave Ethanol Volumes at Existing Levels (“LEVEL”) Act (H.R. 119) was introduced in the U.S. House of Representatives. The bill would freeze renewable fuel blending requirements under the RFS at 7.5 billion gallons per year, prohibit the sale of gasoline containing more than 10% ethanol, and revoke the EPA’s approval of E15 blends. In addition, on January 31, 2017, a bill (H.R. 777) was introduced in the U.S. House of Representatives that would require the EPA and National Academies of Sciences to conduct a study on the implication of the use of mid-level ethanol blends. A mid-level ethanol blend is an ethanol gasoline blend containing 10-20% ethanol by volume, including E15 and E20, that is intended to be used in any conventional gasoline powered motor vehicle or non-road vehicle or engine. On March 2, 2017, a bill (H.R. 1315) was introduced in the U.S. House of Representatives that would limit the volume of ethanol in gasoline to 10%. On the same day, the RFS Elimination Act (H.R. 1314) was introduced in the U.S. House of Representatives. The bill would fully repeal the RFS.

Under EISA, the EPA has the authority to waive or modify the mandated RFS II requirements in whole or in part. In order to grant a waiver, the EPA administrator must determine in consultation with the Secretaries of Agriculture and Energy, that one of the following two conditions has been met: i) there is inadequate domestic renewable fuel supply or ii) implementation of the requirement would severely harm the economy or environment of a state, region or the country. In certain past years the EPA has taken action to reduce the mandated gallons called for under EISA for both conventional and advanced renewable fuels.

Pursuant to RFS II, if mandatory renewable fuel volumes are reduced by at least 20% for two consecutive years, the EPA is required to modify, or reset, statutory volumes through 2022. While conventional ethanol maintained 15 billion gallons, 2018 is the first year the total proposed renewable volume obligations (“RVOs”) RVOs are more than 20% below statutory volumes levels. Thus, the EPA Administrator directed his staff to initiate the required technical analysis to perform any future reset consistent with the reset rules. The reset will be triggered if the 2019 RVOs continue to be more than 20% below the statutory levels, and the EPA will be required to modify statutory volumes

through 2022 within one year of the trigger event, based on the same factors used to set the RVOs post-2022. The EPA has maintained the statutory 15.0 billion gallons requirement for conventional renewable fuels but reduced the statutory requirement for advanced biofuels based upon supply limitations for 2017 and 2018.

Obligated parties use renewable identification numbers (“RINs”) to show compliance with RFS-mandated volumes. RINs are attached to renewable fuels by producers and detached when the renewable fuel is blended with transportation fuel or traded in the open market. The market price of detached RINs affects the price of ethanol in certain markets and influences the purchasing decisions by obligated parties. As a result of fluctuations in RINs pricing, certain obligated parties have petitioned the EPA and filed court actions to change the point of obligation or to seek relief from their obligation. If this action leads to reduced values for RINs, it could negatively impact the price we receive for ethanol sales.

If the United States were to withdraw from or materially modify the North American Free Trade Agreement (“NAFTA”) or certain other international trade agreements, our business, financial condition and results of operations could be materially adversely affected. Ethanol and other products that we produce are sold into Canada, Mexico and other countries with trade agreements with the United States. If tariffs were raised on the foreign-sourced goods that lead to retaliatory actions, it could have material adverse effect on our business, financial condition and results of operations.

The inability to generate or obtain RINs could adversely affect our operating results. Virtually all of our ethanol is sold with RINs that are used by customers to comply with RFS II. If our production does not meet EPA requirements for RIN generation in the future, we would have to purchase RINs in the open market or sell our ethanol at substantially lower prices to adjust for the absence of RINs. The price of RINs varies based on many factors and cannot be predicted. Failure to obtain sufficient RINS or reliance on invalid RINs could subject us to fines and penalties imposed by the EPA.

Changes in corporate average fuel economy standards could adversely impact ethanol prices. Flexible fuel vehicles receive preferential treatment in meeting federally mandated corporate average fuel economy (“CAFE”) standards for automobiles manufactured by car makers. High blend ethanol fuels such as E-85 result in lower fuel efficiencies. Absent the CAFE preferences, car makers would not likely build flexible-fuel vehicles. Any change in CAFE preferences could reduce the growth of E-85 markets and result in lower ethanol prices.

Various studies have criticized the efficiency of ethanol, in general, and corn-based ethanol in particular, which could lead to the reduction or repeal of incentives and tariffs that promote the use and domestic production of ethanol or otherwise negatively impact public perception and acceptance of ethanol as an alternative fuel.

Although many trade groups, academics and governmental agencies have supported ethanol as a fuel additive that promotes a cleaner environment, others have criticized ethanol production as consuming considerably more energy and emitting more greenhouse gases than other biofuels and as potentially depleting water resources. Other studies have suggested that corn-based ethanol is less efficient than ethanol produced from switchgrass or wheat grain and that it negatively impacts consumers by causing prices for dairy, meat and other foodstuffs from livestock that consume corn to increase. If these views gain acceptance, support for existing measures promoting use and domestic production of corn-based ethanol could decline, leading to reduction or repeal of these measures. These views could also negatively impact public perception of the ethanol industry and acceptance of ethanol as an alternative fuel.

Federal support of cellulosic ethanol may result in reduced incentives to corn-derived ethanol producers.

The American Recovery and Reinvestment Act of 2009 and EISA provide funding opportunities in support of cellulosic ethanol obtained from biomass sources such as switchgrass and poplar trees. The amended RFS mandates an increasing level of production of non-corn-derived biofuels. These federal policies may suggest

a long-term political preference for cellulosic processes using alternative feedstocks such as switchgrass, silage or wood chips. Cellulosic ethanol has a smaller carbon footprint than corn-derived ethanol, and is unlikely to divert foodstuff from the market. Several cellulosic ethanol plants are under development and there is a risk that cellulosic ethanol could displace corn ethanol. Our plants are designed as single-feedstock facilities, located in corn production areas with limited alternative feedstock nearby, and would require significant additional investment to convert to the production of cellulosic ethanol. The adoption of cellulosic ethanol as the preferred form of ethanol could have a significant adverse effect on our ethanol business.

Our ethanol business is affected by environmental and other regulations which could impede or prohibit our ability to successfully operate our plants.

Our ethanol production facilities are subject to extensive air, water and other environmental regulations. We have had to obtain numerous permits to construct and operate our plants. Regulatory agencies could impose conditions or other restrictions in the permits that are detrimental or which increase our costs. More stringent federal or state environmental regulations could be adopted which could significantly increase our operating costs or require us to expend considerable resources.

Our ethanol plants emit various airborne pollutants as by-products of the ethanol production process, including carbon dioxide (a greenhouse gas). In 2007, the U.S. Supreme Court classified carbon dioxide as an air pollutant under the Clean Air Act in a case seeking to require the EPA to regulate carbon dioxide in vehicle emissions. In February 2010, the EPA released its final regulations on the Renewable Fuel Standard program. We believe our plants are grandfathered up to certain operating capacity, but recent plant expansion requires us to meet a 20% threshold reduction in greenhouse gas (GHG) emissions from a 2005 baseline measurement to produce ethanol eligible for the RFS II mandate. To further expand our plant capacity, we may be required to obtain additional permits, install advanced technology equipment, or reduce drying of certain amounts of distillers grains. We may also be required to install carbon dioxide mitigation equipment or take other steps in order to comply with future laws or regulations. Compliance with future laws or regulations of carbon dioxide, or if we choose to expand capacity at certain of our plants, compliance with then-current regulations of carbon dioxide, could be costly and may prevent us from operating our plants as profitably, which may have a negative impact on our financial performance. We also face the risk of ethanol production above our grandfathered capacity not qualifying for RINS if the plants do not meet certain emission requirements.

The California Air Resources Board (“CARB”) has adopted a Low Carbon Fuel Standard (“LCFS”) requiring a 10% reduction in GHG emissions from transportation fuels by 2020. An Indirect Land Use Charge is included in this lifecycle GHG emission calculation. After a series of rulings that temporarily prevented CARB from enforcing these regulations, the State of California Office of Administrative Law approved the LCFS on November 26, 2012 and revised LCFS regulations took effect in January 2013. This standard could have an adverse impact on the market for corn-based ethanol in California if corn-based ethanol fails to achieve lifecycle GHG emission reductions. This could have a negative impact on our financial performance.

Our ethanol business may become subject to various environmental and health and safety and property damage claims and liabilities.

Operation of our ethanol business exposes the business to the risk of environmental and health and safety claims and property damage claims, such as failure to comply with environmental regulations. These types of claims could also be made against our ethanol business based upon the acts or omissions of other persons.

Serious claims could have a material negative impact on our results of operations, financial position and future cash flows.

Our business is not significantly diversified.

Our financial results depend heavily on our ability to operate our ethanol plants profitably. Our lack of significant diversification could have a material negative impact on our results of operations, financial position and future cash flows should our ethanol plants operate unprofitably.

We may have commitments to produce and sell ethanol.

We may, at times, sell our products with forward contracts. If we are unable to produce the products due to economic conditions, business interruption, or other factors, we may incur additional costs or have to obtain commodities at unfavorable prices to meet our contractual commitments. This could have a material adverse effect on our results of operations.

Our revenue from the sale of distillers grains depends upon its continued market acceptance as an animal feed.

Distillers grains is a co-product from the fermentation of corn to produce ethanol. Antibiotics may be used during the fermentation process to control bacterial contamination; therefore antibiotics may be present in small quantities in distillers grains marketed as animal feed. The U. S. Food and Drug Administration's Center for Veterinary Medicine has expressed concern about potential animal and human health hazards from the use of distillers grains as an animal feed due to the possibility of antibiotic residues. If the public became concerned about the impact of distillers grains in the food supply or as an acceptable animal feed, the market for distillers grains could be negatively impacted, which would have a negative impact on our results of operations. We may not be able to obtain a suitable replacement for antibiotics, should this be required, which would also negatively impact the market for distillers grains.

An estimated 29% of distillers grains produced in the United States were exported in 2017. The price of distillers grains has benefitted from the exports of the product. In recent years, certain countries have refused to import U.S. distillers grains for a variety of reasons. If export shipments are rejected or delayed, the market price for distillers grains would be negatively impacted, which would have a negative impact on our ethanol results of operations.

At certain of our plants, we extract and sell non-food grade corn oil immediately prior to the production of distillers grains. Several studies are attempting to determine whether non-food grade corn oil extraction may impact the nutritional value of the resulting distillers grains. If it is determined that non-food grade corn oil extraction adversely

impacts the nutritional energy content of distillers grains, the value of the distillers grains we sell may be negatively impacted, which would have a negative impact on our results of operations.

We face significant competition in the ethanol industry.

We face significant competition for new ethanol investment opportunities. There are varied enterprises seeking to participate in the ethanol industry. Some enterprises provide financial and management support similar to our business model. Other enterprises seek to acquire or develop plants which they will directly own and operate. Many of our competitors are larger and have greater financial resources and name recognition than we do. We must compete for investment opportunities based on our strategy of supporting and enhancing local development of ethanol plant opportunities. We may not be successful in competing for investment opportunities based on our strategy.

The ethanol industry is primarily comprised of entities that engage exclusively in ethanol production and large integrated grain companies that produce ethanol along with their base grain business. Several large oil companies have entered the ethanol production market. If these companies increase their ethanol plant ownership or if other oil companies seek to engage in direct ethanol production, there would be less of a need to purchase ethanol from independent producers such as our ethanol plants. No assurance can be given that our ethanol plants will be able to compete successfully or that competition from larger companies with greater financial resources will not have a materially adverse impact on the results of our ethanol operations.

We may face competition from foreign producers.

There is a risk of foreign competition in the ethanol industry. Brazil is presently the second largest producer of ethanol in the world. Brazil's ethanol production is sugarcane based, and, depending on feedstock prices, may be cheaper to produce than corn-derived ethanol. Under the RFS, certain parties were obligated to meet an advanced biofuel standard. In recent years, sugarcane based ethanol imported from Brazil has been one of the most economical means for obligated parties to comply with this standard.

If significant additional foreign ethanol production capacity is created, such facilities could create excess supplies of ethanol, which may result in lower prices of ethanol. In addition, foreign ethanol producers may be able to produce ethanol at costs lower than ours. These risks could have significant adverse effects on our financial performance.

We are exposed to credit risk from our sales of ethanol and distillers grains to customers.

The inability of a customer to make payments to us for our accounts receivable may cause us to experience losses and may adversely impact our liquidity and our ability to make our payments when due.

We may not be able to hire and retain qualified personnel to operate our ethanol plants.

Our ability to attract and retain competent personnel has a significant impact on operating efficiencies and plant profitability. Competition for key plant employees in the ethanol industry can be intense, and we may not be able to attract and retain qualified employees. Failure to do so could have a negative impact on our financial results at individual plants.

Our plants depend on an uninterrupted supply of energy and water to operate. Unforeseen plant shutdowns could harm our business.

Our plants require a significant and uninterrupted supply of natural gas, electricity and water to operate. We generally rely on third parties to provide these resources. If there is an interruption in the supply of energy or water for any reason, such as supply, delivery or mechanical problems and we are unable to secure an adequate alternative supply to sustain plant operations, we may be required to stop production. A production halt for an extended period of time could result in material losses.

Potential business disruption from factors outside our control, including natural disasters, severe weather conditions, accidents, strikes, unexpected equipment failures and unforeseen plant shutdowns, could adversely affect our cash flow and operating results.

The debt agreements for certain of the ethanol plants limit, or otherwise restrict the amount of dividends and other payments the ethanol subsidiaries can transfer to their members.

We are dependent on dividends from our ethanol subsidiaries to generate cash flow. Presently our unconsolidated ethanol subsidiary has debt agreements that limit payments to members. Therefore, this company cannot distribute all of the cash it generates to its members. Furthermore, we may not be able to use the excess cash flow from one subsidiary to fund corporate needs or needs of another operating ethanol subsidiary.

We rely on information technology in our operations and financial reporting and any material failure, inadequacy, interruption or security breach of that technology could harm our ability to efficiently operate our business and report our financial results accurately and timely.

We rely heavily on information technology systems across our operations, including for management of inventory, purchase orders, production, invoices, shipping, accounting and various other processes and transactions. Our ability to effectively manage our business, coordinate the production, distribution and sale of our products and ensure the timely and accurate recording and disclosure of financial information depends significantly on the reliability and capacity of these systems. The failure of these systems to operate effectively, problems with transitioning to upgraded or replacement systems, or a breach in security of these systems through a cyber-attack or otherwise could cause delays in product sales, reduced efficiency of our operations and delays in reporting our financial results. Significant capital investments could be required to remediate any such problem. Security breaches of employee information or other confidential or proprietary data could also adversely impact our reputation, and could result in litigation against us or the imposition of penalties.

We are exposed to potential business disruption from factors outside our control, including natural disasters, severe weather conditions, accidents, and unforeseen operational failures any of which could negatively affect our transportation operations and could adversely affect our cash flows and operating results.

Potential business disruption in available transportation due to natural disasters, severe weather conditions, significant track damage resulting from a train derailment, strikes or other interruptions by our transportation providers could result in delays in procuring and supplying raw materials to our ethanol facilities, or transporting ethanol and distillers grains to our customers. Such business disruptions may result in our inability to meet customer demand or contract delivery requirements, as well as the potential loss of customers.

Rail cars used to transport ethanol may need to be modified or replaced to meet proposed rail safety regulations.

The leased rail cars we use to transport ethanol to market will need to be retrofitted or replaced as the Enhanced Tank Car Standards and Operation Controls for High-Hazard Flammable Trains adopted by the U.S. Department of Transportation (“DOT”) imposes an enhanced tank car standard known as the DOT specification 117 and establishes a schedule to retrofit or replace older tank cars that carry crude oil and ethanol. The rule also establishes braking standards intended to reduce the severity of accidents and new operational protocols. This could lead to increased rail car lease costs and delays in transportation of ethanol if rail cars are out of service for extended periods of time.

We operate in a capital intensive industry. Limitations on external financing could adversely affect our financial performance.

We may need to incur additional financing to fund growth of our business or in times of increasing liquidity requirements (such as increases in raw material costs). Bankruptcy filings by several ethanol companies in

past years and capital market volatility has reduced available capital for the ethanol industry. Any delays in obtaining additional financing, or our inability to do so, could have a material adverse impact on our financial results.

Risks Related to our Refined Coal Operations

Our refined coal investment is subject to various risks and uncertainties.

We purchased a company that produces refined coal that we believe qualifies to earn tax credits under IRC Section 45 through November 2021. Our ability to generate returns and avoid write-offs in connection with this investment is subject to various risks and uncertainties. These include, but are not limited to, the risks and uncertainties as set forth below.

Availability of the tax credits under IRC Section 45.

Our ability to claim tax credits under IRC Section 45 depends upon the operation which we have purchased satisfying certain ongoing conditions set forth in IRC Section 45. Furthermore, the tax credits under IRC Section 45 could be reduced or completely eliminated as a result of changes in income tax laws and/or regulations.

The IRS could ultimately determine that the refined coal facility we purchased and/or its operations have not satisfied, or have not continued to satisfy, the conditions set forth in IRC Section 45. As our refined coal operation is expected to generate pre-tax losses, the unavailability of the tax credits for any reason could have a material impact on our results of operations.

IRC Section 45 phase out provisions.

IRC Section 45 contains phase out provisions based upon the market price of coal such that, if the price of coal rises to specified levels, we could lose some or all of the tax credits we expect to receive from this operation.

The refined coal operation depends on one customer.

The refined coal operation receives tax credits by selling its refined coal to an unrelated party. The unrelated party is not obligated to continue purchasing refined coal from us. Our user of refined coal could convert its fuel source to natural gas or oil instead of coal depending on the price of natural gas and/or oil relative to that of coal. If the unrelated party ceases to purchase refined coal from us, we would attempt to move our refined coal plant to a different location, which could require us to invest additional capital, or to find a different user to purchase our refined coal. In addition, we may not be able to find a suitable location to move our refined coal plant to or find a different user to purchase our refined coal in a timely manner. Market demand for coal may also decline as a result of an economic slowdown. Sustained low natural gas prices may also cause users of coal to phase out or close existing coal using operations. If users of coal burn less coal or eliminate the use of coal there would be less need for our product. A reduction or cessation of refined coal sales could have a material impact on our results of operations.

Environmental concerns regarding coal could lead to reduced or suspended refined coal operations.

Environmental concerns about greenhouse gases, toxic wastewater discharges and the potential hazardous nature of coal combustion waste could lead to regulations that discourage the burning of coal. Such regulations could mandate that electric power generating companies purchase a minimum amount of power

from renewable energy sources such as wind, hydroelectric, solar and geothermal. This could result in utilities burning less coal, which could have a material impact on our results of operations.

The refined coal operation in which we have invested and the by-products from such operations may result in environmental and product liability claims and environmental compliance costs.

The construction and operation of refined coal operations are subject to Federal, state and local laws, regulations and potential liabilities arising under or relating to the protection or preservation of the environment, natural resources and human health and safety. Such laws and regulations generally require the operations and/or the utilities at which the operations are located to obtain and comply with various environmental registrations, licenses, permits, inspections and other approvals. Such laws and regulations also impose liability, without regard to fault or the legality of a party's conduct, on certain entities that are considered to have contributed to, or are otherwise involved in, the release or threatened release of hazardous substances into the environment. Such hazardous substances could be released as a result of burning refined coal in a number of ways, including air emissions, waste water, and by-products such as fly ash. One party may, under certain circumstances, be required to bear more than its share or the entire share of investigation and cleanup costs at a site if payments or participation cannot be obtained from other responsible parties. We may be exposed to the risk of becoming liable for environmental damage we may have had little, if any, involvement in creating. Such risk remains even after production ceases at an operation to the extent the environmental damage can be traced to the types of chemicals or compounds used or operations conducted in connection with the use of refined coal.

No assurances can be given that contractual arrangements and precautions taken to ensure assumption of these risks by facility owners or operators will result in that facility owner or operator accepting full responsibility for any environmental damage. It is also not uncommon for private claims by third parties alleging contamination to also include claims for personal injury, property damage, diminution of property or similar claims. Furthermore, many environmental, health and safety laws authorize citizen suits, permitting third parties to make claims for violations of laws or permits and force compliance. Our insurance may not cover all environmental risk and costs or may not provide sufficient coverage in the event of an environmental claim. If significant uninsured losses arise from environmental damage or product liability claims, or if the costs of environmental compliance increase for any reason, our results of operations and financial condition could be adversely affected.

We rely on a third party to operate the refined coal facility.

We rely on an unrelated third party to operate the refined coal plant. Should the third party fail to perform or underperform in the operation, management or regulatory compliance of the facility, our results of operations and financial condition could be adversely affected as we are not experienced in operating a refined coal facility.

We will have to generate taxable income to utilize the Section 45 federal income tax credits.

If we do not generate sufficient taxable income to utilize the tax credits earned by our refined coal operation, we could incur write-offs of the related tax attributes which could adversely affect our results of operations and financial condition. In addition, this could adversely reduce our liquidity reserves as we expect to incur operating losses sustained by the refined coal operation.

Risks Related to our eSteam investment

eSteam may not be a commercially viable technology.

During fiscal year 2013, we invested in eSteam, a new technology utilizing steam to extract deep heavy oil. Cumulatively, we have spent approximately \$1.8 million on this patented but unproven technology. To date, we have not tested or proven the viability of the technology. In addition, low energy and crude oil prices may make eSteam technology less attractive to potential users. If we cannot demonstrate that the technology is commercially feasible, we may incur additional losses.

eSteam testing methods and results are not known.

We do not have specific testing methodologies or specifications developed for testing the viability of the eSteam technology. The actual eSteam testing process could result in injury to others, and property and other damages that could expose us to claims for damages from unrelated parties.

Our eSteam technology may be subject to patent challenges.

If our patents of the eSteam technology are challenged, we could be required to spend considerable time and resources defending our patents.

Operations utilizing our eSteam technology may be subject to stringent environmental regulations.

Use of the eSteam technology will require significant amounts of water and energy. If we or third parties are unable to obtain the proper permits and sources of water and energy, then we may not be able to commercialize the new technology, and thus, generate any revenue from our investment.

Operations utilizing our eSteam technology may cause environmental damage.

When testing and operating the eSteam technology, we may cause environmental damage, as we would be injecting water into the ground in order to extract oil. We could be subject to significant penalties and fines if we were to cause

environmental damage.

Risks Related to REX and non-industry specific matters.

We have concentrations of cash deposits at financial institutions that exceed federal insurance limits.

We generally have cash deposits that exceed federal insurance limits. Should the financial institutions we deposit our cash in experience insolvency or other financial difficulty, our access to cash deposits could be limited. In extreme cases, we could lose our cash deposits entirely. This would negatively impact our liquidity and results of operations.

We may fail to realize the anticipated benefits of mergers, acquisitions, or other investments.

We intend to continue seeking growth opportunities. Acquisitions and similar transactions involve many risks that could harm our business, which include:

- The anticipated benefits of these transactions may not be fully realized, or take longer to realize than expected,
- Future acquisitions could result in operating losses or loss of investment,

Future acquisitions may involve incurring debt to complete these transactions, which could have a material adverse effect on our financial condition.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

The information required by this Item 2 is set forth in Item 1 of this report under “Ethanol Investments” and “Facilities” and is incorporated herein by reference.

Item 3. Legal Proceedings

We are involved in various legal proceedings incidental to the conduct of our business from time to time. We believe that the current proceedings will not have a material adverse effect on our financial condition or results of operations.

Executive Officers of the Company

Set forth below is certain information about each of our executive officers.

Name	Age	Position
Stuart Rose	63	Executive Chairman of the Board*
Zafar Rizvi	68	Chief Executive Officer and President*
Douglas Bruggeman	57	Vice President-Finance, Chief Financial Officer and Treasurer
Edward Kress	68	Secretary*

*Also serves as a director.

Stuart Rose was elected our Executive Chairman of the Board in 2015. Mr. Rose had served as our Chairman of the Board and Chief Executive Officer since our incorporation in 1984 as a holding company. Prior to 1984, Mr. Rose was Chairman of the Board and Chief Executive Officer of Rex Radio and Television, Inc., which he founded in 1980

to acquire the stock of a corporation which operated four retail stores.

Zafar Rizvi was elected Chief Executive Officer in 2015. Mr. Rizvi has been our President and Chief Operating Officer since 2010, was Vice President from 2006 to 2010. From 1991 to 2006, Mr. Rizvi was our Vice President – Loss Prevention.

Douglas Bruggeman has been our Vice President–Finance and Treasurer since 1989 and was elected Chief Financial Officer in 2003. From 1987 to 1989, Mr. Bruggeman was our Manager of Corporate Accounting. Mr. Bruggeman was employed with the accounting firm of Ernst & Young prior to joining us in 1986.

Edward Kress has been our Secretary since 1984. Mr. Kress has been a partner of the law firm of Dinsmore & Shohl LLP (formerly Chernesky, Heyman & Kress P.L.L.), our legal counsel, since 1988. Mr. Kress has practiced law in Dayton, Ohio since 1974.

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

SHAREHOLDER INFORMATION

Common Share Information and Quarterly Share Prices

Our common stock is traded on the New York Stock Exchange under the symbol REX.

Fiscal Quarter Ended	High	Low
April 30, 2016	\$59.26	\$46.57
July 31, 2016	66.12	50.90
October 31, 2016	88.47	64.25
January 31, 2017	102.59	78.18
April 30, 2017	\$96.89	\$76.10
July 31, 2017	107.87	88.46
October 31, 2017	99.99	84.12
January 31, 2018	92.38	80.15

As of March 28, 2018, there were 85 holders of record of our common stock, including shares held in nominee or street name by brokers.

Dividend Policy

We did not pay dividends in the current or prior years. We (including our consolidated subsidiaries) currently have no restrictions on the payment of dividends. Our minority owned ethanol subsidiary has restrictions on its ability to pay dividends to members (including REX). Our consolidated subsidiary, One Earth paid dividends to REX of approximately \$10.2 million, \$10.2 million and \$11.4 million during fiscal years 2017, 2016 and 2015, respectively. Our consolidated subsidiary, NuGen paid dividends to REX of approximately \$7.4 million and \$15.7 million during fiscal years 2017 and 2016, respectively. NuGen paid no dividends to REX during fiscal year 2015.

Equity Compensation Plans

Refer to Item 12 – Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters for information regarding shares authorized for issuance under equity compensation plans.

Performance Graph

The following graph compares the yearly percentage change in the cumulative total shareholder return on our Common Stock against the cumulative total return of the S&P 500 Stock Index and a peer group comprised of Pacific Ethanol, Inc. and Green Plains, Inc. for the period commencing January 31, 2013 and ended January 31, 2018. The graph assumes an investment of \$100 in our Common Stock and each index on January 31, 2013 and reinvestment of all dividends.

Item 6. Selected Financial Data

The following statements of operations and balance sheet data have been derived from our consolidated financial statements and should be read in conjunction with Management's Discussion and Analysis of Financial Condition and Results of Operations and the Consolidated Financial Statements and related Notes. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations for a discussion of net sales and revenue and gross profit, income from ethanol investments, gain on sale of investment, the benefit/provision for income taxes and the refined coal acquisition. These items have fluctuated significantly in recent years and may affect comparability of years.

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Five Year Financial Summary

(In Thousands, Except Per Share Amounts)

Years Ended January 31,	2018	2017	2016	2015	2014
Statement of Operations Data:					
Net sales and revenue	\$452,586	\$453,799	\$436,488	\$572,230	\$666,045
Cost of sales	408,425	382,760	385,654	430,291	601,757
Gross profit	44,161	71,039	50,834	141,939	64,288
Selling, general and administrative expenses	(24,060)	(21,388)	(19,813)	(19,422)	(17,846)
Equity in income of unconsolidated ethanol affiliates	3,232	6,144	8,984	32,229	17,175
(Loss) gain on sale of investment	(13)	192	10,385	—	—
Interest expense	—	—	—	(2,074)	(3,898)
Benefit (provision) for income taxes	19,519	(17,393)	(14,108)	(49,649)	(20,751)
Net income attributable to REX common shareholders	39,706	32,333	31,436	87,337	35,073
Diluted net income per share attributable to REX common shareholders	\$6.02	\$4.91	\$4.30	\$10.76	\$4.29
January 31,	2018	2017	2016	2015	2014
Balance Sheet Data:					
Cash and cash equivalents	\$190,988	\$188,576	\$135,765	\$137,697	\$105,149
Current assets	239,034	226,517	179,360	175,745	148,810
Property and equipment – net	197,827	182,761	189,976	194,447	202,258
Equity method investments	34,549	37,833	38,707	80,389	71,189
Long term debt	—	—	—	—	63,500
Deferred taxes, long term liability	21,706	41,135	38,304	42,768	19,613
Noncontrolling interests	50,434	47,839	44,496	42,993	31,472
Total REX shareholders' equity	\$381,492	\$340,435	\$311,263	\$349,971	\$279,281

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

Overview

We have been an investor in various alternative energy entities beginning with synthetic fuel partnerships in 1998, ethanol production facilities beginning in 2006 and a refined coal production facility in 2017. We currently have equity investments in three ethanol production entities, two of which are majority ownership interests, and a majority ownership in one refined coal production entity. We may make additional alternative energy investments in the future.

Our ethanol operations are highly dependent on commodity prices, especially prices for corn, ethanol, distillers grains, non-food grade corn oil and natural gas. As a result of price volatility for these commodities, our operating results can fluctuate substantially. The price and availability of corn is subject to significant fluctuations depending upon a number of factors that affect commodity prices in general, including crop conditions, weather, federal policy and foreign trade. Because the market price of ethanol is not always directly related to corn prices, at times ethanol prices may not follow movements in corn prices and, in an environment of higher corn prices or lower ethanol prices, reduce the overall margin structure at

the plants. As a result, at times, we may operate our plants at negative or minimally positive operating margins.

We expect our ethanol plants to produce approximately 2.8 gallons of denatured ethanol for each bushel of grain processed in the production cycle. We refer to the actual gallons of denatured ethanol produced per bushel of grain processed as the realized yield. We refer to the difference between the price per gallon of ethanol and the price per bushel of grain (divided by the realized yield) as the “crush spread.” Should the crush spread decline, it is possible that our ethanol plants will generate operating results that do not provide adequate cash flows for sustained periods of time. In such cases, production at the ethanol plants may be reduced or stopped altogether in order to minimize variable costs at individual plants. We also expect our ethanol plants to produce approximately 15.0 pounds of dried distillers grains and 0.8 pounds of non-food grade corn oil for each bushel of grain processed.

We attempt to manage the risk related to the volatility of commodity prices by utilizing forward grain purchase, forward ethanol, distillers grains and non-food grade corn oil sale contracts and commodity futures agreements as management deems appropriate. We attempt to match quantities of these sales contracts with an appropriate quantity of grain purchase contracts over a given period of time when we can obtain an adequate gross margin resulting from the crush spread inherent in the contracts we have executed. However, the market for future ethanol sales contracts generally lags the spot market with respect to ethanol price. Consequently, we generally execute fixed price contracts for no more than four months into the future at any given time and we may lock in our corn or ethanol price without having a corresponding locked in ethanol or corn price for short durations of time. As a result of the relatively short period of time our fixed price contracts cover, we generally cannot predict the future movements in the crush spread for more than four months; thus, we are unable to predict the likelihood or amounts of future income or loss from the operations of our ethanol facilities. We utilize derivative financial instruments, primarily exchange traded commodity future contracts, in conjunction with certain of our grain procurement activities.

Commodity prices in fiscal year 2017 were subject to significant volatility. For fiscal year 2017, the average Chicago Board of Trade (“CBOT”) near-month corn price ranged from a low of approximately \$3.29 per bushel in August 2017 to a high of approximately \$4.02 per bushel in July 2017. Corn prices benefitted throughout the year from consecutive strong corn harvests in 2016 and 2017. Ethanol prices had significant fluctuations ranging from approximately \$1.26 per gallon in December 2017 to a high of approximately \$1.67 per gallon in April 2017. Ethanol prices were influenced by many factors throughout the year including low energy prices, varying levels of ethanol demand and increases in United States ethanol production.

On August 10, 2017, we, through a 95.35% owned subsidiary, purchased the entire ownership interest of an entity that owns a refined coal facility for approximately \$12.0 million. We began operating the refined coal facility immediately after the acquisition. We expect that the revenues from the sale of refined coal produced in the facility will be subsidized by federal production tax credits through November 2021, subject to meeting qualified emissions reductions as governed by Section 45 of the Internal Revenue Code. In order to maintain compliance with Section 45 of the Internal Revenue Code, we are required to test every six months, through an independent laboratory, the effectiveness of our operations with respect to emissions reductions. Annually, the IRS publishes the amount of federal income tax credit earned per ton of refined coal produced and sold. We expect to earn credits at the rate of approximately \$6.91 per ton of refined coal produced and sold during fiscal year 2017.

Net income attributable to REX common shareholders was approximately \$39.7 million in fiscal year 2017 compared to approximately \$32.3 million in fiscal year 2016. The current year benefitted from reductions in our effective tax rate resulting from tax reform legislation (approximately \$14.4 million) and the impact of Section 45 federal income tax credits (approximately \$11.5 million) from our refined coal operations. Gross

profit in fiscal year 2017 was significantly lower compared to fiscal year 2016, primarily a result of lower crush spreads and distillers grains pricing as well as the impact of our refined coal facility which generated a gross loss. Due to the inherent volatility of commodity prices within the ethanol industry, the uncertainty regarding future refined coal production and associated financial results, and the impact of tax reform legislation, we cannot predict the likelihood of future operating results being similar to the fiscal year 2017 results.

We plan to seek and evaluate various investment opportunities including energy related, agricultural or other ventures we believe fit our investment criteria. We can make no assurances that we will be successful in our efforts to find such opportunities.

Through a wholly owned subsidiary REX I.P., LLC, we entered into a joint venture to file and defend patents for technology relating to heavy oil and oil sands production methods, and to attempt to commercially exploit the technology to generate license fees, royalty income and development opportunities. The patented technology is an enhanced method of heavy oil recovery involving zero emissions downhole steam generation. We own 60% and Hytken owns 40% of the entity named Future Energy, LLC, an Ohio limited liability company. Future Energy is managed by a board of three managers, two appointed by us and one by Hytken.

During fiscal year 2013, we agreed to fund direct patent expenses relating to patent applications and defense, annual annuity fees and maintenance on a country by country basis, with the right to terminate funding and transfer related patent rights to Hytken. We may also fund, through loans, all costs relating to new intellectual property, consultants, and future research and development, pilot field tests and equipment purchases for commercialization stage of the patents. To date, we have paid approximately \$1.8 million for our ownership interest, patent and other expenses. We have not tested or proven the commercial feasibility of the technology.

Ethanol Investments

In fiscal year 2006, we entered the ethanol industry by investing in several entities organized to construct and, subsequently operate, ethanol producing plants. We are invested in three entities as of January 31, 2018, utilizing equity investments.

The following table is a summary of our ethanol investments at January 31, 2018 (gallons in millions):

Entity	Trailing 12 Months Ethanol Gallons	REX's Current Ownership Interest	Current Effective Ownership of Trailing 12
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	Shipped		Months Ethanol Gallons Shipped	
One Earth Energy, LLC	123.1	75.1	%	92.4
NuGen Energy, LLC	132.9	99.5	%	132.2
Big River Resources, LLC:				
Big River Resources W Burlington, LLC	107.9	10.3	%	11.1
Big River Resources Galva, LLC	126.4	10.3	%	13.0
Big River United Energy, LLC	129.5	5.7	%	7.4
Big River Resources Boyceville, LLC	57.0	10.3	%	5.9
Total	676.8			262.0
26				

Results of Operations

For a detailed analysis of period to period changes, see the segment discussion that follows this section as that discussion reflects how management views and monitors our business.

Comparison of Fiscal Years Ended January 31, 2018 and 2017

Net Sales and Revenue – Net sales and revenue in fiscal year 2017 were approximately \$452.6 million, consistent with prior year sales.

Gross Profit – Gross profit was approximately \$44.2 million in fiscal year 2017, or 9.8% of net sales and revenue, versus approximately \$71.0 million in fiscal year 2016 or 15.7% of net sales and revenue. Gross profit for fiscal year 2017 decreased by approximately \$19.5 million compared to fiscal year 2016 as a result of operations in the ethanol and by-products segment and by approximately \$7.3 million as a result of operations in the refined coal segment.

Selling, General and Administrative Expenses – Selling, general and administrative expenses for fiscal year 2017 were approximately \$24.1 million (5.3% of net sales and revenue), an increase of approximately \$2.7 million or 12.5% from approximately \$21.4 million (4.7% of net sales and revenue) for fiscal year 2016. The increase is primarily related to professional fees and commission expense associated with the refined coal acquisition. We expect selling, general and administrative expenses to be consistent with fiscal year 2016 results in future periods, with the exception of variability of incentive compensation which is based upon Company profitability and any impact of potential future acquisitions.

Equity in Income of Unconsolidated Ethanol Affiliates – During fiscal years 2017 and 2016, we recognized income of approximately \$3.2 million and \$6.1 million, respectively, from our equity investment in Big River, which is included in our ethanol and by-products segment results. Income recognized in fiscal year 2017 was reduced by approximately \$0.8 million as a result of an impairment charge Big River incurred. Our investment in Big River, which has interests in four ethanol production plants, has an effective ownership of ethanol gallons shipped in the trailing twelve months ended January 31, 2018 of approximately 363 million gallons.

Overall, we expect operating experience of Big River to be generally consistent with the trends in crush spread margins described in the “Overview” section as Big River’s results are dependent on the same key drivers (ethanol, corn, dried distillers grains and natural gas pricing). Due to the inherent volatility of commodity prices within the ethanol industry, we cannot predict the likelihood of future operating results from Big River being similar to the fiscal year 2017 results.

Gain on Sale of Investment – Until the second quarter of fiscal year 2015, we owned a minority interest in Patriot Holdings, LLC (“Patriot”). On June 1, 2015 Patriot and a subsidiary of CHS Inc. (“CHS”) completed a merger that resulted in CHS acquiring 100% of the ownership interest in Patriot. During fiscal year 2016, we received proceeds of approximately \$4.5 million as payment for certain escrow holdbacks and adjustments to the purchase price related to the merger between Patriot and CHS. As a result, we recognized approximately \$0.2 million as gain on sale of investment (included in our ethanol and by-products segment) during fiscal year 2016.

Interest and Other Income – Interest and other income for fiscal year 2017 was approximately \$2.3 million compared to approximately \$0.6 million for fiscal year 2016. Interest income has increased as yields on our excess cash have improved compared to fiscal year 2016. In addition, we received federal grants of approximately \$0.7 million during fiscal year 2017.

(Loss) Gain on Disposal of Real Estate and Property and Equipment, net – We recognized losses of approximately \$0.2 million in fiscal year 2017, compared to gains of approximately \$0.3 million in fiscal year 2016. We sold three real estate properties in fiscal year 2016, which completed the sales of our former retail properties. The losses in fiscal year 2017 result from disposals of ethanol plant equipment.

Income Before Income Taxes – As a result of the foregoing, income before income taxes was approximately \$25.4 million for fiscal year 2017 versus approximately \$56.9 million for fiscal year 2016.

Provision for Income Taxes – Our effective tax rate was a benefit of 76.9% and a provision of 30.6% for fiscal years 2017 and 2016, respectively. Our effective rate is impacted by the noncontrolling interests of the companies we consolidate, as we recognize 100% of their income or loss before income taxes and noncontrolling interests. However, we only provide an income tax provision or benefit for our portion of the subsidiaries' income or loss with a noncontrolling interest. During fiscal year 2017, our effective rate decreased by 45.4% (approximately \$11.5 million) as a result of Section 45 production tax credits earned by our refined coal facility. The amount of credits earned in future periods will vary with refined coal production levels. The Tax Cuts and Jobs Act of 2017 ("Tax Act") reduced the federal income tax rate on corporations from 35% to 21%, which resulted in a benefit of 56.6% (approximately \$14.4 million) to our effective tax rate as our deferred tax liabilities were remeasured at the lower federal income tax rate. Our domestic production activities deduction increased from 2.9% in fiscal year 2016 to 5.9% (total benefit of approximately \$1.5 million) in fiscal year 2017, primarily as a result of agricultural cooperative patronage, which can vary significantly from year to year.

Net Income – As a result of the foregoing, net income was approximately \$44.9 million for fiscal year 2017 versus approximately \$39.5 million for fiscal year 2016.

Noncontrolling Interests – Income attributable to noncontrolling interests was approximately \$5.2 million and \$7.2 million during fiscal years 2017 and 2016, respectively, and represents the owners' (other than us) share of the income or loss of NuGen, One Earth, the refined coal entity and Future Energy. Income attributable to noncontrolling interests of One Earth and NuGen were approximately \$5.6 million and \$0.1 million, respectively, during fiscal year 2017 and were approximately \$7.1 million and \$0.2 million, respectively, during fiscal year 2016. The loss related to noncontrolling interests of the refined coal entity was approximately \$0.5 million during fiscal year 2017.

Net Income Attributable to REX Common Shareholders – As a result of the foregoing, net income attributable to REX common shareholders was approximately \$39.7 million for fiscal year 2017 compared to \$32.3 million for fiscal year 2016.

Business Segment Results

We have two reportable segments, i) ethanol and by-products and ii) refined coal. In fiscal year 2017, we began reporting the results of our refined coal operation as a new segment as a result of the August 10, 2017 acquisition of an entity that operates a refined coal facility. Prior to the acquisition, we had one reportable segment, ethanol.

The following sections discuss the results of operations for each of our business segments and corporate and other. As discussed in Note 16, our chief operating decision maker (as defined by ASC 280, “*Segment Reporting*” (“ASC 280”)) evaluates the operating performance of our business segments using net income attributable to REX common shareholders.

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The following tables summarize segment and other results and assets (amounts in thousands):

<u>Net sales and revenue:</u>	Fiscal Year	
	2017	2016
Ethanol and by-products	\$452,153	\$453,799
Refined coal ¹	433	—
Total net sales and revenue	\$452,586	\$453,799
Segment gross profit (loss):		
Ethanol and by-products	\$51,509	\$71,039
Refined coal	(7,348)	—
Total gross profit	\$44,161	\$71,039
Income (loss) before income taxes:		
Ethanol and by-products	\$38,352	\$59,447
Refined coal	(10,021)	—
Corporate and other	(2,938)	(2,536)
Total income (loss) before income taxes	\$25,393	\$56,911
Benefit (provision) for income taxes:		
Ethanol and by-products	\$3,245	\$(18,259)
Refined coal	15,168	—
Corporate and other	1,106	866
Total benefit (provision) for income taxes	\$19,519	\$(17,393)
Segment profit (loss):		
Ethanol and by-products	\$35,880	\$33,950
Refined coal	5,628	—
Corporate and other	(1,802)	(1,617)
Net income attributable to REX common shareholders	\$39,706	\$32,333

¹ We record sales in the refined coal segment net of the cost of coal as we purchase the coal feedstock from the customer to which refined coal is sold.

Ethanol and by-products Segment

The ethanol and by-products segment includes the consolidated financial results of One Earth and NuGen, our equity investment in Big River and certain administrative expenses. The following table summarizes

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selected data from One Earth and NuGen:

	Years Ended January 31,	
	2018	2017
Average selling price per gallon of ethanol	\$1.40	\$1.45
Gallons of ethanol sold (in millions)	256.0	246.9
Average selling price per ton of dried distillers grains	\$105.89	\$123.97
Tons of dried distillers grains sold	596,099	574,390
Average selling price per pound of non-food grade corn oil	\$0.29	\$0.28
Pounds of non-food grade corn oil sold (in millions)	73,817	67,178
Average selling price per ton of modified distillers grains	\$45.87	\$50.10
Tons of modified distillers grains sold	185,848	106,313
Average cost per bushel of grain	\$3.35	\$3.45
Average cost of natural gas (per mmbtu)	\$3.75	\$3.24

The following table summarizes sales from One Earth and NuGen, by product group (amounts in thousands):

	Years Ended January 31,	
Product or Service Category	2018	2017
Ethanol	\$359,239	\$358,349
Dried distillers grains	63,120	71,204
Non-food grade corn oil	21,195	18,518
Modified distillers grains	8,525	5,326
Other	74	402
Total	\$452,153	\$453,799

Ethanol sales increased from approximately \$358.3 million in the prior year to approximately \$359.2 million in the current year, primarily a result of an increase of 9.1 million gallons (3.7%) sold during fiscal year 2017. The increase in gallons sold is attributable to the capacity expansion projects we have invested in over the last several years. The volume increase was offset by a \$0.05 decline in the price per gallon sold. Dried distillers grains sales decreased from approximately \$71.2 million in the prior year to approximately \$63.1 million in the current year, primarily a result of a \$18.08 decline in the price per ton sold. The decrease in selling price was partially offset by an increase of 21,709 tons (3.8%) sold during fiscal year 2017, a result of the same factors discussed above regarding ethanol volume increases. Management believes the decline in the selling price results primarily from the ongoing uncertainty regarding Chinese imports of domestic dried distillers grains as the China Ministry of Commerce had announced an anti-dumping and countervailing duty investigation in January 2016 and, in September 2016, imposed an anti-dumping tariff and a countervailing duty on U.S. dried distillers grains exports to China. In a final ruling in January 2017, China increased the dried distillers grains anti-dumping duty to a range of 42.2% up to 53.7% and the dried distillers grains countervailing duty to a range of 11.2% up to 12.0%. In November 2017, the China Ministry of Commerce announced that the countervailing duty would be repealed. In addition, Vietnam suspended imports of U.S. dried distillers grains for a majority of fiscal year 2017 and this also contributed to the decline in DDG prices. In September of 2017,

Vietnam lifted its ban on imports of U.S. dried distillers grains. Non-food grade corn oil sales increased from approximately \$18.5 million in the prior year to approximately \$21.2

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million in the current year, primarily a result of an increase of 6.6 million pounds (9.9%) sold during fiscal year 2017. Similar to the ethanol and dried distillers grains increases, capacity expansion projects undertaken over the last several years are the primary reason for the increase in pounds sold and is consistent with the increased ethanol production. Modified distillers grains sales increased from approximately \$5.3 million in the prior year to approximately \$8.5 million in the current year, primarily a result of a 74.8% increase in tons sold which was partially offset by a decline of \$4.23 in the price per ton sold.

We expect that sales of One Earth and NuGen in future periods will be based upon the following:

<u>Product</u>	<u>Annual Sales Quantity</u>
Ethanol	260 million to 285 million gallons
Dried distillers grains	590,000 to 660,000 tons
Non-food grade corn oil	70 million to 100 million pounds
Modified distillers grains	60,000 to 200,000 tons

This expectation assumes that One Earth and NuGen will operate at slightly above historical production levels, which is dependent upon market conditions, plant profitability and efficient plant operations. We may vary the amounts of ethanol, dried and modified distillers grains and corn oil produced, and thus, the resulting sales, based upon market conditions. NuGen has received the EPA pathway approval and has permits to increase its production levels to 150 million gallons annually. One Earth has received the EPA pathway approval and has permits to increase its production levels to 135 million gallons annually.

Gross profit was approximately \$51.5 million in fiscal year 2017, or 11.4% of net sales and revenue which was approximately \$19.5 million lower compared to approximately \$71.0 million of gross profit in fiscal year 2016 or 15.7% of net sales and revenue. The crush spread for fiscal year 2017 was approximately \$0.23 per gallon of ethanol sold compared to approximately \$0.25 per gallon of ethanol sold during fiscal year 2016. The decline of approximately \$8.1 million in sales of dried distillers grains compared to the prior year negatively affected gross profit. Grain accounted for approximately 75% (\$302.1 million) of our cost of sales during fiscal year 2017 compared to approximately 77% (\$293.8 million) during fiscal year 2016. Natural gas accounted for approximately 6% (\$25.2 million) of our cost of sales during fiscal year 2017 compared to approximately 5% (\$20.6 million) during fiscal year 2016. The volume of ethanol sold during fiscal year 2017 compared to fiscal year 2016 positively impacted gross profit by approximately \$2.1 million. In addition, corn oil sales positively impacted gross profit in fiscal year 2017 by approximately \$2.7 million compared to fiscal year 2016. Plant related repairs and maintenance expense was approximately \$1.7 million higher in fiscal year 2017 compared to fiscal year 2016; as our ethanol plants continue to age and operate at their current capacities, we expect plant related repairs and maintenance expense to continue to increase over time. Given the inherent volatility in ethanol, distillers grains, non-food grade corn oil, grain and natural gas prices, we cannot predict the likelihood that the spread between ethanol, distillers grains, non-food grade corn oil and grain prices in future periods will be consistent with prices in historical periods.

We attempt to match quantities of ethanol, distillers grains and non-food grade corn oil sale contracts with an appropriate quantity of grain purchase contracts over a given period of time when we can obtain an adequate margin

resulting from the crush spread inherent in the contracts we have executed. However, the market for future ethanol sales contracts generally lags the spot market with respect to ethanol price. Consequently, we generally execute fixed price contracts for no more than four months into the future at any given time and we may lock in our corn or ethanol price without having a corresponding locked in ethanol or corn price for short durations of time. As a result of the relatively short period of time our fixed price contracts cover, we generally cannot predict the future movements in the crush spread for more than four months. We utilize derivative financial instruments, primarily exchange traded commodity future contracts, in conjunction with certain of our grain procurement activities. None of our forecasted ethanol, approximately 14% of our

forecasted distillers grains and approximately 16% of our forecasted non-food grade corn oil production during the next 12 months have been sold under fixed-price contracts. The effect of a 10% adverse change in the price of ethanol, distillers grains and non-food grade corn oil from the current pricing would result in a decrease in annual revenues in fiscal year 2018 of approximately \$45.3 million. Similarly, approximately 2% of our estimated corn usage for the next 12 months was subject to fixed-price contracts. The effect of a 10% adverse change in the price of corn from current pricing would result in an increase in annual cost of goods sold in fiscal year 2018 of approximately \$33.2 million. Approximately 11% of our estimated natural gas usage for the next 12 months was subject to fixed-price contracts. The effect of a 10% adverse change in the price of natural gas from the current pricing would result in an increase in annual cost of goods sold of approximately \$2.4 million for the remaining forecasted natural gas purchases.

Selling, general and administrative expenses for fiscal year 2017 were approximately \$17.8 million (3.9% of net sales and revenue), consistent with fiscal year 2016 levels.

During fiscal years 2017 and 2016, we recognized income of approximately \$3.2 million and \$6.1 million, respectively, from our equity investment in Big River. Our investment in Big River, which has interests in four ethanol production plants, has an effective ownership of ethanol gallons shipped in the trailing twelve months ended January 31, 2018 of approximately 363 million gallons.

Interest and other income was approximately \$1.6 million for fiscal year 2017 compared to approximately \$0.2 million for fiscal year 2016. The income has increased as yields on our excess cash have improved compared to fiscal year 2016. In addition, we received federal grants of approximately \$0.7 million during fiscal year 2017.

Income related to noncontrolling interests was approximately \$5.7 million and approximately \$7.2 million during fiscal years 2017 and 2016, respectively. These amounts represent the owners' (other than us) share of the income of NuGen and One Earth.

The benefit for income taxes was approximately \$3.2 million in fiscal year 2017 compared to a provision (expense) of \$18.3 million in fiscal year 2016. The Tax Act was enacted on December 22, 2017 and became effective January 1, 2018, making significant changes to the Intern