

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

FORM S-1
REGISTRATION STATEMENT UNDER THE
SECURITIES ACT OF 1933

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

Delaware

(State or other jurisdiction of
incorporation or organization)

2860

(Primary Standard Industrial
Classification Code No.)

41-2170618

(I.R.S. Employer
Identification No.)

400 Capitol Mall, Suite 2060, Sacramento, California 95814
(916) 403-2123

(Address, including zip code, and telephone number, including area code,
of registrant's principal executive offices)

Neil M. Koehler
President and Chief Executive Officer
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(916) 403-2123

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Approximate date of proposed sale to the public: From time to time after this registration becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

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

Large accelerated filer

Non-accelerated filer

Accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

Calculation of Registration Fee

Title of Each Class of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price per Share (2)	Proposed Maximum Aggregate Offering Price (2)	Amount of Registration Fee (3)(4)
Shares of common stock	6,636,862	\$ 0.673	\$ 4,466,608.13	\$ 579.77
Shares of common stock issuable upon exercise of warrants	5,500,000	\$ 0.673	\$ 3,701,500	\$ 480.45
Total number of shares of common stock to be registered	12,136,862	\$ 0.673	\$ 8,168,108.13	\$ 1,060.22

- (1) In accordance with Rule 416(a) under the Securities Act of 1933, as amended (the "Securities Act"), the Registrant is also registering hereunder an indeterminate number of shares of common stock that may be issued and resold resulting from stock splits, stock dividends or similar transactions.
- (2) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) of the Securities Act based upon the price of \$0.673, which was the average of the high and low prices for the Registrant's common stock on The Nasdaq Capital Market on January 17, 2020.
- (4) Computed in accordance with Section 6(b) of the Securities Act.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement becomes effective on such date as the Commission, acting under Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. The selling security holders may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell and is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED JANUARY 21, 2020

PRELIMINARY PROSPECTUS

PACIFIC ETHANOL, INC.

12,136,862 Shares of Common Stock

This prospectus relates to the proposed resale by the selling security holders named in this prospectus or their permitted assigns of up to 12,136,862 shares of our common stock, including (i) 5,500,000 shares of our common stock issuable upon exercise of warrants, or the Warrants, held by the selling security holders, or the Warrant Shares, and (ii) 1,106,144 shares of common stock that may be issuable to the selling security holders in connection with certain anti-dilution rights in favor of the selling security holders for certain dilutive issuances through March 31, 2020 based on a weighted-average anti-dilution formula, or the Additional Common Shares.

It is anticipated that the selling security holders will sell these shares of common stock from time to time in one or more transactions, in negotiated transactions or otherwise, at prevailing market prices or at prices otherwise negotiated. We will not receive any proceeds from the sale of the shares of common stock.

The shares may be sold by the selling security holders to or through underwriters or dealers, directly to purchasers or through agents designated from time to time. For additional information regarding the methods of sale you should refer to the section of this prospectus entitled "Plan of Distribution."

We are filing the registration statement of which this prospectus is a part to fulfill contractual obligations to do so pursuant to a registration rights agreement, as further described in the prospectus.

Our common stock is listed on The Nasdaq Capital Market under the symbol "PEIX." The last reported price of our common stock on January 17, 2020, was \$0.673 per share.

Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page 6 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2020.

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You should rely only on the information contained in this prospectus or a supplement to this prospectus. We have not authorized anyone to provide you with different information. The information in this prospectus is accurate only as of the date of this prospectus or the date of any supplement to this prospectus or the date of any supplement to this prospectus, regardless of the time of delivery of this prospectus or any supplement to this prospectus or any sale of our common stock. We are not making an offer to sell shares of common stock, and we are not soliciting an offer to buy shares of common stock, in any jurisdiction where the offer is not permitted.

PROSPECTUS SUMMARY

This summary highlights selected information included elsewhere in this prospectus and does not contain all of the information you should consider before buying shares of our common stock. You should read the entire prospectus carefully, especially the "Risk Factors" section and financial statements and the related notes appearing at the end of this prospectus, before deciding to invest in shares of our common stock. Some of the statements in this prospectus constitute forward-looking statements. See "Cautionary Note Regarding Forward-Looking Statements." In this prospectus, the words "we," "us," "our" and similar terms refer to Pacific Ethanol, Inc., a Delaware corporation, unless the context provides otherwise.

Our Company

Overview

We are a leading producer and marketer of low-carbon renewable fuels in the United States.

We operate nine strategically-located production facilities. Four of our plants are in the Western states of California, Oregon and Idaho, and five of our plants are located in the Midwestern states of Illinois and Nebraska. We are the sixth largest producer of ethanol in the United States based on annualized volumes. Our plants have a combined production capacity of 605 million gallons per year. We market all the ethanol, specialty alcohols and co-products produced at our plants as well as ethanol produced by third parties. On an annualized basis, we market nearly 1.0 billion gallons of ethanol and over 3.0 million tons of ethanol co-products on a dry matter basis. Our business consists of two operating segments: a production segment and a marketing segment.

Our mission is to be a leading producer and marketer of low-carbon renewable fuels, high-value animal feed and high-quality alcohol products in the United States. We intend to accomplish this goal in part by investing in our ethanol production and distribution infrastructure, lowering the carbon intensity of our ethanol, extending our marketing business into new regional and international markets, and implementing new technologies to promote higher production yields and greater efficiencies.

Production Segment

We produce ethanol, specialty alcohols and co-products at our production facilities described below. Our plants located on the West Coast are near their respective fuel and feed customers, offering significant timing, transportation cost and logistical advantages. Our plants located in the Midwest are in the heart of the Corn Belt, benefit from low-cost and abundant feedstock production and allow for access to many additional domestic markets. In addition, our ability to load unit trains from our plants located in the Midwest, and barges from our Pekin, Illinois plants, allows for greater access to international markets.

We wholly-own all of our plants located on the West Coast and the three plants in Pekin, Illinois. We own approximately 74% of the two plants in Aurora, Nebraska as well as the grain elevator adjacent to those properties and related grain handling assets, including the outer rail loop, and the real property on which they are located, through Pacific Aurora, LLC, or Pacific Aurora, an entity owned approximately 26% by Aurora Cooperative Elevator Company, or ACEC.

All of our plants, with the exception of our Aurora East facility, are currently operating. Our Aurora East facility was idled in December 2018 due to unfavorable market conditions. As market conditions change, we may increase, decrease or idle production at one or more operating facilities or resume operations at any idled facility.

Facility Name	Facility Location	Estimated Annual Capacity (gallons)
Magic Valley	Burley, ID	60,000,000
Columbia	Boardman, OR	40,000,000
Stockton	Stockton, CA	60,000,000
Madera	Madera, CA	40,000,000
Aurora West	Aurora, NE	110,000,000
Aurora East	Aurora, NE	45,000,000
Pekin Wet	Pekin, IL	100,000,000
Pekin Dry	Pekin, IL	60,000,000
Pekin ICP	Pekin, IL	90,000,000

We produce ethanol co-products at our production facilities such as wet distillers grains, or WDG, dry distillers grains with solubles, or DDGS, wet and dry corn gluten feed, condensed distillers solubles, corn gluten meal, corn germ, corn oil, dried yeast and CO₂.

Marketing Segment

We market ethanol, specialty alcohols and co-products produced by our facilities and market ethanol produced by third parties. We have extensive customer relationships throughout the Western and Midwestern United States. Our ethanol customers are integrated oil companies and gasoline marketers who blend ethanol into gasoline. Our customers depend on us to provide a reliable supply of ethanol, and manage the logistics and timing of delivery with very little effort on their part. Our customers collectively require ethanol volumes in excess of the supplies we produce at our production facilities. We secure additional ethanol supplies from third-party plants in California and other third-party suppliers in the Midwest where a majority of ethanol producers are located. We arrange for transportation, storage and delivery of ethanol purchased by our customers through our agreements with third-party service providers in the Western United States as well as in the Midwest from a variety of sources.

We market our distillers grains and other feed co-products to dairies and feedlots, in many cases located near our ethanol plants. These customers use our feed co-products for livestock as a substitute for corn and other sources of starch and protein. We sell our corn oil to poultry and biodiesel customers. We do not market co-products from other ethanol producers.

Recent Developments

Amendments to Credit Facilities

On December 20, 2019, our wholly-owned subsidiaries Illinois Corn Processing, LLC, or ICP, and Pacific Ethanol Pekin, LLC, or PE Pekin, amended their term and revolving credit facilities pursuant to which ICP's lender and PE Pekin's lender agreed to waive certain covenant defaults and replaced those covenants with new earnings before interest, taxes, depreciation and amortization and production volume covenants. ICP's lender and PE Pekin's lender also imposed cross-default terms such that, until ICP's lender and PE Pekin's lender collectively receive an aggregate of \$40.0 million, a default under the PE Pekin credit agreement would constitute a default under the ICP credit agreement, and vice versa. ICP and PE Pekin also agreed to provide additional security to support their obligations under the ICP credit agreement and PE Pekin credit agreement, respectively, including second lien positions in our production facilities located in the West. ICP's prior scheduled principal payment of \$1.5 million, originally due on December 20, 2019, was deferred to the September 20, 2021 maturity date. Scheduled quarterly principal payments of \$1.5 million will resume on March 20, 2020. PE Pekin's lender also agreed to defer all scheduled principal installments payable under the term note until August 20, 2021 and we are not required to make the prior scheduled quarterly principal payments of \$3.5 million until September 30, 2020, at which time \$3.5 million will be due, with the same amount due quarterly thereafter until maturity.

On December 29, 2019, ICP and PE Pekin agreed to amend the secured obligations under their respective security agreements to include ICP's unconditional guarantee of the payment of up to an aggregate \$40.0 million to satisfy the obligations of PE Pekin under the PE Pekin credit agreement, and PE Pekin's unconditional guarantee of the payment of the same amount to satisfy the obligations of ICP under the ICP credit agreement.

See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Pekin Credit Facility and —ICP Credit Facility."

Note Amendment Agreement

On December 22, 2019, we and certain of the selling security holders entered into a Senior Secured Note Amendment Agreement, or the Note Amendment Agreement, amending and restating our senior secured notes in the form of an Amended and Restated Senior Secured Note, or Note. We paid an aggregate amendment fee of \$1,264,000 to holders of our senior secured note holders, allocated among them on a pro rata basis and paid in kind through an increase in the principal amounts of the Notes. On December 23, 2019, CWD Summit, LLC - acting for and on behalf of Candlewood Renewable Energy Series I, an original signatory to the Note Amendment Agreement, transferred 2,872,350 shares of common stock and Warrants to purchase an aggregate 2,856,397 shares of common stock to its eight accredited investor members, which accredited investor members have executed Joinder Agreements with us with respect to the Registration Rights Agreement.

As additional consideration for entering into the Note Amendment Agreement, we also issued to the holders of our senior secured notes an aggregate of 5,530,718 shares of our common stock and the Warrant. The common stock and Warrants were allocated pro rata among the holders of our senior secured notes. The shares of common stock are subject to certain anti-dilution rights in favor of the selling security holders for certain dilutive issuances through March 31, 2020 based on a weighted-average anti-dilution formula.

See "Description of Note Amendment Agreement" for information relating to the Note Amendment Agreement, Notes, Warrants and related documents.

Risk Factors

Our business is subject to numerous risks, as more fully described in the section entitled "Risk Factors" beginning on page 6. In particular, risks associated with our business include:

- If we are unable to timely implement our strategic initiatives and raise sufficient capital on suitable terms, we will likely have insufficient liquidity to operate our business through the next twelve months, or earlier, resulting in a material adverse effect on our business, prospects, financial condition and results of operations, which could result in a need to seek protection under the U.S. Bankruptcy Code.

- Our plant indebtedness exposes us to many risks that could negatively impact our business, our business prospects, our liquidity and our cash flows and results of operations.
- We have incurred significant losses and negative operating cash flow in the past and we may incur losses and negative operating cash flow in the future, which may hamper our operations and impede us from expanding our business.
- Our results of operations and our ability to operate at a profit is largely dependent on managing the costs of corn and natural gas and the prices of ethanol, distillers grains and other ethanol co-products, all of which are subject to significant volatility and uncertainty.
- Increased ethanol production or higher inventory levels may cause a decline in ethanol prices or prevent ethanol prices from rising, and may have other negative effects, adversely impacting our results of operations, cash flows and financial condition.
- The market price of ethanol is volatile and subject to large fluctuations, which may cause our profitability or losses to fluctuate significantly.
- Disruptions in production or distribution infrastructure may adversely affect our business, results of operations and financial condition.
- Operational difficulties at our plants could negatively impact sales volumes and could cause us to incur substantial losses.
- Future demand for ethanol is uncertain and may be affected by changes to federal mandates, public perception, consumer acceptance and overall consumer demand for transportation fuel, any of which could negatively affect demand for ethanol and our results of operations.

Corporate Information

We are a Delaware corporation that was incorporated in February 2005. Our principal executive offices are located at 400 Capitol Mall, Suite 2060, Sacramento, California 95814. Our telephone number is (916) 403-2123 and our Internet website is www.pacificethanol.net. The content of our Internet website does not constitute a part of this prospectus.

The Offering

Common stock offered by the selling security holders	12,136,862 ⁽¹⁾
Common stock outstanding prior to this offering	55,755,433
Common stock to be outstanding after this offering	67,892,295 ⁽²⁾
The Nasdaq Capital Market symbol	PEIX
Use of Proceeds	We will not receive any of the proceeds from the sale of the shares of common stock being offered under this prospectus. See "Use of Proceeds."
Risk Factors	There are many risks related to our business, this offering and ownership of our common stock that you should consider before you decide to buy our common stock in this offering. You should read the "Risk Factors" section beginning on page 6, as well as other cautionary statements throughout this prospectus, before investing in shares of our common stock.

(1) Includes the Warrant Shares and the Additional Common Shares.

(2) Represents 55,755,433 shares of common stock currently outstanding plus 12,136,862 shares of common stock being offered by the selling security holders under this prospectus.

The number of shares of common stock that will be outstanding upon the completion of this offering is based on the 55,755,433 shares outstanding as of January 17, 2020, and excludes the following:

- 2,214,745 shares of common stock reserved for issuance under our 2016 Stock Incentive Plan, or 2016 Plan;
- 229,212 shares of common stock reserved for issuance upon exercise of options granted under our 2006 Stock Incentive Plan, or 2006 Plan, at a weighted average exercise price of \$4.15 per share;
- 634,641 shares of common stock reserved for issuance upon conversion of our Series B Cumulative Convertible Preferred Stock, or Series B Preferred Stock; and
- any additional shares of common stock we may issue from time to time after that date.

RISK FACTORS

Investing in shares of our common stock involves a high degree of risk. You should carefully consider the risks described below, together with the other information contained in this prospectus, including consolidated financial statements and the related notes appearing at the end of this prospectus, before making your decision to invest in shares of our common stock. We cannot assure you that any of the events discussed in the risk factors below will not occur. These risks could have a material and adverse impact on our business, results of operations, financial condition or prospects. If that were to happen, the trading price of our common stock could decline, and you could lose all or part of your investment.

This prospectus also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks faced by us described below and elsewhere in this prospectus. See "Cautionary Note Regarding Forward-Looking Statements" for information relating to these forward-looking statements.

Risks Related to our Business

If we are unable to timely implement our strategic initiatives and raise sufficient capital on suitable terms, we will likely have insufficient liquidity to operate our business through the next twelve months, or earlier, resulting in a material adverse effect on our business, prospects, financial condition and results of operations, which could result in a need to seek protection under the U.S. Bankruptcy Code.

We are engaged in strategic initiatives to reduce our debt levels and provide additional liquidity to operate our business. These initiatives will likely require the prompt sale of certain production assets as well as other capital raising activities. Financing, whether through a sale of production assets or other capital raising activities, may not be available on a timely basis, in sufficient amounts, on terms acceptable to us, or at all. In addition, any equity financing may cause significant dilution to existing stockholders and any debt financing or other financing of securities senior to our common stock will likely include financial and other covenants that will restrict our flexibility, including our ability to pay dividends on our common stock.

If we are unable to timely sell production assets or raise additional capital, or both, in sufficient amounts and on suitable terms, if we do not experience a sustained margin improvement, we will likely have insufficient liquidity to operate our business through the next twelve months, or earlier depending on margins, operating cash flows and lender forbearance. A failure to timely implement our strategic initiatives to reduce our debt levels on suitable terms or our inability to satisfy our payment obligations under our various credit facilities will have a material adverse effect on our business, prospects, financial condition and results of operations and could result in a need to idle production at one or more operating facilities and/or seek protection under the U.S. Bankruptcy Code for all or some portion of our production assets and other subsidiaries, at the parent company level, or both.

Our plant indebtedness exposes us to many risks that could negatively impact our business, our business prospects, our liquidity and our cash flows and results of operations.

Our plants located in the Midwest have significant indebtedness. Unlike traditional term debt, the terms of our plant loans require amortizing payments of principal over the lives of the loans and our borrowing availability under our plant credit facilities periodically and automatically declines through the maturity dates of those facilities. Our plant indebtedness could:

- make it more difficult to pay or refinance our debts as they become due during adverse economic and industry conditions because any decrease in revenues could cause us to not have sufficient cash flows from operations to make our scheduled debt payments;
- limit our flexibility to pursue strategic opportunities or react to changes in our business and the industry in which we operate and, consequently, place us at a competitive disadvantage to our competitors who have less debt;
- require a substantial portion of our cash flows from operations to be used for debt service payments, thereby reducing the availability of our cash flows to fund working capital, capital expenditures, acquisitions, dividend payments and other general corporate purposes; and/or
- limit our ability to procure additional financing for working capital or other purposes.

Our term loans and credit facilities also require compliance with numerous financial and other covenants. In addition, our plant indebtedness bears interest at variable rates. An increase in prevailing interest rates would likewise increase our debt service obligations and could materially and adversely affect our cash flows and results of operations.

Our ability to generate sufficient cash to make all principal and interest payments when due, including an aggregate \$40.0 million payment due on September 30, 2020 under our PE Pekin and ICP credit facilities, depends on our business performance, which is subject to a variety of factors beyond our control, including the supply of and demand for ethanol and co-products, ethanol and co-product prices, the cost of key production inputs, and many other factors incident to the ethanol production and marketing industry. We cannot provide any assurance that we will be able to timely satisfy such obligations. Our failure to timely satisfy our debt obligations could have a material adverse effect on our business, business prospects, liquidity, cash flows and results of operations.

We have incurred significant losses and negative operating cash flow in the past and we may incur losses and negative operating cash flow in the future, which may hamper our operations and impede us from expanding our business.

We have incurred significant losses and negative operating cash flow in the past. For the nine months ended September 30, 2019 and 2018, we incurred consolidated net losses of approximately \$51.5 million and \$33.4 million, respectively. For the years ended December 31, 2018 and 2017, we incurred consolidated net losses of approximately \$67.9 million and \$38.1 million, respectively. For the nine months ended September 30, 2019, we incurred negative operating cash flows of approximately \$27.2 million. We may incur losses and negative operating cash flow in the future. We expect to rely on cash on hand, cash, if any, generated from our operations, borrowing availability under our lines of credit and proceeds from future financing activities, if any, to fund all of the cash requirements of our business. Continued losses and negative operating cash flow may hamper our operations and impede us from expanding our business.

Our results of operations and our ability to operate at a profit is largely dependent on managing the costs of corn and natural gas and the prices of ethanol, distillers grains and other ethanol co-products, all of which are subject to significant volatility and uncertainty.

Our results of operations are highly impacted by commodity prices, including the cost of corn and natural gas that we must purchase, and the prices of ethanol, distillers grains and other ethanol co-products that we sell. Prices and supplies are subject to and determined by market and other forces over which we have no control, such as weather, domestic and global demand, supply shortages, export prices and various governmental policies in the United States and around the world.

As a result of price volatility of corn, natural gas, ethanol, distillers grains and other ethanol co-products, our results of operations may fluctuate substantially. In addition, increases in corn or natural gas prices or decreases in ethanol, distillers grains or other ethanol co-product prices may make it unprofitable to operate. In fact, some of our marketing activities will likely be unprofitable in a market of generally declining ethanol prices due to the nature of our business. For example, to satisfy customer demands, we maintain certain quantities of ethanol inventory for subsequent resale. Moreover, we procure much of our inventory outside the context of a marketing arrangement and therefore must buy ethanol at a price established at the time of purchase and sell ethanol at an index price established later at the time of sale that is generally reflective of movements in the market price of ethanol. As a result, our margins for ethanol sold in these transactions generally decline and may turn negative as the market price of ethanol declines.

No assurance can be given that corn or natural gas can be purchased at, or near, current or any particular prices or that ethanol, distillers grains or other ethanol co-products will sell at, or near, current or any particular prices. Consequently, our results of operations and financial position may be adversely affected by increases in the price of corn or natural gas or decreases in the price of ethanol, distillers grains or other ethanol co-products.

Over the past several years, the spread between ethanol and corn prices has fluctuated significantly. Fluctuations are likely to continue to occur. A sustained narrow spread, whether as a result of sustained high or increased corn prices or sustained low or decreased ethanol prices, would adversely affect our results of operations and financial position. Further, combined revenues from sales of ethanol, distillers grains and other ethanol co-products could decline below the marginal cost of production, which may force us to suspend production of ethanol, distillers grains and other ethanol co-products at some or all of our plants.

Increased ethanol production or higher inventory levels may cause a decline in ethanol prices or prevent ethanol prices from rising, and may have other negative effects, adversely impacting our results of operations, cash flows and financial condition.

We believe that the most significant factor influencing the price of ethanol has been the substantial increase in ethanol production. According to the Renewable Fuels Association, domestic ethanol production capacity increased from an annualized rate of 1.5 billion gallons per year in January 1999 to a record 16.1 billion gallons in 2018. In addition, if ethanol production margins improve, we anticipate that owners of ethanol production facilities will increase production levels, thereby resulting in more abundant ethanol supplies and inventories. Any increase in the supply of ethanol may not be commensurate with increases in the demand for ethanol, thus leading to lower ethanol prices. Also, demand for ethanol could be impaired due to a number of factors, including regulatory developments and reduced United States gasoline consumption. Reduced gasoline consumption has occurred in the past and could occur in the future as a result of increased gasoline or oil prices or other factors such as increased automobile fuel efficiency. Any of these outcomes could have a material adverse effect on our results of operations, cash flows and financial condition.

The market price of ethanol is volatile and subject to large fluctuations, which may cause our profitability or losses to fluctuate significantly.

The market price of ethanol is volatile and subject to large fluctuations. The market price of ethanol is dependent upon many factors, including the supply of ethanol and the price of gasoline, which is in turn dependent upon the price of petroleum which is highly volatile and difficult to forecast. For example, ethanol prices, as reported by the CBOT, ranged from \$1.25 to \$1.70 per gallon in 2019, \$1.20 to \$1.53 per gallon during 2018, and \$1.26 to \$1.67 per gallon during 2017. Fluctuations in the market price of ethanol may cause our profitability or losses to fluctuate significantly

Some of our marketing activities will likely be unprofitable in a market of generally declining ethanol prices due to the nature of our business.

Some of our marketing activities will likely be unprofitable in a market of generally declining ethanol prices due to the nature of our business. For example, to satisfy customer demands, we maintain certain quantities of ethanol inventory for subsequent resale. Moreover, we procure much of our inventory outside the context of a marketing arrangement and therefore must buy ethanol at a price established at the time of purchase and sell ethanol at an index price established later at the time of sale that is generally reflective of movements in the market price of ethanol. As a result, our margins for ethanol sold in these transactions generally decline and may turn negative as the market price of ethanol declines.

Disruptions in production or distribution infrastructure may adversely affect our business, results of operations and financial condition.

Our business depends on the continuing availability of rail, road, port, storage and distribution infrastructure. In particular, due to limited storage capacity at our plants and other considerations related to production efficiencies, our plants depend on just-in-time delivery of corn. The production of ethanol and specialty alcohols also requires a significant and uninterrupted supply of other raw materials and energy, primarily water, electricity and natural gas. Local water, electricity and gas utilities may not be able to reliably supply the water, electricity and natural gas that our plants need or may not be able to supply those resources on acceptable terms. In the past, poor weather has caused disruptions in rail transportation, which slowed the delivery of ethanol by rail, the principle manner by which ethanol from our plants located in the Midwest is transported to market. Disruptions in production or distribution infrastructure, whether caused by labor difficulties, earthquakes, storms, other natural disasters or human error or malfeasance or other reasons, could prevent timely deliveries of corn or other raw materials and energy, and could delay transport of our products to market, and may require us to halt production at one or more plants, any of which could have a material adverse effect on our business, results of operations and financial condition.

We may engage in hedging transactions and other risk mitigation strategies that could harm our results of operations and financial condition.

In an attempt to partially offset the effects of volatility of ethanol prices and corn and natural gas costs, we may enter into contracts to fix the price of a portion of our ethanol production or purchase a portion of our corn or natural gas requirements on a forward basis. In addition, we may engage in other hedging transactions involving exchange-traded futures contracts for corn, natural gas and unleaded gasoline from time to time. The financial statement impact of these activities is dependent upon, among other things, the prices involved and our ability to sell sufficient products to use all of the corn and natural gas for which forward commitments have been made. Hedging arrangements also expose us to the risk of financial loss in situations where the other party to the hedging contract defaults on its contract or, in the case of exchange-traded contracts, where there is a change in the expected differential between the underlying price in the hedging agreement and the actual prices paid or received by us. In addition, our open contract positions may require cash deposits to cover margin calls, negatively impacting our liquidity. As a result, our results of operations and financial condition may be adversely affected by our hedging activities and fluctuations in the price of corn, natural gas, ethanol and unleaded gasoline.

Operational difficulties at our plants could negatively impact sales volumes and could cause us to incur substantial losses.

Operations at our plants are subject to labor disruptions, unscheduled downtimes and other operational hazards inherent in the ethanol production industry, including equipment failures, fires, explosions, abnormal pressures, blowouts, pipeline ruptures, transportation accidents and natural disasters. Some of these operational hazards may cause personal injury or loss of life, severe damage to or destruction of property and equipment or environmental damage, and may result in suspension of operations and the imposition of civil or criminal penalties. Our insurance may not be adequate to fully cover the potential operational hazards described above or we may not be able to renew this insurance on commercially reasonable terms or at all.

Moreover, our plants may not operate as planned or expected. All of these facilities are designed to operate at or above a specified production capacity. The operation of these facilities is and will be, however, subject to various uncertainties. As a result, these facilities may not produce ethanol, specialty alcohols and co-products at expected levels. In the event any of these facilities do not run at their expected capacity levels, our business, results of operations and financial condition may be materially and adversely affected.

Future demand for ethanol is uncertain and may be affected by changes to federal mandates, public perception, consumer acceptance and overall consumer demand for transportation fuel, any of which could negatively affect demand for ethanol and our results of operations.

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 potentially depleting water resources. Some studies have suggested that corn-based ethanol is less efficient than ethanol produced from other feedstock and that it negatively impacts consumers by causing increased prices for dairy, meat and other food generated from livestock that consume corn. Additionally, ethanol critics contend that corn supplies are redirected from international food markets to domestic fuel markets. If negative views of corn-based ethanol production gain acceptance, support for existing measures promoting use and domestic production of corn-based ethanol could decline, leading to reduction or repeal of federal mandates, which could adversely affect the demand for ethanol. These views could also negatively impact public perception of the ethanol industry and acceptance of ethanol as an alternative fuel.

There are limited markets for ethanol beyond those established by federal mandates. Discretionary blending and E85 blending are important secondary markets. Discretionary blending is often determined by the price of ethanol versus the price of gasoline. In periods when discretionary blending is financially unattractive, the demand for ethanol may be reduced. Also, the demand for ethanol is affected by the overall demand for transportation fuel. Demand for transportation fuel is affected by the number of miles traveled by consumers and the fuel economy of vehicles. Market acceptance of E15 may partially offset the effects of decreases in transportation fuel demand. A reduction in the demand for ethanol and ethanol co-products may depress the value of our products, erode our margins and reduce our ability to generate revenue or to operate profitably. Consumer acceptance of E15 and E85 fuels is needed before ethanol can achieve any significant growth in market share relative to other transportation fuels.

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

The EPA has implemented the RFS pursuant to the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007. The RFS program sets annual quotas for the quantity of renewable fuels (such as ethanol) that must be blended into motor fuels consumed in the United States. The domestic market for ethanol is significantly impacted by federal mandates under the RFS program for volumes of renewable fuels (such as ethanol) required to be blended with gasoline. Future demand for ethanol will be largely dependent upon incentives to blend ethanol into motor fuels, including the price of ethanol relative to the price of gasoline, the relative octane value of ethanol, constraints in the ability of vehicles to use higher ethanol blends, the RFS, and other applicable environmental requirements. Any significant increase in production capacity above the RFS minimum requirements may have an adverse impact on ethanol prices.

Legislation aimed at reducing or limiting the renewable fuel use required by the RFS has been introduced in the United States Congress. On January 3, 2019, a bill (H.R. 104) was introduced into the House of Representatives aiming to repeal certain amendments to the Clean Air Act relating to the expansion of the renewable fuel program, and for other purposes. This bill revises the renewable fuel program, including the RFS. Under current law, the RFS specifies the minimum volume of renewable fuel, such as ethanol, that must be contained in gasoline sold in the United States, except in noncontiguous states or territories. The RFS annually increases until 2022 when a minimum of 36 billion gallons of renewable fuel must be blended into gasoline. This bill decreases the volume of renewable fuel that must be contained in gasoline to 7.5 billion gallons each year. The bill also revises the RFS to eliminate separate volume requirements for the following renewable fuel categories: advanced biofuels, cellulosic biofuel, and biomass-based diesel. The bill was referred to a congressional subcommittee where it awaits further consideration. On May 7, 2019, the Food and Fuel Consumer Protection Act of 2019 (H.R. 2540), was introduced in the House of Representatives. The bill aims to prevent RFS blending obligations from requiring ethanol to make up more than 9.7 percent of the total volume of gasoline projected to be sold or introduced into commerce in the United States for a given calendar year. The bill was referred to a congressional committee, which will consider it before possibly sending the bill to the House of Representatives as a whole. On June 21, 2019, a bill (H.R. 3427) was introduced in the House of Representatives aiming to repeal the EPA's Renewable Fuel Standard program, which requires transportation fuel to contain a minimum volume of renewable fuel. The bill was referred to a congressional committee, which will consider it before possibly sending the bill to the House of Representatives as a whole. On July 25, 2019, a bill (S.2298) was introduced in the United States Senate, to amend the Clean Air Act to eliminate the cornethanol mandate for renewable fuel. The bill was read twice and referred to the Committee on Environment and Public Works. Our results of operations, cash flows and financial condition could be adversely impacted if any legislation is enacted that reduces or limits the RFS volume requirements.

Under the provisions of the Clean Air Act, as amended by the Energy Independence and Security Act of 2007, the EPA has limited authority to waive or reduce the mandated RFS requirements, which authority is subject to consultation with the Secretaries of Agriculture and Energy, and based on a determination that there is inadequate domestic renewable fuel supply or implementation of the applicable requirements would severely harm the economy or environment of a state, region or the United States. Our results of operations, cash flows and financial condition could be adversely impacted if the EPA reduces the RFS requirements from the statutory levels specified in the RFS.

The ethanol production and marketing industry is extremely competitive. Many of our significant competitors have greater production and financial resources and one or more of these competitors could use their greater resources to gain market share at our expense.

The ethanol production and marketing industry is extremely competitive. Many of our significant competitors in the ethanol production and marketing industry, including Archer-Daniels-Midland Company, POET, LLC, Green Plains, Inc. and Valero Renewable Fuels Company, LLC, have substantially greater production and/or financial resources. As a result, our competitors may be able to compete more aggressively and sustain that competition over a longer period of time. Successful competition will require a continued high level of investment in marketing and customer service and support. Our limited resources relative to many significant competitors may cause us to fail to anticipate or respond adequately to new developments and other competitive pressures. This failure could reduce our competitiveness and cause a decline in market share, sales and profitability. Even if sufficient funds are available, we may not be able to make the modifications and improvements necessary to compete successfully.

We also face competition from international suppliers. Currently, international suppliers produce ethanol primarily from sugar cane and have cost structures that are generally substantially lower than our cost structures. Any increase in domestic or foreign competition could cause us to reduce our prices and take other steps to compete effectively, which could adversely affect our business, financial condition and results of operations.

Our ability to utilize net operating loss carryforwards and certain other tax attributes may be limited.

Federal and state income tax laws impose restrictions on the utilization of net operating loss, or NOL, and tax credit carryforwards in the event that an “ownership change” occurs for tax purposes, as defined by Section 382 of the Internal Revenue Code, or Code. In general, an ownership change occurs when stockholders owning 5% or more of a “loss corporation” (a corporation entitled to use NOL or other loss carryovers) have increased their ownership of stock in such corporation by more than 50 percentage points during any three-year period. The annual base limitation under Section 382 of the Code is calculated by multiplying the loss corporation’s value at the time of the ownership change by the greater of the long-term tax-exempt rate determined by the Internal Revenue Service in the month of the ownership change or the two preceding months.

As of December 31, 2018, of our \$183.2 million of federal NOLs, we had \$88.5 million of federal NOLs that are limited in their annual use under Section 382 of the Code beyond 2019. Accordingly, our ability to utilize these NOL carryforwards may be substantially limited. These limitations could in turn result in increased future tax obligations, which could have a material adverse effect on our business, financial condition and results of operations.

Our business is not diversified. The high concentration of our sales within the ethanol production and marketing industry could result in a significant reduction in sales and negatively affect our profitability if demand for ethanol declines.

Our business is not diversified. Our sales are highly concentrated within the ethanol production and marketing industry. We expect to be substantially focused on the production and marketing of ethanol and its co-products for the foreseeable future. An industry shift away from ethanol, or the emergence of new competing products, may significantly reduce the demand for ethanol. However, we may be unable to timely alter our business focus away from the production and marketing of ethanol to other renewable fuels or competing products. A downturn in the demand for ethanol would likely materially and adversely affect our sales and profitability.

We may be adversely affected by environmental, health and safety laws, regulations and liabilities.

We are subject to various federal, state and local environmental laws and regulations, including those relating to the discharge of materials into the air, water and ground, the generation, storage, handling, use, transportation and disposal of hazardous materials and wastes, and the health and safety of our employees. In addition, some of these laws and regulations require us to operate under permits that are subject to renewal or modification. These laws, regulations and permits can often require expensive pollution control equipment or operational changes to limit actual or potential impacts to the environment. A violation of these laws and regulations or permit conditions can result in substantial fines, natural resource damages, criminal sanctions, permit revocations and/or facility shutdowns. In addition, we have made, and expect to make, significant capital expenditures on an ongoing basis to comply with increasingly stringent environmental laws, regulations and permits.

We may be liable for the investigation and cleanup of environmental contamination at each of our plants and at off-site locations where we arrange for the disposal of hazardous substances or wastes. If these substances or wastes have been or are disposed of or released at sites that undergo investigation and/or remediation by regulatory agencies, we may be responsible under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, or other environmental laws for all or part of the costs of investigation and/or remediation, and for damages to natural resources. We may also be subject to related claims by private parties alleging property damage and personal injury due to exposure to hazardous or other materials at or from those properties. Some of these matters may require us to expend significant amounts for investigation, cleanup or other costs.

In addition, new laws, new interpretations of existing laws, increased governmental enforcement of environmental laws or other developments could require us to make significant additional expenditures. Continued government and public emphasis on environmental issues can be expected to result in increased future investments for environmental controls at our plants. Present and future environmental laws and regulations, and interpretations of those laws and regulations, applicable to our operations, more vigorous enforcement policies and discovery of currently unknown conditions may require substantial expenditures that could have a material adverse effect on our results of operations and financial condition.

The hazards and risks associated with producing and transporting our products (including fires, natural disasters, explosions and abnormal pressures and blowouts) may also result in personal injury claims or damage to property and third parties. As protection against operating hazards, we maintain insurance coverage against some, but not all, potential losses. However, we could sustain losses for uninsurable or uninsured risks, or in amounts in excess of existing insurance coverage. Events that result in significant personal injury or damage to our property or third parties or other losses that are not fully covered by insurance could have a material adverse effect on our results of operations and financial condition.

If we are unable to attract or retain key personnel, our ability to operate effectively may be impaired, which could have a material adverse effect on our business, financial condition and results of operations.

Our ability to operate our business and implement strategies depends, in part, on the efforts of our executive officers and other key personnel. Our future success will depend on, among other factors, our ability to retain our current key personnel and attract and retain qualified future key personnel, particularly executive management. If we are unable to attract or retain key personnel, our ability to operate effectively may be impaired, which could have a material adverse effect on our business, financial condition and results of operations.

We depend on a small number of customers for the majority of our sales. A reduction in business from any of these customers could cause a significant decline in our overall sales and profitability.

The majority of our sales are generated from a small number of customers. During 2018, 2017 and 2016, two customers accounted for an aggregate of approximately \$367 million, \$447 million and \$467 million in net sales, representing 25%, 27% and 29% of our net sales, respectively, for those periods. We expect that we will continue to depend for the foreseeable future upon a small number of customers for a significant portion of our sales. Our agreements with these customers generally do not require them to purchase any specified volume or dollar value of ethanol or co-products, or to make any purchases whatsoever. Therefore, in any future period, our sales generated from these customers, individually or in the aggregate, may not equal or exceed historical levels. If sales to any of these customers cease or decline, we may be unable to replace these sales with sales to either existing or new customers in a timely manner, or at all. A cessation or reduction of sales to one or more of these customers could cause a significant decline in our overall sales and profitability.

We incur significant expenses to maintain and upgrade our operating equipment and plants, and any interruption in the operation of our facilities may harm our operating performance.

We regularly incur significant expenses to maintain and upgrade our equipment and facilities. The machines and equipment we use to produce our products are complex, have many parts and some are run on a continuous basis. We must perform routine maintenance on our equipment and will have to periodically replace a variety of parts such as motors, pumps, pipes and electrical parts. In addition, our facilities require periodic shutdowns to perform major maintenance and upgrades. These scheduled facility shutdowns result in decreased sales and increased costs in the periods in which a shutdown occurs and could result in unexpected operational issues in future periods as a result of changes to equipment and operational and mechanical processes made during the shutdown period.

Our lack of long-term ethanol orders and commitments by our customers could lead to a rapid decline in our sales and profitability.

We cannot rely on long-term ethanol orders or commitments by our customers for protection from the negative financial effects of a decline in the demand for ethanol or a decline in the demand for our marketing services. The limited certainty of ethanol orders can make it difficult for us to forecast our sales and allocate our resources in a manner consistent with our actual sales. Moreover, our expense levels are based in part on our expectations of future sales and, if our expectations regarding future sales are inaccurate, we may be unable to reduce costs in a timely manner to adjust for sales shortfalls. Furthermore, because we depend on a small number of customers for a significant portion of our sales, the ramifications of these risks are greater in magnitude than if our sales were less concentrated. As a result of our lack of long-term ethanol orders and commitments, we may experience a rapid decline in our sales and profitability.

There are limitations on our ability to receive distributions from our subsidiaries.

We conduct most of our operations through subsidiaries and are dependent upon dividends or other intercompany transfers of funds from our subsidiaries to generate free cash flow. Moreover, some of our subsidiaries are limited in their ability to pay dividends or make distributions, loans or advances to us by the terms of their financing arrangements. At September 30, 2019, we had approximately \$184.8 million of net assets at our subsidiaries that were not available to be distributed in the form of dividends, distributions, loans or advances due to restrictions contained in their financing arrangements.

Risks Relating to Ownership of Our Common Stock and this Offering

We have received a delisting notice from The Nasdaq Stock Market. Our common stock may be involuntarily delisted from trading on The Nasdaq Capital Market if we fail to regain compliance with the minimum closing bid price requirement of \$1.00 per share. A delisting of our common stock is likely to reduce the liquidity of our common stock and may inhibit or preclude our ability to raise additional financing and may also materially and adversely impact our credit terms with our vendors.

The quantitative listing standards of The Nasdaq Stock Market, or Nasdaq, require, among other things, that listed companies maintain a minimum closing bid price of \$1.00 per share. We failed to satisfy this threshold for 30 consecutive trading days and on July 17, 2019, we received a letter from Nasdaq stating that the bid price of our common stock for the last 30 consecutive trading days had closed below the minimum \$1.00 per share required for continued listing under Nasdaq Listing Rule 5550(a)(2). We were provided an initial period of 180 calendar days, or until January 13, 2020, during which to regain compliance. We failed to regain compliance by January 13, 2020 but we were provided a final additional period of 180 calendar days, or until July 13, 2020, during which to regain compliance. The letter states that Nasdaq will provide written notification that we have achieved compliance if at any time before July 13, 2020, the bid price of our common stock closes at \$1.00 per share or more for a minimum of 10 consecutive trading days unless Nasdaq exercises its discretion to extend this 10 day period. If we do not regain compliance by July 13, 2020, Nasdaq will provide written notice that our common stock is subject to delisting. Given the challenging environment in the biofuels industry, we may be unable to regain compliance with the closing bid price requirement by July 13, 2020. A delisting of our common stock is likely to reduce the liquidity of our common stock and may inhibit or preclude our ability to raise additional financing and may also materially and adversely impact our credit terms with our vendors.

Our future ability to raise capital may be limited by applicable laws and regulations.

Our capital raising activities have benefited from using a “shelf” registration on Form S-3, which typically enables an issuer to raise additional capital on a more timely and cost effective basis than through other means, such as registration of a securities offering under a Form S-1 registration statement. Our current and future ability to raise additional capital through the sale and issuance of our equity securities may be limited by, among other things, current Securities and Exchange Commission, or the SEC, rules and regulations. Under current SEC rules and regulations, to be eligible to use a Form S-3 registration statement for primary offerings without restriction as to the amount of securities to be sold and issued, the aggregate market value of our common equity held by non-affiliates (i.e., our “public float”) must be at least \$75.0 million at the time we file the Form S-3 (calculated pursuant to the General Instructions to Form S-3). Furthermore, with respect to our effective Form S-3 registration statement, the SEC’s rules and regulations require that we periodically re-evaluate the value of our public float (typically when we file our Annual Report on Form 10-K) to determine whether we continue to satisfy the foregoing public float requirement. As of the date of this prospectus, we do not satisfy the \$75.0 million public float requirement. As a result, the amount we can raise through primary offerings of our securities in any 12-month period using a Form S-3 registration statement is limited to an aggregate of one-third of our public float. Moreover, the market value of all securities sold by us under our Form S-3 registration statements during the 12-month period prior to any intended sale will be subtracted from that amount to determine the amount we can then raise under our Form S-3 registration statements. If our public float increases to \$75.0 million or more, this limitation would cease to apply until we conduct our next re-evaluation.

The conversion of convertible securities and the exercise of outstanding options and warrants to purchase our common stock could substantially dilute your investment, impede our ability to obtain additional financing and cause us to incur additional expenses.

Our Series B Preferred Stock, which are convertible into our common stock, and outstanding options to acquire our common stock issued to employees, directors and others, and the Warrants to purchase our common stock, allow the holders of these securities an opportunity to profit from a rise in the market price of our common stock such that conversion or exercise of the securities will result in dilution of the equity interests of our common stockholders. The terms on which we may obtain additional financing may be adversely affected by the existence and potentially dilutive impact of our Series B Preferred Stock, options and Warrants. In addition, holders of our Series B Preferred Stock and Warrants have registration rights with respect to the common stock underlying those Series B Preferred Stock and Warrants, the registration of which involves substantial expense.

The market price of our common stock and the value of your investment could substantially decline if shares of our Series B Preferred Stock are converted into shares of our common stock and if our options and Warrants are exercised for shares of our common stock and all of these shares of common stock are resold into the market, or if a perception exists that a substantial number of shares of common stock will be issued upon conversion of our Series B Preferred Stock or upon exercise of our Warrants or options and then resold into the market.

Sales of a substantial number of shares of common stock issued upon conversion of our Series B Preferred Stock and upon exercise of our Warrants and options, or even the perception that these sales could occur, could adversely affect the market price of our common stock. As a result, you could experience a substantial decline in the value of your investment as a result of both the actual and potential conversion of our outstanding shares of Series B Preferred Stock and exercise of our outstanding Warrants or options.

Our stock price is highly volatile, which could result in substantial losses for investors purchasing shares of our common stock and in litigation against us.

The market price of our common stock has fluctuated significantly in the past and may continue to fluctuate significantly in the future. The market price of our common stock may continue to fluctuate in response to one or more of the following factors, many of which are beyond our control:

- fluctuations in the market price of ethanol and its co-products;
- the cost of key inputs to the production of ethanol, including corn and natural gas;
- the volume and timing of the receipt of orders for ethanol from major customers;
- competitive pricing pressures;
- our ability to timely and cost-effectively produce, sell and deliver ethanol;
- the announcement, introduction and market acceptance of one or more new alternatives to ethanol;
- changes in market valuations of companies similar to us;
- stock market price and volume fluctuations generally;
- regulatory developments or increased enforcement;
- fluctuations in our quarterly or annual operating results;
- additions or departures of key personnel;
- the timing and results of our strategic initiatives;
- our inability to obtain financing;
- our financing activities and future sales of our common stock or other securities, as well as stockholder dilution; and
- our ability to maintain contracts that are critical to our operations.

Demand for ethanol could also be adversely affected by a slow-down in overall demand for oxygenate and gasoline additive products. The levels of our ethanol production and purchases for resale will be based upon forecasted demand. Accordingly, any inaccuracy in forecasting anticipated revenues and expenses could adversely affect our business. The failure to receive anticipated orders or to complete delivery in any quarterly period could adversely affect our results of operations for that period. Quarterly results are not necessarily indicative of future performance for any particular period, and we may not experience revenue growth or profitability on a quarterly or an annual basis.

The price at which you purchase shares of our common stock may not be indicative of the price that will prevail in the trading market. You may be unable to sell your shares of common stock at or above your purchase price, which may result in substantial losses to you and which may include the complete loss of your investment. In the past, securities class action litigation has often been brought against a company following periods of high stock price volatility. We may be the target of similar litigation in the future. Securities litigation could result in substantial costs and divert management's attention and our resources away from our business.

Any of the risks described above could have a material adverse effect on our results of operations, the price of our common stock, or both.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements within the meaning of the federal securities laws, which statements involve substantial risks and uncertainties. All statements, other than statements of historical facts, included in this prospectus regarding our strategy, future events, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth, among others, are forward-looking statements. The words “anticipate,” “believe,” “estimate,” “expect,” “intend,” “may,” “might,” “plan,” “predict,” “project,” “would,” “will,” “should,” “could,” “objective,” “target,” “ongoing,” “contemplate,” “potential” or “continue” or the negative of these terms and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements include, without limitation, statements about:

- our ability to timely implement our strategic initiatives and raise sufficient capital on suitable terms;
- our ability to compete effectively;
- our future financial performance, including our expectations regarding our revenue, cost of revenue, operating expenses, and our ability to achieve and maintain future profitability;
- our expectations regarding outstanding litigation;
- our expectations and management of future growth;
- our beliefs regarding our liquidity and sufficiency of cash to fund our operations; and
- the other matters described in “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and “Business.”

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in our forward-looking statements. We have included important factors in the cautionary statements included in this prospectus, particularly in the “Risk Factors” section beginning on page 6, which could cause actual results or events to differ materially from such forward-looking statements. Any forward-looking statement speaks only as of the date on which it is made, and we do not undertake any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of the shares of common stock offered under this prospectus by the selling security holders. Rather, the selling security holders will receive those proceeds directly.

DIVIDEND POLICY

We have never paid cash dividends on our common stock and do not intend to pay cash dividends on our common stock in the foreseeable future. We anticipate that we will retain any earnings for use in the continued development of our business.

Under the terms of our Notes we are prohibited from declaring and paying any dividends on shares of our common stock while the Notes remain outstanding. In addition, several of our current and future debt financing arrangements may limit or prevent cash distributions from our subsidiaries to us, depending upon the achievement of specified financial and other operating conditions and our ability to properly service our debt, thereby limiting or preventing us from paying cash dividends. Further, the holders of our outstanding Series B Preferred Stock are entitled to dividends of 7% per annum, payable quarterly in arrears. Certain holders of our outstanding Series B Preferred Stock have agreed to waive any and all of their respective rights and remedies against us with respect to any unpaid quarterly cumulative dividends on our Series B Preferred Stock until we pay in full our obligations under the Notes and Note Amendment Agreement, an event of default occurs, or, in the case of one holder, December 19, 2021, whichever is earliest. Accumulated and unpaid dividends in respect of our Series B Preferred Stock must be paid prior to the payment of any dividends on shares of our common stock.

MARKET INFORMATION FOR OUR COMMON STOCK

Our common stock is listed on The Nasdaq Capital Market under the symbol "PEIX." As of January 17, 2020, we had 220 holders of record of our common stock, based on information provided by our transfer agent. These holders of record include depositories that hold shares of stock for brokerage firms which, in turn, hold shares of stock for numerous beneficial owners. On January 17, 2020, the last reported price of our common stock on The Nasdaq Capital Market was \$0.673 per share.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and notes to consolidated financial statements included elsewhere in this prospectus. This discussion contains forward-looking statements, reflecting our plans and objectives that involve risks and uncertainties. Actual results and the timing of events may differ materially from those contained in these forward-looking statements due to a number of factors, including those discussed in the section entitled "Risk Factors" and elsewhere in this prospectus.

Overview

We are a leading producer and marketer of low-carbon renewable fuels in the United States.

We operate nine strategically-located production facilities. Four of our plants are in the Western states of California, Oregon and Idaho, and five of our plants are located in the Midwestern states of Illinois and Nebraska. We are the sixth largest producer of ethanol in the United States based on annualized volumes. Our plants have a combined production capacity of 605 million gallons per year. We market all the ethanol, specialty alcohols and co-products produced at our plants as well as ethanol produced by third parties. On an annualized basis, we market nearly 1.0 billion gallons of ethanol and over 3.0 million tons of ethanol co-products on a dry matter basis. Our business consists of two operating segments: a production segment and a marketing segment.

Our mission is to be a leading producer and marketer of low-carbon renewable fuels, high-value animal feed and high-quality alcohol products in the United States. We intend to accomplish this goal in part by investing in our ethanol production and distribution infrastructure, lowering the carbon intensity of our ethanol, extending our marketing business into new regional and international markets, and implementing new technologies to promote higher production yields and greater efficiencies.

Production Segment

We produce ethanol, specialty alcohols and co-products at our production facilities described below. Our plants located on the West Coast are near their respective fuel and feed customers, offering significant timing, transportation cost and logistical advantages. Our plants located in the Midwest are in the heart of the Corn Belt, benefit from low-cost and abundant feedstock production and allow for access to many additional domestic markets. In addition, our ability to load unit trains from our plants located in the Midwest, and barges from our Pekin, Illinois plants, allows for greater access to international markets.

We wholly-own all of our plants located on the West Coast and the three plants in Pekin, Illinois. We own approximately 74% of the two plants in Aurora, Nebraska as well as the grain elevator adjacent to those properties and related grain handling assets, including the outer rail loop, and the real property on which they are located, through Pacific Aurora.

All of our plants, with the exception of our Aurora East facility, are currently operating. Our Aurora East facility was idled in December 2018 due to unfavorable market conditions. As market conditions change, we may increase, decrease or idle production at one or more operating facilities or resume operations at any idled facility.

Facility Name	Facility Location	Estimated Annual Capacity (gallons)
Magic Valley	Burley, ID	60,000,000
Columbia	Boardman, OR	40,000,000
Stockton	Stockton, CA	60,000,000
Madera	Madera, CA	40,000,000
Aurora West	Aurora, NE	110,000,000
Aurora East	Aurora, NE	45,000,000
Pekin Wet	Pekin, IL	100,000,000
Pekin Dry	Pekin, IL	60,000,000
Pekin ICP	Pekin, IL	90,000,000

We produce ethanol co-products at our production facilities such as WDG, DDGS, wet and dry corn gluten feed, condensed distillers solubles, corn gluten meal, corn germ, corn oil, dried yeast and CO₂.

Marketing Segment

We market ethanol, specialty alcohols and co-products produced by our facilities and market ethanol produced by third parties. We have extensive customer relationships throughout the Western and Midwestern United States. Our ethanol customers are integrated oil companies and gasoline marketers who blend ethanol into gasoline. Our customers depend on us to provide a reliable supply of ethanol, and manage the logistics and timing of delivery with very little effort on their part. Our customers collectively require ethanol volumes in excess of the supplies we produce at our production facilities. We secure additional ethanol supplies from third-party plants in California and other third-party suppliers in the Midwest where a majority of ethanol producers are located. We arrange for transportation, storage and delivery of ethanol purchased by our customers through our agreements with third-party service providers in the Western United States as well as in the Midwest from a variety of sources.

We market our distillers grains and other feed co-products to dairies and feedlots, in many cases located near our ethanol plants. These customers use our feed co-products for livestock as a substitute for corn and other sources of starch and protein. We sell our corn oil to poultry and biodiesel customers. We do not market co-products from other ethanol producers.

Three and Nine Months Ended September 30, 2019 Compared to the Three and Nine Months Ended September 30, 2018

Results of Operations

The following selected financial information should be read in conjunction with our consolidated financial statements and notes to our consolidated financial statements included elsewhere in this prospectus, and the other sections of "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained in this prospectus.

Certain performance metrics that we believe are important indicators of our results of operations include:

	Three Months Ended September 30,			Percentage Variance	Nine Months Ended September 30,			Percentage Variance
	2019	2018			2019	2018		
Production gallons sold (in millions)	130.1	139.9	(7.0)%	365.6	425.1	(14.0)%		
Third party gallons sold (in millions)	80.2	72.3	10.9%	258.3	247.2	4.5%		
Total gallons sold (in millions)	210.3	212.2	(0.9)%	623.9	672.3	(7.2)%		
Total gallons produced (in millions)	124.2	138.7	(10.5)%	368.0	424.1	(13.2)%		
Production capacity utilization	82%	91%	(9.9)%	81%	94%	(13.8)%		
Average sales price per gallon	\$ 1.61	\$ 1.60	0.6%	\$ 1.59	\$ 1.61	(1.2)%		
Corn cost per bushel – CBOT equivalent	\$ 3.85	\$ 3.63	6.1%	\$ 3.80	\$ 3.67	3.5%		
Average basis ⁽¹⁾	\$ 0.47	\$ 0.21	123.8%	\$ 0.42	\$ 0.26	61.5%		
Delivered cost of corn	\$ 4.32	\$ 3.84	12.5%	\$ 4.22	\$ 3.93	7.4%		
Total co-product tons sold (in thousands)	720.4	773.2	(6.8)%	2,096.0	2,365.2	(11.4)%		
Co-product revenues as % of delivered cost of corn ⁽²⁾	30.9%	35.8%	(13.7)%	35.1%	36.2%	(3.0)%		
Average CBOT ethanol price per gallon	\$ 1.41	\$ 1.35	4.4%	\$ 1.38	\$ 1.41	(2.1)%		
Average CBOT corn price per bushel	\$ 3.89	\$ 3.53	10.2%	\$ 3.84	\$ 3.68	4.3%		

(1) Corn basis represents the difference between the immediate cash price of delivered corn and the future price of corn for Chicago delivery.

(2) Co-product revenues as a percentage of delivered cost of corn shows our yield based on sales of co-products, including WDG and corn oil, generated from ethanol we produced.

Net Sales, Cost of Goods Sold and Gross Profit (Loss)

The following table presents our net sales, cost of goods sold and gross profit (loss) in dollars and gross profit (loss) as a percentage of net sales (in thousands, except percentages):

	Three Months Ended September 30,		Variance in		Nine Months Ended September 30,		Variance in	
	2019	2018	Dollars	Percent	2019	2018	Dollars	Percent
Net sales	\$ 365,160	\$ 370,407	\$ (5,247)	(1.4)%	\$ 1,067,264	\$ 1,180,956	\$ (113,692)	(9.6)%
Cost of goods sold	379,976	366,639	13,337	3.6%	1,080,398	1,175,099	(94,701)	(8.1)%
Gross profit	\$ (14,816)	\$ 3,768	\$ (18,584)	NM	\$ (13,134)	\$ 5,857	\$ (18,991)	NM
Percentage of net sales	(4.1)%	1.0%			(1.2)%	0.5%		

Net Sales

The decline in our net sales for the three and nine months ended September 30, 2019 as compared to the same periods in 2018 was primarily due to a decline in our total gallons sold.

We sold fewer production gallons and co-products for the three and nine months ended September 30, 2019 as compared to the same periods in 2018. These declines are primarily due to lower production capacity utilization at our plants in response to a lower ethanol crush margin environment, which included idling our Aurora East production facility. Our production capacity utilization declined to 82% and 81% for the three and nine months ended September 30, 2019, respectively, compared to 91% and 94% for the same periods in 2018, respectively.

Three Months Ended September 30, 2019 and 2018

On a consolidated basis, our average sales price per gallon increased 0.6% to \$1.61 for the three months ended September 30, 2019 compared to \$1.60 for the same period in 2018. The average Chicago Board of Trade, or CBOT, ethanol price per gallon, increased 4.4% to \$1.41 for the three months ended September 30, 2019 compared to \$1.35 for the same period in 2018.

Production Segment

Net sales of ethanol from our production segment declined by \$3.9 million, or 2%, to \$212.9 million for the three months ended September 30, 2019 as compared to \$216.8 million for the same period in 2018. Our total volume of production ethanol gallons sold declined by 9.8 million gallons, or 7%, to 130.1 million gallons for the three months ended September 30, 2019 as compared to 139.9 million gallons for the same period in 2018. Our production segment's average sales price per gallon increased 6% to \$1.62 for the three months ended September 30, 2019 compared to our production segment's average sales price per gallon of \$1.53 for the same period in 2018. At our production segment's average sales price per gallon of \$1.62 for the three months ended September 30, 2019, we generated \$15.8 million less in net sales from our production segment from the 9.8 million fewer gallons of produced ethanol sold in the three months ended September 30, 2019 as compared to the same period in 2018. This decline was partially offset by the increase of \$0.09 in our production segment's average sales price per gallon for the three months ended September 30, 2019 as compared to the same period in 2018, which increased our net sales of ethanol from our production segment by \$11.9 million.

Net sales of co-products decreased \$7.6 million, or 10%, to \$65.7 million for the three months ended September 30, 2019 as compared to \$73.3 million for the same period in 2018. Our total volume of co-products sold declined by 52.8 thousand tons, or 7%, to 720.4 thousand tons for three months ended September 30, 2019 from 773.2 thousand tons for the same period in 2018, and our average sales price per ton decreased to \$91.19 for the three months ended September 30, 2019 from \$94.75 for the same period in 2018. At our average sales price per ton of \$91.19 for the three months ended September 30, 2019, we realized \$4.8 million less in net sales from the 52.8 thousand ton decline in co-products sold in the three months ended September 30, 2019 as compared to the same period in 2018. The decline in our average sales price per ton of \$3.56, or 4%, for the three months ended September 30, 2019 as compared to the same period in 2018 reduced our net sales of co-products by \$2.8 million.

Marketing Segment

Net sales of ethanol from our marketing segment increased by \$6.2 million, or 8%, to \$86.1 million for the three months ended September 30, 2019 as compared to \$79.9 million for the same period in 2018. Our total volume of ethanol gallons sold by our marketing segment declined by 1.9 million gallons, or 1%, to 210.3 million gallons for the three months ended September 30, 2019 as compared to 212.2 million gallons for the same period in 2018.

The decline in production gallons sold by our marketing segment resulted in a decline of \$0.1 million in net sales generated by our marketing segment, which were eliminated upon consolidation.

Our marketing segment's average sales price per gallon increased \$0.04, or 3%, to \$1.61 for the three months ended September 30, 2019 as compared to \$1.57 for the same period in 2018. At our marketing segment's average sales price per gallon of \$1.61 for the three months ended September 30, 2019, we realized \$3.0 million less in net sales from our marketing segment from the 1.9 million fewer gallons sold in the three months ended September 30, 2019 as compared to the same period in 2018. The increase of \$0.04 in our marketing segment's average sales price per gallon for the three months ended September 30, 2019 as compared to the same period in 2018 increased our net sales from ethanol sold by our marketing segment by \$9.2 million.

Nine Months Ended September 30, 2019 and 2018

On a consolidated basis, our average sales price per gallon declined 1.2% to \$1.59 for the nine months ended September 30, 2019 compared to \$1.61 for the same period in 2018. The average CBOT ethanol price per gallon declined 2.1% to \$1.38 for the nine months ended September 30, 2019 compared to \$1.41 for the same period in 2018.

Production Segment

Net sales of ethanol from our production segment declined by \$83.6 million, or 12%, to \$586.7 million for the nine months ended September 30, 2019 as compared to \$670.3 million for the same period in 2018. Our total volume of production ethanol gallons sold declined by 59.5 million gallons, or 14%, to 365.6 million gallons for the nine months ended September 30, 2019 as compared to 425.1 million gallons for the same period in 2018. Our production segment's average sales price per gallon increased 2% to \$1.59 for the nine months ended September 30, 2019 compared to \$1.56 for the same period in 2018. At our production segment's average sales price per gallon of \$1.59 for the nine months ended September 30, 2019, we generated \$94.3 million less in net sales from our production segment from the 59.5 million fewer gallons of produced ethanol sold in the nine months ended September 30, 2019 as compared to the same period in 2018. The increase of \$0.03 in our production segment's average sales price per gallon for the nine months ended September 30, 2019 as compared to the same period in 2018 increased our net sales of ethanol from our production segment by \$10.7 million.

Net sales of co-products declined \$27.1 million, or 12%, to \$199.2 million for the nine months ended September 30, 2019 as compared to \$226.3 million for the same period in 2018. Our total volume of co-products sold decreased by 269.2 thousand tons, or 11%, to 2,096.0 thousand tons for nine months ended September 30, 2019 from 2,365.2 thousand tons for the same period in 2018, and our average sales price per ton decreased to \$95.03 for the nine months ended September 30, 2019 from \$95.68 for the same period in 2018. At our average sales price per ton of \$95.03 for the nine months ended September 30, 2019, we generated \$25.6 million less in net sales from the 269.2 thousand tons of additional co-products sold in the nine months ended September 30, 2019 as compared to the same period in 2018. The decrease of \$0.65, or 1%, in our average sales price per ton for the nine months ended September 30, 2019 as compared to the same period in 2018 decreased net sales of co-products by \$1.5 million.

Marketing Segment

Net sales of ethanol from our marketing segment declined by \$2.9 million, or 1%, to \$280.0 million for the nine months ended September 30, 2019 as compared to \$282.9 million for the same period in 2018. Our total volume of ethanol gallons sold by our marketing segment declined by 48.4 million gallons, or 7%, to 623.9 million gallons for the nine months ended September 30, 2019 as compared to 672.3 million gallons for the same period in 2018.

The increase in production gallons sold by our marketing segment resulted in an increase of \$0.9 million in net sales generated by our marketing segment, which were eliminated upon consolidation.

Our marketing segment's average sales price per gallon increased \$0.11, or 8%, to \$1.65 for the nine months ended September 30, 2019 as compared to \$1.54 for the same period in 2018. At our marketing segment's average sales price per gallon of \$1.65 for the nine months ended September 30, 2019, we realized \$80.0 million less in net sales from our marketing segment from the 48.4 million fewer gallons sold in the nine months ended September 30, 2019 as compared to the same period in 2018. The increase of \$0.11 in our marketing segment's average sales price per gallon for the nine months ended September 30, 2019 as compared to the same period in 2018 increased our net sales from ethanol sold by our marketing segment by \$77.1 million.

Cost of Goods Sold and Gross Profit (Loss)

Our consolidated gross profit (loss) decreased to a gross loss of \$14.8 million, representing a negative gross profit margin of 4.1%, for the three months ended September 30, 2019 compared to a gross profit of \$3.8 million, representing a gross profit margin of 1.0%, for the same period in 2018. Our consolidated gross profit (loss) declined to a gross loss of \$13.1 million, representing a negative gross profit margin of 1.2%, for the nine months ended September 30, 2019 compared to a gross profit of \$5.9 million, representing a gross profit margin of 0.5%, for the same period in 2018. Our gross profit and gross profit margin declined primarily due to significantly lower commodity margins predominately resulting from higher corn prices without a commensurate increase in ethanol prices.

Three Months Ended September 30, 2019 and 2018

Production Segment

Our production segment's gross profit from external sales declined by \$10.9 million to a gross loss of \$15.9 million for the three months ended September 30, 2019 as compared to a gross loss of \$5.0 million for the same period in 2018. Of this decline, \$12.1 million is attributable to our production segment's lower margins for the three months ended September 30, 2019 as compared to the same period in 2018, partially offset by \$1.2 million attributable to lower production volumes for the three months ended September 30, 2019 as compared to the same period in 2018.

Marketing Segment

Our marketing segment's gross profit declined by \$7.7 million to \$1.1 million for the three months ended September 30, 2019 as compared to \$8.8 million for the same period in 2018, largely attributable to our marketing segment's lower margins per gallon for the three months ended September 30, 2019 as compared to the same period in 2018.

Nine Months Ended September 30, 2019 and 2018

Production Segment

Our production segment's gross profit from external sales declined by \$7.1 million to a gross loss of \$23.6 million for the nine months ended September 30, 2019 as compared to a gross loss of \$16.5 million for the same period in 2018. Of this decline, \$11.0 million is attributable to our production segment's lower margins for the nine months ended September 30, 2019 as compared to the same period in 2018, partially offset by \$3.9 million attributable to decreased production volumes for the nine months ended September 30, 2019 as compared to the same period in 2018.

Marketing Segment

Our marketing segment's gross profit declined by \$11.9 million to \$10.5 million for the nine months ended September 30, 2019 as compared to \$22.4 million for the same period in 2018. Of this decline, \$11.0 million is attributable to our marketing segment's lower margins for the nine months ended September 30, 2019 as compared to the same period in 2018, and \$0.9 million is attributable to reduction in volumes for the nine months ended September 30, 2019 as compared to the same period in 2018.

Selling, General and Administrative Expenses

The following table presents our selling, general and administrative, or SG&A, expenses in dollars and as a percentage of net sales (in thousands, except percentages):

	Three Months Ended September 30,		Variance in		Nine Months Ended September 30,		Variance in	
	2019	2018	Dollars	Percent	2019	2018	Dollars	Percent
	Selling, general and administrative expenses	\$ 8,687	\$ 8,970	\$ (283)	(3.2)%	\$ 23,630	\$ 27,183	\$ (3,553)
Percentage of net sales	2.4%	2.4%			2.2%	2.3%		

Our SG&A expenses declined for the three and nine months ended September 30, 2019 as compared to the same period in 2018. The decrease in SG&A expenses is primarily due to reductions in compensation and health insurance costs. Our capital expenditures through the first nine months of 2019 totaled \$2.1 million and were primarily attributable to ongoing repair and maintenance of our production facilities.

Net Loss Available to Common Stockholders

The following table presents our net loss available to common stockholders in dollars and as a percentage of net sales (in thousands, except percentages):

	Three Months Ended September 30,		Variance in		Nine Months Ended September 30,		Variance in	
	2019	2018	Dollars	Percent	2019	2018	Dollars	Percent
	Net loss available to common stockholders	\$ (27,645)	\$ (7,833)	\$ (19,812)	(252.9)%	\$ (48,808)	\$ (29,209)	\$ (19,599)
Percentage of net sales	(7.6)%	(2.1)%			(4.6)%	(2.5)%		

The increase in net loss available to common stockholders is primarily due to lower production and third party marketing margins for the three and nine months ended September 30, 2019 as compared to the same periods in 2018.

Year Ended December 31, 2018 Compared to the Year Ended December 31, 2017

Financial Performance

Summary

Our consolidated net sales declined to \$1.5 billion for 2018 compared to \$1.6 billion for 2017. Our net loss available to common stockholders increased by \$25.2 million from \$36.3 million for 2017 to \$61.5 million for 2018.

Factors that contributed to our results of operations for 2018 include:

- *Net sales.* Our net sales for 2018 declined 7% to \$1.5 billion for 2018 from \$1.6 billion for 2017 as a result of a decrease in total gallons sold and a decrease in our average sales price per gallon. Our total gallons sold declined 7% to 883 million gallons for 2018 from 952 million gallons for 2017. Our third-party ethanol sales volume decreased 23% to 327 million gallons for 2018 from 425 million gallons for 2017, partially offset by a 6% increase in our production sales volume to 556 million gallons for 2018 from 527 million gallons for 2017. The decrease in third-party sales volume was due to an intentional reduction in less profitable third-party sales. Our increased production sales volume was primarily due to having a full year of sales volume from Illinois Corn Processing, LLC, or ICP, a production facility we acquired in July 2017.

- *Gross profit margin.* Our gross profit margin declined to negative 1.0% for 2018 from a gross profit margin of 0.4% for 2017. The decline in our gross profit margin was primarily the result of lower corn crush margins compared to 2017 resulting from both lower average ethanol sales prices and an increased cost of corn per bushel.
- *Selling, general and administrative expenses.* Our selling, general and administrative expenses, or SG&A expenses, increased by \$4.9 million to \$36.4 million for 2018, as compared to \$31.5 million for 2017, primarily as a result of a \$3.6 million gain recorded in 2017 associated with legal matters successfully resolved in 2017. In addition, our SG&A expenses for 2018 included a full year of expenses related to ICP's business as well as higher legal costs associated with boiler defect litigation.
- *Interest expense.* Our interest expense increased by \$4.2 million to \$17.1 million for 2018 from \$12.9 million for 2017. This increase is primarily due to additional borrowings related to our ICP acquisition and higher interest rates on our senior notes, which increased in accordance with the note terms.

Sales and Margins

We generate sales by marketing all the ethanol produced by our ethanol plants, all the ethanol produced by two other ethanol producers in the Western United States and ethanol purchased from other third-party suppliers throughout the United States. We also market high-quality alcohol products and ethanol co-products, including WDG and DDGS, wet and dry corn gluten feed, condensed distillers solubles, corn gluten meal, corn germ, corn oil, dried yeast and CO₂, for our ethanol plants.

Our profitability is highly dependent on various commodity prices, including the market prices of ethanol, corn and natural gas.

Our average ethanol sales price declined by 3% to \$1.57 per gallon for 2018 compared to \$1.62 per gallon for 2017. The average price of ethanol as reported by the Chicago Board of Options Trade, or CBOT, declined by 9% to \$1.37 per gallon for 2018 compared to \$1.50 per gallon for 2017. Our average cost of corn increased 2% to \$3.91 per bushel for 2018 from \$3.82 per bushel for 2017. The average price of corn as reported by the CBOT increased nearly 3% to \$3.68 per bushel for 2018 from \$3.59 per bushel for 2017.

We believe that our gross profit margins depend primarily on five key factors:

- the market price of ethanol, which we believe is impacted by the degree of competition in the ethanol market; the price of gasoline and related petroleum products; and government regulation, including government mandates;
- the market price of key production input commodities, including corn and natural gas;
- the market price of co-products;

- our ability to anticipate trends in the market price of ethanol, co-products, and key input commodities and implement appropriate risk management and opportunistic strategies; and
- the proportion of our sales of ethanol produced at our ethanol plants to our sales of ethanol produced by unrelated third-parties.

We seek to optimize our gross profit margins by anticipating the factors above and, when resources are available, implementing hedging transactions and taking other actions designed to limit risk and address these factors. For example, we may seek to decrease inventory levels in anticipation of declining ethanol prices and increase inventory levels in anticipation of rising ethanol prices. We may also seek to alter our proportion or timing, or both, of purchase and sales commitments. Furthermore, we may diversify our ethanol feedstock to lower our average costs and/or increase our ethanol sales prices from premiums for low-carbon intensity rated ethanol.

Our limited resources to act upon the anticipated factors described above and/or our inability to anticipate these factors or their relative importance, and adverse movements in the factors themselves, could result in declining or even negative gross profit margins over certain periods of time. Our ability to anticipate these factors or favorable movements in these factors may enable us to generate above-average gross profit margins. However, given the difficulty associated with successfully forecasting any of these factors, we are unable to estimate our future gross profit margins.

Results of Operations

Accounting for the Results of Illinois Corn Processing, LLC

We closed our acquisition of ICP on July 3, 2017 and, as a result, our results of operations for 2017 include ICP's results of operations only for the period from July 3, 2017 through December 31, 2017.

Selected Financial Information

The following selected financial information should be read in conjunction with our consolidated financial statements and notes to our consolidated financial statements included elsewhere in this prospectus, and the other sections of "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained in this prospectus.

Certain performance metrics that we believe are important indicators of our results of operations include:

	Years Ended December 31,			Percentage Change	
	2018	2017	2016	2018 vs 2017	2017 vs 2016
	Production gallons sold (in millions)	556.2	527.2	484.1	5.5%
Third-party gallons sold (in millions)	326.8	424.8	440.4	(23.1)%	(3.5)%
Total gallons sold (in millions)	883.0	952.0	924.5	(7.2)%	3.0%
Total gallons produced (in millions)	554.3	531.0	477.6	4.4%	11.2%
Production capacity utilization	92%	99%	93%	(7.1)%	6.5%
Average sales price per gallon	\$ 1.57	\$ 1.62	\$ 1.67	(3.1)%	(3.0)%
Corn cost per bushel—CBOT equivalent	\$ 3.66	\$ 3.62	\$ 3.63	1.1%	(0.3)%
Average basis ⁽¹⁾	\$ 0.25	\$ 0.20	\$ 0.27	25.0%	(25.9)%
Delivered cost of corn	\$ 3.91	\$ 3.82	\$ 3.90	2.4%	(2.1)%
Total co-product tons sold (in thousands)	3,096.2	3,008.5	2,760.6	2.9%	9.0%
Co-product revenues as % of delivered cost of corn ⁽²⁾	36.5%	34.5%	35.1%	5.8%	(1.7)%
Average CBOT ethanol price per gallon	\$ 1.37	\$ 1.50	\$ 1.51	(8.7)%	(0.7)%
Average CBOT corn price per bushel	\$ 3.68	\$ 3.59	\$ 3.58	2.5%	0.3%

(1) Corn basis represents the difference between the immediate cash price of delivered corn and the future price of corn for Chicago delivery.

(2) Co-product revenues as a percentage of delivered cost of corn shows our yield based on sales of co-products, including WDG and corn oil, generated from ethanol we produced.

Year Ended December 31, 2018 Compared to the Year Ended December 31, 2017

	Years Ended		Dollar	Percentage	Results as a	
	December 31,		Change	Change	Percentage of	
	2018	2017	Favorable	Favorable	Net Sales for the	
			(Unfavorable)	(Unfavorable)	Years Ended	
	2018	2017			2018	2017
	(dollars in thousands)					
Net sales	\$ 1,515,371	\$ 1,632,255	\$ (116,884)	(7.2)%	100.0%	100.0%
Cost of goods sold	1,530,535	1,626,324	95,789	5.9%	101.0%	99.6%
Gross profit (loss)	(15,164)	5,931	(21,095)	NM	(1.0)%	0.4%
Selling, general and administrative expenses	36,373	31,516	(4,857)	(15.4)%	2.4%	1.9%
Loss from operations	(51,537)	(25,585)	(25,952)	(101.4)%	(3.4)%	(1.6)%
Fair value adjustments	—	473	(473)	(100.0)%	0.0%	0.0%
Interest expense, net	(17,132)	(12,938)	(4,194)	(32.4)%	(1.1)%	(0.8)%
Other income (expense), net	171	(345)	516	NM	0.0%	(0.0)%
Loss before provision (benefit) for income taxes	(68,498)	(38,395)	(30,103)	(78.4)%	(4.5)%	(2.4)%
Provision (benefit) for income taxes	(562)	(321)	241	75.1%	0.0%	(0.0)%
Consolidated net loss	(67,936)	(38,074)	(29,862)	(78.4)%	(4.5)%	(2.3)%
Net loss attributed to noncontrolling interests	7,663	3,110	4,553	146.4%	0.5%	0.2%
Net loss attributed to Pacific Ethanol, Inc.	\$ (60,273)	\$ (34,964)	\$ (25,309)	(72.4)%	(4.0)%	(2.1)%
Preferred stock dividends	(1,265)	(1,265)	—	—%	(0.1)%	(0.1)%
Loss available to common stockholders	\$ (61,538)	\$ (36,229)	\$ (25,309)	(69.9)%	(4.1)%	(2.2)%

Net Sales

The decrease in our consolidated net sales for 2018 as compared to 2017 was primarily due to a decrease in our total gallons sold and a decrease in our average sales price per gallon.

We increased production gallons sold and our volume of co-products sold, for 2018 as compared to 2017, while decreasing third-party gallons sold. The increases in production gallons and co-products sold are primarily due to a full year of sales volume from ICP, plus the timing of finished goods inventory from period to period. We decreased third-party gallons sold due to an intentional reduction in less profitable third party sales.

Production Segment

Net sales of ethanol from our production segment increased by \$14.1 million, or 2%, to \$859.8 million for 2018 as compared to \$845.7 million for 2017. Our total volume of production gallons sold increased by 29.0 million gallons, or 6%, to 556.2 million gallons for 2018 as compared to 527.2 million gallons for 2017. At our production segment's average sales price per gallon of \$1.55 for 2018, we generated \$44.8 million in additional net sales from our production segment from the 29.0 million additional gallons of produced ethanol sold in 2018 as compared to 2017. The decline of \$0.06, or 4%, in our production segment's average sales price per gallon in 2018 as compared to 2017 reduced our net sales from our production segment by \$30.7 million.

Net sales of co-products increased \$39.7 million, or 15%, to \$296.7 million for 2018 as compared to \$257.0 million for 2017. Our total volume of co-products sold increased by 0.1 million tons to 3.1 million tons for 2018 from 3.0 million tons for 2017. At our average sales price per ton of \$95.82 for 2018, we generated \$8.4 million in additional net sales from the 0.1 million additional tons of co-products sold in 2018 as compared to 2017. The increase of \$10.39, or 12%, in our average sales price per ton in 2018 as compared to 2017 increased our net sales from our production segment by \$31.3 million.

Marketing Segment

Net sales of ethanol from our marketing segment, excluding intersegment sales, decreased by \$170.6 million, or 32%, to \$358.9 million for 2018 as compared to \$529.5 million for 2017.

Our volume of third party ethanol gallons sold reported gross by our marketing segment decreased by 103.8 million gallons, or 33%, to 206.1 million gallons for 2018 as compared to 309.9 million gallons for 2017. At our marketing segment's average sales price per gallon of \$1.73 for 2018, we generated \$179.8 million in lower net sales from our marketing segment from the 103.8 million gallon reduction in third-party ethanol sold gross in 2018 as compared to 2017.

Our volume of third party ethanol gallons sold reported net by our marketing segment increased by 5.8 million gallons, or 5%, to 120.7 million gallons for 2018 as compared to 114.9 million gallons for 2017. The increase in third party ethanol gallons sold reported net contributed an additional \$0.2 million in net sales.

The increase of \$0.03 per gallon, or 2%, in our marketing segment's average sales price per gallon in 2018 as compared to 2017 increased our net sales from third-party ethanol sold by our marketing segment by \$9.0 million.

Cost of Goods Sold and Gross Profit (Loss)

Our consolidated gross profit (loss) declined to a gross loss of \$15.2 million for 2018 from a gross profit of \$5.9 million for 2017, representing a gross profit margin of negative 1.0% for 2018 compared to a gross profit margin of 0.4% for 2017. Our consolidated gross profit (loss) decreased primarily due to significantly lower crush margins during the year resulting from lower ethanol prices and higher corn costs. In addition, for the years ended December 31, 2018 and 2017, cost of goods sold included approximately \$4.8 million and \$10.7 million, respectively, of larger than anticipated repair and maintenance related expenses to replace faulty equipment.

Production Segment

Our production segment's gross profit declined by \$42.0 million to a gross loss of \$39.0 million for 2018 as compared to gross profit of \$3.0 million for 2017. All of this decline is attributable to lower margins, including with respect to the 29.0 million gallon increase in production volumes sold in 2018 as compared to 2017.

Marketing Segment

Our marketing segment's gross profit improved by \$20.9 million to \$23.8 million for 2018 as compared to \$2.9 million for 2017. Of this improvement, \$32.9 million is attributable to improved third party sales margins, partially offset by \$12.0 million attributable to decreased third party marketing volumes in 2018 as compared to 2017.

Selling, General and Administrative Expenses

Our SG&A expenses increased \$4.9 million to \$36.4 million for 2018 as compared to \$31.5 million for the same period in 2017. The increase in SG&A expenses is primarily due to \$3.6 million in one-time gains associated with legal matters resolved in 2017 that reduced our SG&A expenses for 2017. In addition, our SG&A expenses for 2018 include a full year of ICP-related expenses as well as increased legal costs associated with our boiler defect litigation.

Interest Expense, net

Interest expense increased \$4.2 million to \$17.1 million for 2018 from \$12.9 million for 2017. The increase in interest expense is primarily due to additional borrowings related to our acquisition of ICP on July 3, 2017, and higher interest rates on our senior notes, which increased in accordance with the note terms. In addition, in 2018, we realized higher interest expense of \$0.3 million due to accelerated amortization of deferred financing costs associated with our termination of Pacific Aurora's line of credit.

Provision (Benefit) for Income Taxes

In 2018, we incurred book and tax losses and as a result, we carried forward these tax losses, however, we were required to apply a valuation allowance against these net operating loss carryforwards until the realizability of these losses is more likely than not.

Net Loss Attributed to Noncontrolling Interests

Net loss attributed to noncontrolling interests relates to our consolidated treatment of Pacific Aurora. Beginning in 2016, we consolidated the assets associated with Pacific Aurora before and after the admission of a 26% equity owner of Pacific Aurora. As a result, we reduced our consolidated net loss for the noncontrolling interests, which were the ownership interests that we did not own.

Preferred Stock Dividends

Shares of our Series B Preferred Stock are entitled to quarterly cumulative dividends payable in arrears in an amount equal to 7% per annum of the purchase price per share of the Series B Preferred Stock. We accrued and paid in cash dividends of \$1.3 million for each of 2018 and 2017 in respect of our Series B Preferred Stock.

Liquidity and Capital Resources

During the nine months ended September 30, 2019, we funded our operations primarily from cash on hand and advances from our revolving credit facilities. These funds were also used to make capital expenditures, capital lease payments and principal and interest payments on term debt.

Both we and the ethanol industry as a whole experienced significant adverse conditions throughout most of 2018 and 2019 as a result of industry-wide record low ethanol prices due to reduced demand and high industry inventory levels. These factors resulted in prolonged negative operating margins, significantly lower cash flow from operations and substantial net losses. In response to the low-margin environment, we have pursued strategic initiatives focused on the potential sale of certain production assets, a reduction of our debt levels, a strengthening of our cash and liquidity position, and opportunities for strategic partnerships and capital raising activities, positioning us to optimize our business performance. Our most significant challenges in meeting these objectives would be a sustained adverse margin environment and insufficient cash flows to make our scheduled debt payments.

We continue to make progress on our plans, but concluding our potential transactions has taken longer than anticipated. We believe that an improving market will help us complete our strategic initiatives. We have excellent production assets with values well in excess of our near-term liquidity needs. We are confident in our strong relationships with our financial and commercial partners and believe we are taking the appropriate steps to increase our shareholder value to benefit our stakeholders long-term and to provide greater financial flexibility to executive future strategic initiatives.

Our current available capital resources consist of cash on hand and amounts available for borrowing under our credit facilities. We expect that our future available capital resources will consist primarily of our current cash balances, availability under our lines of credit, any cash generated from operations, net cash proceeds from any sale of our production assets and net cash proceeds from any equity sales or debt financing transactions.

At September 30, 2019, on a consolidated basis, we had an aggregate of \$18.9 million in cash and Kinergy had \$2.2 million in excess availability under its credit facility.

As of September 30, 2019, our current liabilities of \$228.4 million exceeded our current assets of \$161.9 million, resulting in a working capital deficit of \$66.5 million. However, as a result of the amendments to the credit facilities described below in December 2019, our working capital deficit has improved since September 30, 2019. In addition, we believe that as of the date of this prospectus, we are in compliance with all debt covenants contained in our credit facilities.

We believe our strategic initiatives, if implemented timely and on suitable terms, will provide sufficient liquidity to meet our anticipated working capital, debt service and other liquidity needs through at least the next twelve months. However, if we are unable to timely implement our strategic initiatives, if margins do not improve, or if we are unable to further defer principal and/or interest payments or extend the maturity date of our debt, we will likely have insufficient liquidity through the next twelve months, or earlier depending on margins, operating cash flows and lender forbearance. In addition, if margins do not sustainably improve, we may be forced to curtail our production at one or more of our operating facilities. See “Risk Factors”.

Quantitative Quarter-End Liquidity Status

We believe that the following amounts provide insight into our liquidity and capital resources. The following selected financial information should be read in conjunction with our consolidated financial statements and notes to consolidated financial statements included elsewhere in this prospectus, and the other sections of “Management’s Discussion and Analysis of Financial Condition and Results of Operations” contained in this prospectus (dollars in thousands):

	September 30, 2019	December 31, 2018	Change
Cash and cash equivalents	\$ 18,921	\$ 26,627	(28.9)%
Current assets	\$ 161,936	\$ 168,804	(4.1)%
Property and equipment, net	\$ 442,810	\$ 482,657	(8.3)%
Current liabilities	\$ 228,431	\$ 231,859	(1.5)%
Long-term debt, net of current portion	\$ 98,673	\$ 84,767	16.4%
Working capital deficit	\$ (66,495)	\$ (63,055)	(5.5)%
Working capital ratio	0.71	0.73	(2.7)%

Restricted Net Assets

At September 30, 2019, we had approximately \$184.8 million of net assets at our subsidiaries that were not available to be transferred to Pacific Ethanol, Inc. in the form of dividends, loans or advances due to restrictions contained in the credit facilities of our subsidiaries.

Changes in Working Capital and Cash Flows

Our working capital deficit increased to a deficit of \$66.5 million at September 30, 2019 from a deficit of \$63.1 million at December 31, 2018 as a result of a decrease of \$6.9 million in current assets, partially offset by a decrease of \$3.4 million in current liabilities.

Current assets decreased primarily due to a decreases of \$7.7 million in cash and cash equivalents and \$6.6 million in other current assets, partially offset by increases of \$4.7 million in inventories and \$1.7 million in accounts receivables.

Our current liabilities declined by \$3.4 million at September 30, 2019 as compared to December 31, 2018 primarily due to a decrease in accounts payable and accrued expenses of \$5.9 million, a decrease of \$2.7 million in derivative liabilities and \$2.1 million in current portion of long-term debt, partially offset by an increase of \$6.9 million in current portion – operating leases as we adopted a new accounting standard. Our current liabilities include our senior secured notes in the amount of \$63.2 million, which are due on December 15, 2019, our Pekin credit facilities in the amount of approximately \$71.5 million as a result of covenant defaults, but as to which we have received temporary lender forbearance, and \$4.4 million used under our expanded credit facility at Kinergy, the extension of which expires on November 30, 2019, or earlier on two days prior notice from the lender.

Our cash and cash equivalents declined by \$7.7 million at September 30, 2019 as compared to December 31, 2018 primarily due to \$27.2 million in cash used in our operating activities primarily as a result of higher operating losses and the other factors noted below and \$2.1 million in additions to property and equipment, partially offset by \$21.6 million in cash provided by our financing activities from additional borrowings, proceeds from a contract amendment with a vendor, and sales of our common stock.

Cash used in our Operating Activities

Cash used in our operating activities increased by \$53.3 million for the nine months ended September 30, 2019, as compared to the same period in 2018. We used \$27.2 million of cash in our operating activities during the period. Specific factors that contributed to the increase in cash used in our operating activities include:

- an increase of \$18.1 million in our consolidated net loss;
- a decrease of \$16.3 million related to accounts payable, accrued expenses and operating leases, primarily due to the timing of payments;

- a decrease of \$13.0 million related to accounts receivable, primarily due to the timing of collections;
- a decrease of \$5.9 million in our derivative instruments as a result of closing out certain positions during the period; and
- a decrease of \$11.5 million related to inventories due to higher ending inventories resulting from slower product shipments caused by weather-related transportation logistics.

These amounts were partially offset by:

- an increase of \$5.3 million in depreciation expense due to our adoption of lease accounting, resulting in increased lease assets; and
- an increase of \$8.3 million related to prepaid expenses and other assets due to the timing of payments.

Cash used in our Investing Activities

Cash used in our investing activities declined by \$8.7 million for the nine months ended September 30, 2019 as compared to the same period in 2018. The decrease in cash used in our investing activities is primarily due to reduced spending on capital projects during a low margin environment.

Cash provided by our Financing Activities

Cash provided by our financing activities increased by \$30.2 million for the nine months ended September 30, 2019 as compared to the same period in 2018. The increase in cash provided by our financing activities is primarily due to \$8.0 million in proceeds from a contract amendment with a vendor, \$3.7 million in proceeds from sales of our common stock, \$12.7 million in additional net borrowings under Kinergy's line of credit, partially offset by \$5.7 million less in principal payments on borrowings for the period.

Kinergy Operating Line of Credit

Kinergy maintains an operating line of credit for an aggregate amount of up to \$100.0 million. The credit facility matures on August 2, 2022. Interest accrues under the credit facility at a rate equal to (i) the three-month London Interbank Offered Rate ("LIBOR"). The credit facility's monthly unused line fee is 0.25% to 0.375% of the amount by which the maximum credit under the facility exceeds the average daily principal balance during the immediately preceding month. Payments that may be made by Kinergy to Pacific Ethanol as reimbursement for management and other services provided by Pacific Ethanol to Kinergy are limited under the terms of the credit facility to \$1.5 million per fiscal quarter. The credit facility also includes the accounts receivable of Pacific Ag. Products, LLC, or PAP, as additional collateral. Payments that may be made by PAP to Pacific Ethanol as reimbursement for management and other services provided by Pacific Ethanol to PAP are limited under the terms of the credit facility to \$0.5 million per fiscal quarter. PAP, one of our indirect wholly-owned subsidiaries, markets our co-products and also provides raw material procurement services to our subsidiaries.

For all monthly periods in which excess borrowing availability falls below a specified level, Kinergy and PAP must collectively maintain a fixed-charge coverage ratio (calculated as a twelve-month rolling earnings before interest, taxes, depreciation and amortization (EBITDA) divided by the sum of interest expense, capital expenditures, principal payments of indebtedness, indebtedness from capital leases and taxes paid during such twelve-month rolling period) of at least 2.0 and are prohibited from incurring certain additional indebtedness (other than specific intercompany indebtedness). Kinergy's and PAP's obligations under the credit facility are secured by a first-priority security interest in all of their assets in favor of the lender. We believe Kinergy and PAP are in compliance with this covenant. The following table summarizes Kinergy's financial covenants and actual results for the periods presented:

	Three Months Ended September 30,		Years Ended December 31,	
	2019	2018	2018	2017
Fixed-Charge Coverage Ratio Requirement	2.00	2.00	2.00	2.00
Actual	5.62	18.77	19.06	2.79
Excess	3.62	16.77	17.06	0.79

Pacific Ethanol has guaranteed all of Kinergy's obligations under the credit facility. As of September 30, 2019, Kinergy had an outstanding balance of \$79.7 million with additional borrowing availability under the credit facility of \$2.2 million.

Pekin Credit Facilities

On December 15, 2016, PE Pekin entered into term and revolving credit facilities. PE Pekin borrowed \$64.0 million under a term loan facility that matures on August 20, 2021 and \$32.0 million under a revolving credit facility that matures on February 1, 2022. The PE Pekin credit facilities are secured by a first-priority security interest in all of PE Pekin's assets. Interest initially accrued under the PE Pekin credit facilities at an annual rate equal to the 30-day LIBOR plus 3.75%, payable monthly. PE Pekin is required to make quarterly principal payments in the amount of \$3.5 million on the term loan beginning on May 20, 2017, with the remaining principal balance payable at maturity on August 20, 2021. PE Pekin is required to pay monthly in arrears a fee on any unused portion of the revolving credit facility at a rate of 0.75% per annum. Prepayment of these facilities is subject to a prepayment penalty. Under the initial terms of the credit facilities, PE Pekin was required to maintain not less than \$20.0 million in working capital and an annual debt service coverage ratio of not less than 1.25 to 1.0.

On August 7, 2017, PE Pekin amended its term and revolving credit facilities by agreeing to increase the interest rate under the facilities by 25 basis points to an annual rate equal to the 30-day LIBOR plus 4.00%. PE Pekin and its lender also agreed that PE Pekin is required to maintain working capital of not less than \$17.5 million from August 31, 2017 through December 31, 2017 and working capital of not less than \$20.0 million from January 1, 2018 and continuing at all times thereafter. In addition, the required debt service coverage ratio was reduced to 0.15 to 1.00 for the fiscal year ended December 31, 2017. PE Pekin's actual debt service coverage ratio was 0.17 to 1.00 for the fiscal year ended December 31, 2017, 0.02 in excess of the required 0.15 to 1.00. For the month ended January 31, 2018, PE Pekin was not in compliance with its working capital requirement due to larger than anticipated repair and maintenance expenses to replace faulty equipment. PE Pekin received a waiver from its lender for this noncompliance. Further, the lender decreased PE Pekin's working capital covenant requirement to \$13.0 million for the month ended February 28, 2018, excluding from the calculation a \$3.5 million principal payment previously due in May 2018.

On March 30, 2018, PE Pekin further amended its term loan facility by reducing the amount of working capital it is required to maintain to not less than \$13.0 million from March 31, 2018 through November 30, 2018 and not less than \$16.0 million from December 1, 2018 and continuing at all times thereafter. In addition, a principal payment in the amount of \$3.5 million due for May 2018 was deferred until the maturity date of the term loan.

At December 31, 2018 and January 31, 2019, PE Pekin experienced certain covenant violations under its term and revolving credit facilities. In February 2019, PE Pekin reached an agreement with its lender to forbear until March 11, 2019 and to defer a \$3.5 million principal payment until that date.

On March 21, 2019, PE Pekin amended its term and revolving credit facilities by agreeing to increase the interest rate under the facilities by 125 basis points to an annual rate equal to the 30-day LIBOR plus 5.00%. PE Pekin and its lender also agreed that it is required to maintain working capital of not less than \$15.0 million from March 21, 2019 through July 15, 2019 and working capital of not less than \$30.0 million from July 15, 2019 and continuing at all times thereafter. On July 15, 2019, PE Pekin and its lender agreed to a further amendment extending the aforementioned July 15, 2019 dates to November 15, 2019. On August 6, 2019, PE Pekin paid its \$3,500,000 principal payment scheduled for August 20, 2019.

Under these amendments, the lender agreed to temporarily waive financial covenant violations, working capital maintenance violations and intercompany accounts receivable collections violations that occurred with respect to the credit agreement. The lenders also agreed to defer all scheduled principal payments, including further deferral of principal payments in the amount of \$3.5 million each due on February 20, 2019 and May 20, 2019.

The waivers and principal deferral expired on November 15, 2019, at which time the waivers were to become permanent if PE Central made a contribution to PE Pekin in an amount equal to \$30.0 million, minus the then-existing amount of PE Pekin's working capital, plus the amount of any accounts receivable owed by PE Central to PE Pekin, plus \$12.0 million, or the Parent Contribution Amount. In addition, if the Parent Contribution Amount was timely received, the lender agreed to waive PE Pekin's debt service coverage ratio financial covenant for the year ended December 31, 2019. If the Parent Contribution Amount was not timely made, then the temporary waivers would automatically expire.

PE Pekin was also required to pay by November 15, 2019 the aggregate amount of \$10.5 million representing all deferred and unpaid scheduled principal payments and all additional scheduled principal payments for the remainder of 2019.

On November 15, 2019, PE Pekin amended its term and revolving credit facilities by agreeing to extend the temporary waiver of violations of financial and other covenants relating to working capital maintenance, intercompany accounts receivable collections, financial projections, cash flow forecasts, and sales reports. The lender also agreed to extend the deferral of all scheduled principal payments payable on February 20, 2019, May 20, 2019 and November 15, 2019 to December 15, 2019. The amendment also made a payment default of \$250,000 or more under Kinerget's credit facility or the senior secured notes, or any acceleration of indebtedness, or any termination of any commitment to lend or termination of any forbearance or other accommodation, an event of default.

The waivers and principal deferral expired on December 15, 2019. On December 15, 2019, the waivers were to become permanent if PE Central made a contribution to PE Pekin in an amount equal to the Parent Contribution Amount. In addition, if the Parent Contribution Amount was timely received, the lender agreed to waive PE Pekin's debt service coverage ratio financial covenant for the year ended December 31, 2019. If the Parent Contribution Amount was not timely made, then the temporary waivers would automatically expire.

On December 16, 2019, PE Pekin amended its term and revolving credit facilities by agreeing to extend the deferral of all scheduled principal payments payable on February 20, 2019, May 20, 2019 and November 20, 2019 to December 20, 2019.

On December 20, 2019, PE Pekin's lender agreed to temporarily waive working capital covenant violations, debt service coverage ratio covenant violations, reporting covenant violations and certain other covenant violations that occurred under the PE Pekin credit agreement, and replaced those covenants with new EBITDA and production volume covenants. PE Pekin's lender also agreed to defer all scheduled principal installments payable under the term note on February 20, 2019, May 20, 2019 and November 20, 2019 until August 20, 2021. In addition, PE Pekin was not required to make its prior scheduled quarterly principal payments of \$3.5 million until September 30, 2020, at which time \$3.5 million will be due, with the same amount due quarterly thereafter until maturity.

Under the amendment, PE Pekin, collectively with ICP, agreed to pay the lenders an aggregate of \$40.0 million on or before September 30, 2020 to reduce the outstanding balances of the term loans under the PE Pekin credit agreement and the ICP credit agreement. The \$40.0 million is an aggregate amount payable to ICP's lender and PE Pekin's lender, and allocated between them. The \$40.0 million is to be funded through asset sales, proceeds of any award, judgment or settlement of litigation, or, at our election, from funds contributed to PE Pekin by us. Following receipt by the lenders under the ICP credit agreement and the PE Pekin credit agreement, collectively, of \$40.0 million in full, and once any loans corresponding to the particular midwestern asset sold are repaid, additional proceeds from the sale of any of our midwestern plant assets will generally be allocated 33/34/33% among ICP's lender and PE Pekin's lender, collectively, the selling security holders, and us, respectively. Proceeds from the sale of any of our western assets will generally be allocated 33/34/33% among PE Pekin's lender and ICP's lender, collectively, the selling security holders, and us, respectively.

PE Pekin's lender also imposed cross-default terms such that, until PE Pekin's lender and ICP's lender receive \$40.0 million, a default under the ICP credit agreement would constitute a default under the PE Pekin credit agreement. PE Pekin agreed to provide additional collateral security to support its obligations under the PE Pekin credit agreement, including second lien positions in our western plants, which will terminate and be released upon PE Pekin's lender's receipt of \$40.0 million.

On December 29, 2019, PE Pekin agreed to amend the secured obligations under its security agreement to include PE Pekin's unconditional guarantee of the payment of up to an aggregate \$40.0 million to satisfy the obligations of ICP to ICP's lender under the ICP credit agreement.

ICP Credit Facilities

On September 15, 2017, ICP entered into term and revolving credit facilities. ICP borrowed \$24.0 million under a term loan facility that matures on September 20, 2021 and \$18.0 million under a revolving credit facility that matures on September 1, 2022. The ICP credit facilities are secured by a first-priority security interest in all of ICP's assets. Interest accrues under the ICP credit facilities at an annual rate equal to the 30-day LIBOR plus 3.75%, payable monthly. ICP is required to make quarterly consecutive principal payments in the amount of \$1.5 million. ICP is required to pay monthly in arrears a fee on any unused portion of the revolving credit facility at a rate of 0.75% per annum. Prepayment of these facilities is subject to a prepayment penalty. Under the terms of the credit facilities, ICP is required to maintain not less than \$8.0 million in working capital and an annual debt service coverage ratio of not less than 1.5 to 1.0, beginning for the year ended December 31, 2018. As of September 30, 2019, ICP had no additional borrowing availability under its revolving credit facility. As of September 30, 2019, ICP did not meet its minimum working capital requirement, however, ICP's lender subsequently waived the minimum working capital deficiency.

On December 20, 2019, ICP amended its term and revolving credit facilities under which ICP's lender granted waivers for certain ICP covenant defaults and replaced those covenants with new EBITDA and production volume covenants. ICP's lender also imposed cross-default terms such that, until ICP's lender and PE Pekin's lender receive an aggregate of \$40.0 million, a default under the PE Pekin credit agreement would constitute a default under the ICP credit agreement. ICP agreed to provide additional collateral security to support its obligations under the ICP credit agreement, including second lien positions in our western plants, which will terminate and be released upon ICP's lender's receipt of an aggregate of \$40.0 million. ICP's prior scheduled principal payment of \$1.5 million, originally due on December 20, 2019, was deferred to the maturity date of September 20, 2021. Scheduled quarterly principal payments of \$1.5 million will resume March 20, 2020.

Under the amendment, ICP, collectively with PE Pekin, agreed to pay the lenders an aggregate of \$40.0 million on or before September 30, 2020 to reduce the outstanding balances of the term loans under the ICP credit agreement and the PE Pekin credit agreement. The \$40.0 million is an aggregate amount payable to ICP's lender and PE Pekin's lender, and allocated between them. The \$40.0 million is to be funded through asset sales, proceeds of any award, judgment or settlement of litigation, or, at our election, from funds contributed to ICP by us. Following receipt by the lenders under the ICP credit agreement and the PE Pekin credit agreement, collectively, of \$40.0 million in full, and once any loans corresponding to the particular midwestern asset sold are repaid, any additional proceeds from a sale of our midwestern plant assets will generally be allocated 33/34/33% among ICP's lender and PE Pekin's lender, collectively, the selling security holders, and us, respectively. Proceeds from the sale of any of our western assets will generally be allocated 33/34/33% among PE Pekin's lender and ICP's lender, collectively, the selling security holders, and us, respectively.

On December 29, 2019, ICP agreed to amend the secured obligations under its security agreement to include ICP's unconditional guarantee of the payment of up to an aggregate \$40.0 million to satisfy the obligations of PE Pekin to PE Pekin's lender under the PE Pekin credit agreement.

Pacific Ethanol, Inc. Notes Payable

On December 12, 2016, we entered into a Note Purchase Agreement with five accredited investors. On December 15, 2016, under the terms of the Note Purchase Agreement, we sold \$55.0 million in aggregate principal amount of our senior secured notes to the investors in a private offering for aggregate gross proceeds of 97% of the principal amount of the notes sold. On June 26, 2017, we entered into a second Note Purchase Agreement with five accredited investors. On June 30, 2017, under the terms of the second Note Purchase Agreement, we sold an additional \$13.9 million in aggregate principal amount of our senior secured notes to the investors in a private offering for aggregate gross proceeds of 97% of the principal amount of the notes sold, for a total of \$68.9 million in aggregate principal amount of senior secured notes.

The notes had an original maturity date of December 15, 2019. Interest on the notes accrued at an annual rate equal to (i) the greater of 1% and the three-month LIBOR, plus 7.0% from the closing through December 14, 2017, (ii) the greater of 1% and three-month LIBOR, plus 9% between December 15, 2017 and December 14, 2018, and (iii) the greater of 1% and three-month LIBOR plus 11% between December 15, 2018 and the maturity date. The interest rate would increase by an additional 2% per annum above the interest rate otherwise applicable upon the occurrence and during the continuance of an event of default until cured. Interest was payable in cash in arrears on the 15th calendar day of each March, June, September and December. We are required to pay all outstanding principal and any accrued and unpaid interest on the notes on the maturity date. We may, at our option, prepay the outstanding principal amount of the notes at any time without premium or penalty. Pacific Ethanol, Inc. issued the notes, which are secured by a first-priority security interest in the equity interest held by Pacific Ethanol, Inc. in its wholly-owned subsidiary, PE Op. Co., which indirectly owns our plants located on the West Coast.

On December 16, 2019, we amended the notes to extend the maturity date from December 15, 2019 to December 23, 2019 and amended the interest rate from the greater of 1% and the three-month LIBOR, plus 11% between December 15, 2018 through December 14, 2019 to 15% commencing on September 15, 2019. Under the amendment, we also agreed to pay the December 15, 2019 interest payment 50% in cash and 50% in-kind through the issuance of an additional note in the principal amount equal thereto.

On December 22, 2019, we amended and restated the notes in the form of the Note which extended the maturity date from December 23, 2019 to December 15, 2021. Interest on the Notes accrues at a rate of 15% per annum, payable quarterly. For a description of the Notes, the Note Amendment Agreement, Warrants and related documents, see "Description of Note Amendment Agreement."

Critical Accounting Policies

Our discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of net sales and expenses for each period. The following represents a summary of our critical accounting policies, defined as those policies that we believe are the most important to the portrayal of our financial condition and results of operations and that require management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effects of matters that are inherently uncertain.

Revenue Recognition

We recognize revenue primarily from sales of ethanol and its related co-products.

We have nine ethanol production facilities from which we produce and sell ethanol to our customers through our subsidiary Kinery. Kinery enters into sales contracts with ethanol customers under exclusive intercompany ethanol sales agreements with each of our nine ethanol plants. Kinery also acts as a principal when it purchases third party ethanol which it resells to its customers. Finally, Kinery has exclusive sales agreements with other third-party owned ethanol plants under which it sells their ethanol production for a fee plus the costs to deliver the ethanol to Kinery's customers. These sales are referred to as third-party agent sales. Revenue from these third-party agent sales is recorded on a net basis, with Kinery recognizing its predetermined fees and any associated delivery costs.

We have nine ethanol production facilities from which we produce and sell co-products to our customers through our subsidiary PAP. PAP enters into sales contracts with co-product customers under exclusive intercompany co-product sales agreements with each of the Company's nine ethanol plants.

We recognize revenue from sales of ethanol and co-products at the point in time when the customer obtains control of such products, which typically occurs upon delivery depending on the terms of the underlying contracts. In some instances, we enter into contracts with customers that contain multiple performance obligations to deliver volumes of ethanol or co-products over a contractual period of less than 12 months. We allocate the transaction price to each performance obligation identified in the contract based on relative standalone selling prices and recognizes the related revenue as control of each individual product is transferred to the customer in satisfaction of the corresponding performance obligations.

When we are the agent, the supplier controls the products before they are transferred to the customer because the supplier is primarily responsible for fulfilling the promise to provide the product, has inventory risk before the product has been transferred to a customer and has discretion in establishing the price for the product. When we are the principal, we control the products before they are transferred to the customer because we are primarily responsible for fulfilling the promise to provide the products, we have inventory risk before the product has been transferred to a customer and we have discretion in establishing the price for the product.

See “Note 4 – Segments” of the Notes to Consolidated Financial Statements commencing on page F-43 of this prospectus for our revenue-breakdown by type of contract.

Impairment of Long-Lived Assets

Our long-lived assets have been primarily associated with our ethanol production facilities, reflecting their original cost, adjusted for depreciation and any subsequent impairment.

We assess the impairment of long-lived assets, including property and equipment, when events or changes in circumstances indicate that the fair value of an asset could be less than the net book value of the asset. Generally, we assess long-lived assets for impairment by first determining the forecasted, undiscounted cash flows each asset is expected to generate plus the net proceeds expected from the sale of the asset. If the amount of proceeds is less than the carrying value of the asset, we then determine the fair value of the asset. An impairment loss would be recognized when the fair value is less than the related net book value, and an impairment expense would be recorded in the amount of the difference. Forecasts of future cash flows are judgments based on our experience and knowledge of our operations and the industry in which we operate. These forecasts could be significantly affected by future changes in market conditions, the economic environment, including inflation, and the purchasing decisions of our customers.

We review our intangible assets with indefinite lives at least annually or more frequently if impairment indicators arise. In our review, we determine the fair value of these assets using market multiples and discounted cash flow modeling and compare it to the net book value of the acquired assets.

We did not recognize any asset impairment charges in 2018, 2017 and 2016.

Valuation Allowance for Deferred Taxes

We account for income taxes under the asset and liability approach, where deferred tax assets and liabilities are determined based on differences between financial reporting and tax bases of assets and liabilities, and are measured using enacted tax rates and laws that are expected to be in effect when the differences reverse. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized.

We evaluate our deferred tax asset balance for realizability. To the extent we believe it is more likely than not that some portion or all of our deferred tax assets will not be realized, we will establish a valuation allowance against the deferred tax assets. Realization of our deferred tax assets is dependent upon future taxable income during the periods in which the associated temporary differences become deductible. We consider the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in making this assessment. These changes, if any, may require possible material adjustments to these deferred tax assets, resulting in a reduction in net income or an increase in net loss in the period when such determinations are made.

Our pre-tax consolidated loss was \$68.5 million, compared to a loss of \$38.4 million and income of \$0.5 million for the years ended December 31, 2018, 2017 and 2016, respectively. In 2016, we carried back a portion of our losses to apply to taxable income in 2014, however, based on our current and prior results, we do not have significant evidence to support a conclusion that we will more likely than not be able to benefit from our remaining deferred tax assets. As such, we have recorded a valuation allowance against our net deferred tax assets.

Derivative Instruments

We evaluate our contracts to determine whether the contracts are derivative instruments. Management may elect to exempt certain forward contracts that meet the definition of a derivative from derivative accounting as normal purchases or normal sales. Normal purchases and normal sales are contracts that provide for the purchase or sale of something other than a financial instrument or derivative instrument that will be delivered in quantities expected to be used or sold over a reasonable period in the normal course of business. Contracts that meet the requirements of normal purchases or sales are documented as normal and exempted from the fair value accounting and reporting requirements of derivative accounting.

We enter into short-term cash, option and futures contracts as a means of securing purchases of corn, natural gas and sales of ethanol and managing exposure to changes in commodity prices. All of our exchange-traded derivatives are designated as non-hedge derivatives for accounting purposes, with changes in fair value recognized in net income. Although the contracts are economic hedges of specified risks, they are not designated as and accounted for as hedging instruments.

Realized and unrealized gains and losses related to exchange-traded derivative contracts are included as a component of cost of goods sold in the accompanying financial statements. The fair values of contracts entered through commodity exchanges are presented on the accompanying balance sheet as derivative instruments. The selection of normal purchase or sales contracts, and use of hedge accounting, are accounting policies that can change the timing of recognition of gains and losses in the statement of operations.

Accounting for Business Combinations

Determining the fair value of assets acquired and liabilities assumed in a business combination is considered a critical accounting estimate because the allocation of the purchase price to assets acquired and liabilities assumed based upon fair values requires significant management judgment and the use of subjective measurements. Variability in industry conditions and changes in assumptions or subjective measurements used to allocate fair value are reasonably possible and may have a material impact on our financial position, liquidity or results of operations.

Allowance for Doubtful Accounts

We sell ethanol primarily to gasoline refining and distribution companies, sell corn oil to poultry and biodiesel customers and sell other co-products to dairy operators and animal feed distributors. We had significant concentrations of credit risk from sales of our ethanol as of December 31, 2018 and 2017, as described in Note 1 to our consolidated financial statements included elsewhere in this pro. However, historically, those ethanol customers have had good credit ratings and we have collected the amounts billed to those customers. Receivables from customers are generally unsecured. We continuously monitor our customer account balances and actively pursue collections on past due balances.

We maintain an allowance for doubtful accounts for balances that appear to have specific collection issues. Our collection process is based on the age of the invoice and requires attempted contacts with the customer at specified intervals. If after a specified number of days, we have been unsuccessful in our collection efforts, we consider recording a bad debt allowance for the balance in question. We would eventually write-off accounts included in our allowance when we have determined that collection is not likely. The factors considered in reaching this determination are the apparent financial condition of the customer, and our success in contacting and negotiating with the customer.

We recognized a bad debt expense of \$45,000, \$5,000 and \$306,000 for the years ended December 31, 2018, 2017 and 2016, respectively.

Impact of New Accounting Pronouncements

See “Note 1 – Organization and Significant Accounting Policies – Recent Accounting Pronouncements” of the Notes to Consolidated Financial Statements commencing on page F-39 of this prospectus.

BUSINESS

Business Overview

Recent Developments

We, and the ethanol industry as a whole, experienced significant adverse conditions throughout most of 2018 and 2019 as a result of industry-wide record low ethanol prices due to reduced demand and high industry inventory levels. These factors resulted in prolonged negative operating margins, significantly lower cash flow from operations and substantial net losses. In response to the low margin environment, we have pursued strategic initiatives focused on the potential sale of certain production assets, a reduction of our debt levels, a strengthening of our cash and liquidity position, and opportunities for strategic partnerships and capital raising activities, positioning us to optimize our business performance. Our most significant challenges in meeting these objectives would be a sustained adverse margin environment and insufficient cash flow to make our debt payments. We believe we have excellent production assets with values well in excess of our near-term liquidity needs. We are also confident in our strong relationships with our financial and commercial partners and believe we are taking the appropriate steps to increase our shareholder value to benefit all of our stakeholders long-term and to provide greater financial flexibility to execute future strategic initiatives.

We believe our strategic initiatives, if implemented timely and on suitable terms, will provide sufficient liquidity to meet our anticipated working capital, debt service and other liquidity needs through at least the next twelve months. However, if we are unable to timely implement our strategic initiatives on suitable terms, or if margins do not improve, we will likely have insufficient liquidity through the next twelve months, or earlier depending on margins and operating cash flows. In addition, if margins do not sustainably improve from current levels, we may be forced to curtail our production at one or more of our operating facilities. See “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources”.

Business Overview

We are a leading producer and marketer of low-carbon renewable fuels in the United States.

We operate nine strategically-located production facilities. Four of our plants are in the Western states of California, Oregon and Idaho, and five of our plants are located in the Midwestern states of Illinois and Nebraska. We are the sixth largest producer of ethanol in the United States based on annualized volumes. Our plants have a combined production capacity of 605 million gallons per year. We market all the ethanol, specialty alcohols and co-products produced at our plants as well as ethanol produced by third parties. On an annualized basis, we market nearly 1.0 billion gallons of ethanol and over 3.0 million tons of ethanol co-products on a dry matter basis. Our business consists of two operating segments: a production segment and a marketing segment.

Our mission is to be a leading producer and marketer of low-carbon renewable fuels, high-value animal feed and high-quality alcohol products in the United States. We intend to accomplish this goal in part by investing in our ethanol production and distribution infrastructure, lowering the carbon intensity of our ethanol, extending our marketing business into new regional and international markets, and implementing new technologies to promote higher production yields and greater efficiencies.

Production Segment

We produce ethanol, specialty alcohols and co-products at our production facilities described below. Our plants located on the West Coast are near their respective fuel and feed customers, offering significant timing, transportation cost and logistical advantages. Our plants located in the Midwest are in the heart of the Corn Belt, benefit from low-cost and abundant feedstock production and allow for access to many additional domestic markets. In addition, our ability to load unit trains from our plants located in the Midwest, and barges from our Pekin, Illinois plants, allows for greater access to international markets.

We wholly-own all of our plants located on the West Coast and the three plants in Pekin, Illinois. We own approximately 74% of the two plants in Aurora, Nebraska as well as the grain elevator adjacent to those properties and related grain handling assets, including the outer rail loop, and the real property on which they are located, through Pacific Aurora, an entity owned approximately 26% by ACEC.

All of our plants, with the exception of our Aurora East facility, are currently operating. Our Aurora East facility was idled in December 2018 due to unfavorable market conditions. As market conditions change, we may increase, decrease or idle production at one or more operating facilities or resume operations at any idled facility.

Facility Name	Facility Location	Estimated Annual Capacity (gallons)
Magic Valley	Burley, ID	60,000,000
Columbia	Boardman, OR	40,000,000
Stockton	Stockton, CA	60,000,000
Madera	Madera, CA	40,000,000
Aurora West	Aurora, NE	110,000,000
Aurora East	Aurora, NE	45,000,000
Pekin Wet	Pekin, IL	100,000,000
Pekin Dry	Pekin, IL	60,000,000
Pekin ICP	Pekin, IL	90,000,000

We produce ethanol co-products at our production facilities such as WDG, DDGS, wet and dry corn gluten feed, condensed distillers solubles, corn gluten meal, corn germ, corn oil, dried yeast and CO₂.

Marketing Segment

We market ethanol, specialty alcohols and co-products produced by our facilities and market ethanol produced by third parties. We have extensive customer relationships throughout the Western and Midwestern United States. Our ethanol customers are integrated oil companies and gasoline marketers who blend ethanol into gasoline. Our customers depend on us to provide a reliable supply of ethanol, and manage the logistics and timing of delivery with very little effort on their part. Our customers collectively require ethanol volumes in excess of the supplies we produce at our production facilities. We secure additional ethanol supplies from third-party plants in California and other third-party suppliers in the Midwest where a majority of ethanol producers are located. We arrange for transportation, storage and delivery of ethanol purchased by our customers through our agreements with third-party service providers in the Western United States as well as in the Midwest from a variety of sources.

We market our distillers grains and other feed co-products to dairies and feedlots, in many cases located near our ethanol plants. These customers use our feed co-products for livestock as a substitute for corn and other sources of starch and protein. We sell our corn oil to poultry and biodiesel customers. We do not market co-products from other ethanol producers.

See “Note 24 – Segments” and “Note 4 – Segments” to our Notes to Consolidated Financial Statements commencing on pages F-10 and F-43, respectively, in this prospectus for financial information about our business segments.

Company History

We are a Delaware corporation formed in February 2005. Our common stock is listed on The Nasdaq Capital Market under the symbol “PEIX.” Our Internet website address is <http://www.pacificethanol.com>. Information contained on our website is not part of this prospectus.

Business Strategy

Our primary goal is to be a leading producer and marketer of low-carbon renewable fuels, high-value animal feed and high-quality alcohol products in the United States. The key elements of our business and growth strategy to achieve this objective include:

- *Execute on our strategic initiatives.* We are pursuing strategic initiatives focused on the potential sale of certain production assets, a reduction of our debt levels, a strengthening of our cash and liquidity position, and on opportunities for strategic partnerships and capital raising activities, to position us to optimize our business performance.
- *Lower the carbon intensity of our ethanol.* We plan to further reduce the carbon intensity of the ethanol we produce. We are able to sell this lower carbon intensity ethanol in certain regions at premium prices compared to higher carbon intensity ethanol. We are able to charge premium prices for this ethanol based on state laws and regulations, such as Low-Carbon Fuel Standards enacted in California and Oregon that require blenders to use lower carbon intensity ethanol in their gasoline. When available and cost-effective, we intend to use feedstock other than corn, including cellulosic feedstock, as the raw material used in the production of ethanol to further reduce the carbon intensity of our ethanol.
- *Implement new equipment and technologies.* We intend to continue to evaluate and implement new equipment and technologies to increase our production and operating efficiencies, reduce our use of carbon-based fuels and improve our carbon scores, use diverse feedstocks, diversify products and revenues, including through our production of advanced biofuels, and improve our plant profitability as financial resources and market conditions justify these investments.

Competitive Strengths

We believe that our competitive strengths include the following:

- *Our customer and supplier relationships.* We have extensive business relationships with customers and suppliers throughout the United States. In addition, we have developed extensive business relationships with major and independent un-branded gasoline suppliers who collectively control the majority of all gasoline sales in those regions.

- *Our ethanol distribution network.* We believe we have a competitive advantage due to our experience in marketing to customers in major metropolitan and rural markets in the United States. We have developed an ethanol distribution network for delivery of ethanol by truck to virtually every significant fuel terminal as well as to numerous smaller fuel terminals throughout California and other Western states. Fuel terminals have limited storage capacity and we have successfully secured storage tanks at many of the terminals we service. In addition, we have an extensive network of third-party delivery trucks available to deliver ethanol throughout the Western United States. In the Midwest, we have the ability to sell and deliver products in bulk via unit trains providing us access to Western, gulf coast and international markets. Further, higher value co-products from our Illinois facilities can be sold at premium prices under fixed price, longer-term contracts (up to 12 months) thus providing a more stable source of revenue in what can be a volatile commodity industry.
- *Our strategic locations.* We operate our ethanol plants in markets where we believe their individual locations, as well as our overall ethanol production and marketing platform, provide strategic advantages. Our production in both the Western United States and in the Midwest enables us to source ethanol from two different regions, which we believe allows us to address regional inefficiencies and other challenges such as rail congestion and other supply constraints, as well as pricing anomalies.
 - We operate four plants in the Western United States where we believe local characteristics create an opportunity to capture a significant production and shipping cost advantage over competing ethanol production facilities in other regions. We believe a combination of factors enables us to achieve this cost advantage, including:
 - Locations near fuel blending facilities lower our ethanol transportation costs while providing timing and logistical advantages over competing locations that require ethanol to be shipped over much longer distances, and in many cases require double-handling.
 - Locations adjacent to major rail lines allow the efficient delivery of corn in large unit trains from major corn-producing regions and allow for the efficient delivery of ethanol in large unit trains to other markets, including markets with higher demand.
 - Locations near large concentrations of dairy and/or beef cattle enable delivery of WDG, over short distances without the need for costly drying processes.
 - We operate five plants in the Midwest which enables us to participate in the largest regional ethanol market in the United States as well as international markets. Our Midwest locations, coupled with our locations in the Western United States, also allow us many advantages over locations solely on the West Coast, including:
 - Locations in diverse markets assist us in spreading commodity and basis price risks across markets and products, supporting our efforts to optimize margin management.
 - Locations in the Midwest enhance our overall hedging opportunities with a greater correlation to the highly-liquid physical and paper markets in Chicago.
 - Locations in diverse markets support heightened flexibility and alternatives in feedstock procurement for our various production facilities.
 - Our Illinois facilities provide excellent logistical access via rail, truck and barge. The relatively unique wet milling process at one of our Illinois facilities allows us to extract the highest use and value from each component of the corn kernel. As a result, the wet milling process generates a higher level of cost recovery from corn than that produced at a dry mill.

- Locations in the Midwest allow us deeper market insight and engagement in major ethanol and feed markets outside the Western United States, thereby improving pricing opportunities.
- *Our low carbon-intensity ethanol.* California and Oregon have enacted Low-Carbon Fuel Standards for transportation fuels. Under these Low-Carbon Fuel Standards, the ethanol we produce in the Western United States has a lower carbon-intensity than most ethanol produced at plants by other producers. This is primarily because our plants located on the West Coast use less energy in their production processes. The ethanol produced in California by other producers, all of which we market, also has a lower carbon-intensity rating than either gasoline or ethanol produced in the Midwest. The lower carbon-intensity rating of ethanol we produce at our plants located on the West Coast or otherwise resell from third-party California producers is valued in the market by our customers due to California's Low Carbon Fuel Standard program, or LCFS, which has enabled us to capture premium prices for this ethanol.
- *Modern technologies.* Our plants use the latest production technologies to take advantage of state-of-the-art technical and operational efficiencies to achieve lower operating costs, higher yields and more efficient production of ethanol and its co-products and reduce our use of carbon-based fuels.
- *Our experienced management.* Our senior management team has a proven track record with significant operational and financial expertise and many years of experience in the ethanol, fuel and energy industries. Our senior executives, who average approximately 19 years of industry experience, have successfully navigated a wide variety of business and industry-specific challenges and deeply understand the business of successfully producing and marketing ethanol and its co-products.

We believe that these competitive strengths will help us attain our goal to be a leading producer and marketer of low-carbon renewable fuels, high-value animal feed and high-quality alcohol products in the United States.

Industry Overview and Market Opportunity

Overview of Ethanol Market

The primary applications for fuel-grade ethanol in the United States include:

- *Octane enhancer.* On average, regular unleaded gasoline has an octane rating of 87 and premium unleaded gasoline has an octane rating of 91. In contrast, pure ethanol has an average octane rating of 113. Adding ethanol to gasoline enables refiners to produce greater quantities of lower octane blend stock with an octane rating of less than 87 before blending. In addition, ethanol is commonly added to finished regular grade gasoline as a means of producing higher octane mid-grade and premium gasoline.

- *Fuel blending.* In addition to its performance and environmental benefits, ethanol is used to extend fuel supplies. In light of the need for transportation fuel in the United States and the dependence on foreign crude oil and refined products, the United States is increasingly seeking domestic sources of fuel. Much of the ethanol blending throughout the United States is done for the purpose of extending the volume of fuel sold at the gasoline pump.
- *Renewable fuels.* Ethanol is blended with gasoline to enable gasoline refiners to comply with a variety of governmental programs, in particular, the national Renewable Fuel Standard, or RFS, which was enacted to promote alternatives to fossil fuels. See “—Governmental Regulation.”

The United States ethanol industry is supported by federal and state legislation and regulation. For example, the Energy Independence and Security Act of 2007, which was signed into law in December 2007, significantly increased the prior RFS. Under the RFS, the mandated use of all renewable fuels rises incrementally in succeeding years and peaks at 36.0 billion gallons by 2022. Under the RFS, approximately 14.5 billion gallons in 2016 and 15.0 billion gallons in 2017 and 2018 were required from conventional, or corn-based, ethanol. Under the RFS, 15.0 billion gallons are required from conventional ethanol through 2022. The RFS allows the Environmental Protection Agency, or EPA, to adjust the annual requirement based on certain facts.

According to the Renewable Fuels Association, the domestic ethanol industry produced a record 16.1 billion gallons of ethanol in 2018. We believe that the ethanol market in California alone represented approximately 10% of the national market. However, the Western United States has relatively few ethanol facilities and local ethanol production levels are substantially below the local demand for ethanol. The balance of ethanol is shipped via rail from the Midwest to the Western United States. Gasoline and diesel fuel that supply the major fuel terminals are shipped in pipelines throughout portions of the Western United States. Unlike gasoline and diesel fuel, however, ethanol is not shipped in these types of pipelines because ethanol has an affinity for mixing with water already present in the pipelines. When mixed, water dilutes ethanol and creates significant quality control issues. Therefore, ethanol must be trucked from rail terminals to regional fuel terminals, or blending racks.

We believe that approximately 90% of the ethanol produced in the United States is made in the Midwest from corn. According to the Department of Energy, or DOE, ethanol is generally blended at a rate of 10% by volume, but is also blended at a rate of up to 85% by volume for vehicles designed to operate on 85% ethanol. The EPA has increased the allowable blend of ethanol in gasoline from 10% by volume to 15% by volume for model year 2001 and newer automobiles, pending final approvals by certain state regulatory authorities. Some retailers have begun blending at higher rates in states that have approved higher blend rates.

Compared to gasoline, ethanol is generally considered to be cleaner burning and contains higher octane. We anticipate that the increasing demand for renewable transportation fuels coupled with limited opportunities for gasoline refinery expansions and the growing importance of reducing CO₂ emissions through the use of renewable fuels will generate additional growth in the demand for ethanol.

According to the DOE, total annual gasoline consumption in the United States is approximately 143 billion gallons and total annual ethanol consumption represented approximately 10% of this amount in 2018. The domestic ethanol industry has substantially reached this 10% blend ratio, and we believe the industry has significant potential for growth in the event the industry can migrate to an up to 15% blend ratio, which would translate into an annual demand of up to 20 billion gallons of ethanol.

On November 30, 2018 the EPA released a final rule which set the 2019 renewable volume obligation, or RVO, as part of the EPA's annual volume-setting responsibility under the RFS. For total renewable fuel, the RVO was finalized at 19.92 billion gallons, up 63 million gallons when compared to an RVO of 19.29 billion gallons set for 2018. We believe this is a step forward for the renewable fuels industry with the RVO for 2019 sending a strong signal to the marketplace through a 15 billion gallon commitment to conventional ethanol and a 418 million gallon commitment for cellulosic biofuels.

Overview of Ethanol Production Process

Ethanol production from starch- or sugar-based feedstock is a highly-efficient process that we believe yields substantially more energy from ethanol and its co-products than is required to make the products. The modern production of ethanol requires large amounts of corn, or other high-starch grains, and water as well as chemicals, enzymes and yeast, and denaturants including unleaded gasoline or liquid natural gas, in addition to natural gas and electricity.

Dry Milling Process

In the dry milling process, corn or other high-starch grain is first ground into meal, then slurried with water to form a mash. Enzymes are then added to the mash to convert the starch into the simple sugar, dextrose. Ammonia is also added for acidic (pH) control and as a nutrient for the yeast. The mash is processed through a high temperature cooking procedure, which reduces bacteria levels prior to fermentation. The mash is then cooled and transferred to fermenters, where yeast is added and the conversion of sugar to ethanol and CO₂ begins.

After fermentation, the resulting "beer" is transferred to distillation, where the ethanol is separated from the residual "stillage." The ethanol is concentrated to 190 proof using conventional distillation methods and then is dehydrated to approximately 200 proof, representing 100% alcohol levels, in a molecular sieve system. The resulting anhydrous ethanol is then blended with about 2.5% denaturant, which is usually gasoline, and is then ready for shipment to market.

The residual stillage is separated into a coarse grain portion and a liquid portion through a centrifugation process. The soluble liquid portion is concentrated to about 40% dissolved solids by an evaporation process. This intermediate state is called condensed distillers solubles, or syrup. The coarse grain and syrup portions are then mixed to produce WDG or can be mixed and dried to produce DDGS. Both WDG and DDGS are high-protein animal feed products.

Wet Milling Process

In the wet milling process, corn or other high-starch grain is first soaked or "steeped" in water for 24 – 48 hours to separate the grain into its many components. After steeping, the corn slurry is processed first to separate the corn germ, from which the corn oil can be further separated. The remaining fiber, gluten and starch components are further separated and sold.

The steeping liquor is concentrated in an evaporator. The concentrated product, called heavy steep water, is co-dried with the fiber component and is then sold as corn gluten feed. The gluten component is filtered and dried to produce corn gluten meal.

The starch and any remaining water from the mash is then processed into ethanol or dried and processed into corn syrup. The fermentation process for ethanol at this stage is similar to the dry milling process.

Overview of Distillers Grains Market

Distillers grains are produced as a co-product of ethanol production and are valuable components of feed rations primarily to dairies and beef cattle markets, both nationally and internationally. Our plants produce both WDG and DDGS. WDG is sold to customers proximate to the plants and DDGS is delivered by truck, rail and barge to customers in domestic and international markets.

Producing WDG also allows us to use up to one-third less process energy, thus reducing production costs and lowering the carbon footprint of these plants, thereby increasing demand in California where premiums are paid for the low-carbon attributes.

Historically, the market price for distillers grains has generally tracked the value of corn. We believe that the market price of WDG and DDGS is determined by a number of factors, including the market value of corn, soybean meal and other competitive ingredients, the performance or value of WDG and DDGS in a particular feed formulation and general market forces of supply and demand, including export markets for these co-products. The market price of distillers grains is also often influenced by nutritional models that calculate the feed value of distillers grains by nutritional content, as well as reliability of consistent supply.

Customers

We market and sell through our wholly-owned subsidiary, Kinergy Marketing LLC, or Kinergy, all of the ethanol produced by our production facilities. Kinergy also markets ethanol produced by third parties. We have extensive customer relationships throughout the Western and Midwestern United States. Our ethanol customers are integrated oil companies and gasoline marketers who blend ethanol into gasoline. Our customers depend on us to provide a reliable supply of ethanol, and manage the logistics and timing of delivery with very little effort on their side. Our customers collectively require ethanol volumes in excess of the supplies we produce at our production facilities. We secure additional ethanol supplies from third-party plants in California and other third-party suppliers in the Midwest where a majority of ethanol producers are located. We arrange for transportation, storage and delivery of ethanol purchased by our customers through our agreements with third-party service providers in the Western United States as well as in the Midwest from a variety of sources.

We also market all of the co-products produced at our plants. We do not market co-products from other ethanol producers. Our co-products include WDG, DDGS, wet and dry corn gluten feed, condensed distillers solubles, corn gluten meal, corn germ, corn oil, dried yeast and CO₂. We market our distillers grains and other feed co-products to dairies and feedlots, in many cases located near our ethanol plants. These customers use our feed co-products for livestock as a substitute for corn and other sources of starch and protein. We sell our corn oil to poultry and biodiesel customers.

Our production segment generated \$859.8 million, \$845.7 million and \$797.4 million in net sales for the years ended December 31, 2018, 2017 and 2016, respectively, from the sale of ethanol. Our production segment generated \$296.7 million, \$257.0 million and \$248.4 million in net sales for the years ended December 31, 2018, 2017 and 2016, respectively, from the sale of co-products.

During 2018, 2017 and 2016, our production segment sold an aggregate of approximately 556.2 million, 527.2 million and 484.1 million gallons of ethanol and 3.1 million, 3.0 million and 2.8 million tons of ethanol co-products, respectively.

Our marketing segment generated \$358.9 million, \$529.5 million and \$579.0 million in net sales for the years ended December 31, 2018, 2017 and 2016, respectively, from the sale of ethanol.

During 2018, 2017 and 2016, we produced or purchased ethanol from third parties and resold an aggregate of approximately 762 million, 837 million and 816 million gallons of fuel-grade ethanol and specialty alcohols to approximately 80, 83 and 81 customers, respectively. Sales to our two largest customers, Valero Energy Corporation and Chevron Products USA in 2018, 2017 and 2016 represented an aggregate of approximately 25%, 27% and 29%, of our net sales, respectively. Sales to each of our other customers represented less than 10% of our net sales in each of 2018, 2017 and 2016.

Suppliers

Production Segment

Our production operations are dependent upon various raw materials suppliers, including suppliers of corn, natural gas, electricity and water. The cost of corn is the most important variable cost associated with our production. We source corn for our plants using standard contracts, including spot purchase, forward purchase and basis contracts. When resources are available, we seek to limit the exposure of our production operations to raw material price fluctuations by purchasing forward a portion of our corn requirements on a fixed price basis and by purchasing corn and other raw materials futures contracts.

During 2018, 2017 and 2016, purchases of corn from our four largest suppliers represented an aggregate of approximately 52%, 46% and 38% of our total corn purchases, respectively, for those periods. Purchases from each of our other corn suppliers represented less than 10% of total corn purchases in each of 2018, 2017 and 2016.

Marketing Segment

Our marketing operations are dependent upon various third-party producers of fuel-grade ethanol. In addition, we provide ethanol transportation, storage and delivery services through third-party service providers with whom we have contracted to receive ethanol at agreed upon locations from our third-party suppliers and to store and/or deliver the ethanol to agreed-upon locations on behalf of our customers. These contracts generally run from year-to-year, subject to termination by either party upon advance written notice before the end of the then current annual term.

During 2018, 2017 and 2016, we purchased and resold from third parties an aggregate of approximately 206 million, 310 million and 334 million gallons, respectively, of fuel-grade ethanol.

During 2018, 2017 and 2016, purchases of fuel-grade ethanol from our two largest third-party suppliers represented an aggregate of approximately 40%, 35% and 35% of our total third-party ethanol purchases, respectively, for those periods. Purchases from each of our other third-party ethanol suppliers represented less than 10% of total third-party ethanol purchases in each of 2018, 2017 and 2016.

Pacific Ethanol Plants

The table below provides an overview of our nine ethanol production facilities. Our plants have an aggregate annual production capacity of up to 605 million gallons. All of our plants, with the exception of our Aurora East facility, are currently operating. As market conditions change, we may increase, decrease or idle production at one or more operating facilities or resume operations at any idled facility.

We wholly-own all of our plants located on the West Coast and the three plants in Pekin, Illinois. We own approximately 74% of the plants in Aurora, Nebraska as well as the grain elevator adjacent to those properties and related grain handling assets, including the outer rail loop, and the real property on which they are located, through Pacific Aurora, an entity owned approximately 26% by ACEC.

	Madera Facility	Columbia Facility	Magic Valley Facility	Stockton Facility
Location	Madera, CA	Boardman, OR	Burley, ID	Stockton, CA
Approximate maximum annual ethanol production capacity (in millions of gallons)	40	40	60	60
Production milling process	Dry	Dry	Dry	Dry
Primary energy source	Natural Gas	Natural Gas	Natural Gas	Natural Gas

	Pekin Wet Facility	Pekin Dry Facility	Pekin ICP Facility	Aurora West Facility	Aurora East Facility
Location	Pekin, IL	Pekin, IL	Pekin, IL	Aurora, NE	Aurora, NE
Approximate maximum annual ethanol production capacity (in millions of gallons)	100	60	90	110	45
Production milling process	Wet	Dry	Dry	Dry	Dry
Primary energy source	Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas

Commodity Risk Management

We employ various risk mitigation techniques. For example, we may seek to mitigate our exposure to commodity price fluctuations by purchasing forward a portion of our corn and natural gas requirements through fixed-price or variable-price contracts with our suppliers, as well as entering into derivative contracts for ethanol, corn and natural gas. To mitigate ethanol inventory price risks, we may sell a portion of our production forward under fixed- or index-price contracts, or both. We may hedge a portion of the price risks by selling exchange-traded futures contracts. Proper execution of these risk mitigation strategies can reduce the volatility of our gross profit margins. However, the market price of ethanol is volatile and subject to large fluctuations, and given the nature of our business, we cannot effectively hedge against extreme volatility or certain market conditions. For example, ethanol prices, as reported by the Chicago Board of Trade, or CBOT, ranged from \$1.25 to \$1.70 per gallon during 2019, \$1.20 to \$1.53 per gallon during 2018 and from \$1.26 to \$1.67 per gallon during 2017; and corn prices, as reported by the CBOT, ranged from \$3.41 to \$4.55 per gallon during 2019, \$3.30 to \$4.09 per bushel during 2018 and from \$3.30 to \$3.92 per bushel during 2017.

Marketing Arrangements

We market all the ethanol and specialty alcohols produced at our production facilities. In addition, we have exclusive ethanol marketing agreements with two third-party ethanol producers, Calgren Renewable Fuels, LLC and Aemetis Advanced Fuels Keyes, Inc., to market and sell their entire ethanol production volumes. Calgren Renewable Fuels, LLC owns and operates an ethanol production facility in Pixley, California with annual production capacity of 55 million gallons. Aemetis Advanced Fuels Keyes, Inc. owns and operates an ethanol production facility in Keyes, California with annual production capacity of 55 million gallons. We intend to evaluate and pursue opportunities to enter into marketing arrangements with other third-party ethanol producers as business prospects make these marketing arrangements advisable.

Competition

We are the sixth largest producer of ethanol in the United States based on annualized volumes and operate in the highly competitive ethanol production and marketing industry. The largest ethanol producers in the United States are Archer-Daniels-Midland Company, POET, LLC, Green Plains Inc. and Valero Renewable Fuels Company, LLC, collectively with approximately 38% of the total installed ethanol production capacity in the United States. In addition, there are many mid-size producers with several plants under ownership, smaller producers with one or two plants, and several ethanol marketers that create significant competition. Overall, we believe there are over 200 ethanol production facilities in the United States with a total installed production capacity of approximately 16.5 billion gallons and many brokers and marketers with whom we compete for sales of ethanol and its co-products.

We believe that our competitive strengths include our customer and supplier relationships, our extensive ethanol distribution network, our strategic locations, our low carbon-intensity ethanol, our use of modern technologies at our production facilities and our experienced management. We believe that these advantages will help us to attain our goal to be a leading producer and marketer of low-carbon renewable fuels, high-value animal feed and high-quality alcohol products in the United States.

Most of the largest metropolitan areas in the United States have fuel terminals served by rail, but other major metropolitan areas and more remote smaller cities and rural areas do not. We believe that we have a competitive advantage in the Western United States in particular due to our experience in marketing to the segment of customers located in major metropolitan and rural markets in the Western United States. We manage the complicated logistics of shipping ethanol to intermediate storage locations throughout the Western United States and trucking the ethanol from these storage locations to blending racks where the ethanol is blended with gasoline. We believe that by establishing an efficient service for truck deliveries to these more remote locations, we have differentiated ourselves from our competitors on the West Coast. In addition, due to our plant locations on the West Coast, we believe that we benefit from our ability to increase spot sales of ethanol from those plants following ethanol price spikes caused from time to time by rail delays in delivering ethanol from the Midwest to the Western United States.

Our strategic locations in the Western United States designed to capitalize on cost efficiencies may nevertheless result in higher than expected costs as a result of more expensive raw materials and related shipping costs, including corn, which generally must be transported from the Midwest. If the costs of producing and shipping ethanol and its co-products over short distances are not advantageous relative to the costs of obtaining raw materials from the Midwest, then the benefits of our strategic locations on the West Coast may not be realized.

Governmental Regulation

Our business is subject to federal, state and local laws and regulations relating to the production of renewable fuels, the protection of the environment and in support of the corn and ethanol industries. These laws, their underlying regulatory requirements and their enforcement, some of which are described below, impact, or may impact, our existing and proposed business operations by imposing:

- restrictions on our existing and proposed business operations and/or the need to install enhanced or additional controls;

- the need to obtain and comply with permits and authorizations;
- liability for exceeding applicable permit limits or legal requirements, in some cases for the remediation of contaminated soil and groundwater at our facilities, contiguous and adjacent properties and other properties owned and/or operated by third parties; and
- specifications for the ethanol we market and produce.

In addition, some governmental regulations are helpful to our ethanol production and marketing business. The ethanol fuel industry is supported by federal and state mandates and environmental regulations that favor the use of ethanol in motor fuel blends in North America. Some of the governmental regulations applicable to our ethanol production and marketing business are briefly described below.

National Energy Legislation

The Energy Independence and Security Act of 2007, which was signed into law in December 2007, significantly increased the prior RFS. The RFS significantly increases the mandated use of renewable fuels, rising incrementally each year, to 36.0 billion gallons by 2022.

Under the provisions of the Energy Independence and Security Act of 2007, the EPA has the authority to waive the mandated RFS requirements in whole or in part. To grant a waiver, the EPA administrator must determine, in consultation with the Secretaries of Agriculture and Energy, that there is inadequate domestic renewable fuel supply or implementation of the requirement would severely harm the economy or environment of a state, region or the United States as a whole.

Policy discussion has begun in the 116th Congress aimed at shifting national power generation to renewable sources and to decarbonize manufacturing and agricultural industries. On January 3, 2019, a bill titled *Leave Ethanol Volumes at Existing Levels (LEVEL) Act (H.R. 104)* was introduced into the House of Representatives aiming to repeal certain amendments to the Clean Air Act relating to the expansion of the renewable fuel program, and for other purposes. This bill revises the renewable fuel program, including the RFS. Under current law, the RFS specifies the minimum volume of renewable fuel, such as ethanol, that must be contained in gasoline sold in the United States, except in noncontiguous states or territories. The RFS annually increases until 2022 when a minimum of 36 billion gallons of renewable fuel must be blended into gasoline. This bill decreases the volume of renewable fuel that must be contained in gasoline to 7.5 billion gallons each year. The bill also revises the RFS to eliminate separate volume requirements for the following renewable fuel categories: advanced biofuels, cellulosic biofuel, and biomass-based diesel. This bill has been referred to a congressional subcommittee where it awaits further consideration. On February 7, 2019, Democrats in both the House and Senate introduced non-binding resolutions, H.Res. 109 and S.Res. 59, *Recognizing the duty of the Federal Government to create a Green New Deal*. The resolutions, referred to as the Green New Deal, outline these goals by providing a blueprint to transition the United States to a 100 percent clean energy system. Expanding from this policy, recently the *Utilizing Significant Emissions with Innovative Technologies (USE IT) Act* was introduced in both chambers. The *USE IT Act* aims to spur the development and demonstration of carbon capture and removal technologies. This legislation has the potential to benefit ethanol producers, as well as a large group of other stakeholders by authorizing grants for these technologies and by streamlining the permitting process for building pipelines that move sequestered carbon. The bills have been referred to their respective congressional subcommittees where they await further consideration. On June 21, 2019, a bill titled *Eliminating the RFS and Its Destructive Outcomes Act (H.R. 3427)* was introduced in the House of Representatives aiming to repeal the EPA's Renewable Fuel Standard program, which requires transportation fuel to contain a minimum volume of renewable fuel. The bill has been referred to a congressional committee, which will consider it before possibly sending the bill to the House of Representatives as a whole.

A bill titled the *Consumer Protection and Fuel Transparency Act of 2019 (H.R. 1024)*, was introduced on February 6, 2019, which would require the EPA Administrator to revise labeling requirements for fuel pumps that dispense gasoline that contains up to 15% ethanol by volume, or E15. Specifically, the legislation would require labels for fuel pumps that dispense E15 to include the word “WARNING” and “check your owner’s manual.” In addition, the bill would require the EPA to develop a public education campaign on the supposed risks associated with improper E15 use. EPA gave final approval in 2012 to the use of E15 fuel and the fuel blend is now sold in 30 states. The EPA is already required to label at the pump therefore we believe this bill could confuse consumers and retailers who opt to use E15. This bill was referred to a congressional subcommittee where it awaits further consideration.

E15 (a Blend of Gasoline and Ethanol)

The EPA has allowed fuel and fuel-additive manufacturers to introduce into commercial gasoline that contains greater than 10% ethanol by volume, up to 15% ethanol by volume, for vehicles from model year 2001 and beyond. Additional changes to some states’ laws to allow for the use of E15 are still required; however, commercial sale of E15 has begun in a majority of states. In 2019, the EPA enacted a rule that allows for year-round use of E15. We expect year-round demand for E15 will increase in 2020 and future years as E15 adoption accelerates.

State Energy Legislation and Regulations

In January 2007, California’s Governor signed an executive order directing the California Air Resources Board to implement California’s LCFS for transportation fuels. California’s LCFS requires fuel suppliers to reduce the carbon intensity of transportation fuels to 10% below 2010 levels by 2020. The Governor’s office estimates that the standard will have the effect of increasing current renewable fuels use in California by three to five times by 2020.

The California Air Resources Board has engaged in a comprehensive process to consider extending California’s LCFS through 2030, applying aggressive new carbon intensity reduction targets for the final 10 years. Additional LCFS updates became effective in early January 2019 which require fuel suppliers to reduce the carbon intensity of transportation fuels to 20% below 2010 levels by 2030. We believe the revised program will be beneficial as we produce among the lowest carbon intensity ethanol commercially available, and we receive a premium for the fuel we sell into the California marketplace, which we expect will increase as the compliance curve steepens, which began in 2016.

A program similar to California’s LCFS has also been adopted in Oregon and the Canadian province of British Columbia, and is under discussion in Washington State. These regions, together with California, represent a very large segment of the overall demand for transportation fuels in the United States.

Additional Environmental Regulations

In addition to the governmental regulations applicable to the ethanol production and marketing industry described above, our business is subject to additional federal, state and local environmental regulations, including regulations established by the EPA, the San Joaquin Valley Regional Water Quality Control Board, the San Joaquin Valley Air Pollution Control District and the California Air Resources Board. We cannot predict the manner or extent to which these regulations will harm or help our business or the ethanol production and marketing industry in general.

Employees

As of January 17, 2020, we had approximately 500 full-time employees. We believe that our employees are highly-skilled, and our success will depend in part upon our ability to retain our employees and attract new qualified employees, many of whom are in great demand. Approximately 35% of our employees are presently represented by a labor union and covered by a collective bargaining agreement. We have never had a work stoppage or strike and we consider our relations with our employees to be good.

Properties

Our corporate headquarters, located in Sacramento, California, consists of a 10,000 square foot office under a lease expiring in 2029. We have plants located in Madera, California, at a 137 acre facility; Boardman, Oregon, at a 25 acre facility; Burley, Idaho, at a 160 acre facility; and Stockton, California, at a 30 acre facility. We own the land in Madera, California and Burley, Idaho. The land in Boardman, Oregon and Stockton, California are leased under leases expiring in 2026 and 2022, respectively. We also have plants located in Pekin, Illinois at facilities totaling 145 acres and Aurora, Nebraska, at a 96 acre facility. We own the land in Pekin, Illinois and Aurora, Nebraska, as well as the grain handling facility, loop track and the real property on which they are located in Aurora, Nebraska. We also own an idled ethanol production facility in Canton, Illinois on a 289 acre facility, of which a significant portion is farm land. Our production segment includes our ethanol production facilities.

Legal Proceedings

We are subject to legal proceedings, claims and litigation arising in the ordinary course of business. While the amounts claimed may be substantial, the ultimate liability cannot presently be determined because of considerable uncertainties that exist. Therefore, it is possible that the outcome of those legal proceedings, claims and litigation could adversely affect our quarterly or annual operating results or cash flows when resolved in a future period. However, based on facts currently available, management believes such matters will not adversely affect in any material respect our financial position, results of operations or cash flows.

MANAGEMENT

Directors and Executive Officers

The following table sets forth information regarding our current directors and executive officers as of January 17, 2020:

Name	Age	Positions Held
William L. Jones ⁽¹⁾	70	Chairman of the Board and Director
Neil M. Koehler	61	Chief Executive Officer, President and Director
Michael D. Kandris	72	Chief Operating Officer
Terry L. Stone ⁽²⁾	70	Director
John L. Prince ⁽³⁾	77	Director
Douglas L. Kieta ⁽⁴⁾	76	Director
Larry D. Layne ⁽⁴⁾	79	Director
Gilbert E. Nathan ⁽¹⁾	40	Director
Dianne S. Nury ⁽⁵⁾	60	Director

(1) Member of the Audit and Nominating and Corporate Governance Committees.

(2) Member of the Audit and Compensation Committees.

(3) Member of the Audit, Compensation and Nominating and Corporate Governance Committees.

(4) Member of the Compensation and Nominating and Corporate Governance Committees.

(5) Member of the Compensation Committee

Experience and Background

The biographies below describe the skills, qualities, attributes and business experience of each of our directors, including the capacities in which they served during the past five years:

William L. Jones has served as Chairman of the Board and as a director since March 2005. Mr. Jones is a co-founder of Pacific Ethanol California, Inc., or PEI California, which is one of our predecessors, and served as Chairman of the Board of PEI California since its formation in January 2003 through March 2004, when he stepped off the board of directors of PEI California to focus on his candidacy for one of California's United States Senate seats. Mr. Jones was California's Secretary of State from 1995 to 2003. Since May 2002, Mr. Jones has also been the owner of Tri-J Land & Cattle, a diversified farming and cattle company in Fresno County, California. Mr. Jones has a B.A. degree in Agribusiness and Plant Sciences from California State University, Fresno.

Mr. Jones's qualifications to serve on our Board include:

- co-founder of PEI California;
- knowledge gained through his extensive work as our Chairman since our inception in 2005;
- extensive knowledge of and experience in the agricultural and feed industries, as well as a deep understanding of operations in political environments; and
- background as an owner of a farming company in California, and his previous role in the California state government.

Neil M. Koehler has served as Chief Executive Officer, President and as a director since March 2005. Mr. Koehler is a co-founder of PEI California and served as its Chief Executive Officer since its formation in January 2003 and as a member of its board of directors from March 2004 until its dissolution in March 2012. Prior to his association with PEI California, Mr. Koehler was the co-founder and General Manager of Parallel Products, one of the first ethanol production facilities in California, which was sold to a public company in 1997. Mr. Koehler was also the sole manager and sole limited liability company member of Kinergy Marketing, LLC, or Kinergy, which he founded in September 2000, and which is one of our wholly-owned subsidiaries. Mr. Koehler has over 30 years of experience in the ethanol production and marketing industry in the Western United States. Mr. Koehler is Chairman of the Board of Directors of the Renewable Fuels Association and is a nationally-recognized speaker on the production and marketing of renewable fuels. Mr. Koehler has a B.A. degree in Government from Pomona College.

Mr. Koehler's qualifications to serve on our Board include:

- day-to-day leadership experience as our current President and Chief Executive Officer provides Mr. Koehler with intimate knowledge of our operations;
- extensive knowledge of and experience in the ethanol production and marketing industry, particularly in the Western United States;
- prior leadership experience with other companies in the ethanol industry; and
- day-to-day leadership experience affords a deep understanding of business operations, challenges and opportunities.

Michael D. Kandris has served as a director since June 2008 and as our Chief Operating Officer since January 6, 2013. Mr. Kandris served as an independent contractor with supervisory responsibility for ethanol plant operations, under the direction of our Chief Executive Officer, from January 1, 2012 to January 5, 2013. Mr. Kandris was President, Western Division of Ruan Transportation Management Systems from November 2008 until his retirement in September 2009. From January 2000 to November 2008, Mr. Kandris served as President and Chief Operating Officer of Ruan Transportation Management Systems, where he had overall responsibility for all operations, finance and administrative functions. Mr. Kandris has 30 years of experience in all modes of transportation and logistics. Mr. Kandris served on the Executive Committee of the American Trucking Association and as a board member for the National Tank Truck Organization until his retirement from Ruan Transportation Management Systems in September 2009. Mr. Kandris has a B.S. degree in Business from California State University, Hayward.

Mr. Kandris's qualifications to serve on our Board include:

- extensive experience in various executive leadership positions;
- extensive experience in rail and truck transportation and logistics; and
- day-to-day leadership experience affords a deep understanding of business operations, challenges and opportunities.

Terry L. Stone has served as a director since March 2005. Mr. Stone is a Certified Public Accountant with over thirty years of experience in accounting and taxation. He has been the owner of his own accountancy firm since 1990 and has provided accounting and taxation services to a wide range of industries, including agriculture, manufacturing, retail, equipment leasing, professionals and not-for-profit organizations. Mr. Stone has served as a part-time instructor at California State University, Fresno, teaching classes in taxation, auditing and financial and management accounting. Mr. Stone is also a financial advisor and franchisee of Ameriprise Financial Services, Inc. Mr. Stone has a B.S. degree in Accounting from California State University, Fresno.

Mr. Stone's qualifications to serve on our Board include:

- extensive experience with financial accounting and tax matters;
- recognized expertise as an instructor of taxation, auditing and financial and management accounting;
- "audit committee financial expert," as defined by the Securities and Exchange Commission;
- satisfies the "financial sophistication" requirements of Nasdaq's listing standards; and
- ability to communicate and encourage discussion, together with his experience as a senior independent director of all Board committees on which he serves make him an effective chairman of our Audit Committee.

John L. Prince has served as a director since July 2005. Mr. Prince is retired but also works as a consultant. Mr. Prince was an Executive Vice President with Land O' Lakes, Inc. from July 1998 until his retirement in 2004. Prior to that time, Mr. Prince was President and Chief Executive Officer of Dairyman's Cooperative Creamery Association located in Tulare, California, until its merger with Land O' Lakes, Inc. in July 1998. Land O' Lakes, Inc. is a farmer-owned, national branded organization based in Minnesota with annual sales in excess of \$6 billion and membership and operations in over 30 states. Prior to joining the Dairyman's Cooperative Creamery Association, Mr. Prince was President and Chief Executive Officer for nine years until 1994, and was Operations Manager for the preceding ten years commencing in 1975, of the Alto Dairy Cooperative in Waupun, Wisconsin. Mr. Prince has a B.A. degree in Business Administration from the University of Northern Iowa.

Mr. Prince's qualifications to serve on our Board include:

- extensive experience in various executive leadership positions;
- day-to-day leadership experience affords a deep understanding of business operations, challenges and opportunities; and
- ability to communicate and encourage discussion helps Mr. Prince discharge his duties effectively as chairman of our Nominating and Corporate Governance Committee.

Douglas L. Kieta has served as a director since April 2006. Mr. Kieta is currently retired but also works as a consultant through Century West Projects, Inc., of which he is the President and an owner, providing project and construction management services. Prior to retirement in January 2009, Mr. Kieta was employed by BE&K, Inc., a large engineering and construction company headquartered in Birmingham, Alabama, where he served as the Vice President of Power from May 2006 to January 2009. From April 1999 to April 2006, Mr. Kieta was employed at Calpine Corporation where he was the Senior Vice President of Construction and Engineering. Calpine Corporation is a major North American power company which leases and operates integrated systems of fuel-efficient natural gas-fired and renewable geothermal power plants and delivers clean, reliable and fuel-efficient electricity to customers and communities in 21 states and three Canadian provinces. Mr. Kieta has a B.S. degree in Civil Engineering from Clarkson University and a Master's degree in Civil Engineering from Cornell University.

Mr. Kieta's qualifications to serve on our Board include:

- extensive experience in various leadership positions;
- day-to-day leadership experience affords a deep understanding of business operations, challenges and opportunities; and
- service with Calpine affords a deep understanding of large-scale construction and engineering projects as well as plant operations, which is particularly relevant to our ethanol production facility operations.

Larry D. Layne has served as a director since December 2007. Mr. Layne joined First Western Bank in 1963 and served in various capacities with First Western Bank and its acquiror, Lloyds Bank of California, and Lloyd's acquiror, Sanwa Bank California, until his retirement in 2000. Sanwa Bank California was subsequently acquired by Bank of the West. From 1999 to 2000, Mr. Layne was Vice Chairman of Sanwa Bank California in charge of its Commercial Banking Group which encompassed all of Sanwa Bank California's 38 commercial and business banking centers and 12 Pacific Rim branches as well as numerous internal departments. From 1997 to 2000, Mr. Layne was also Chairman of the Board of The Eureka Funds, a mutual fund family of five separate investment funds with total assets of \$900 million. From 1996 to 2000, Mr. Layne was Group Executive Vice President of the Relationship Banking Group of Sanwa Bank California in charge of its 107 branches and 13 commercial banking centers as well as numerous internal departments. Mr. Layne has also served in various capacities with many industry and community organizations, including as Director and Chairman of the Board of the Agricultural Foundation at California State University, Fresno; Chairman of the Audit Committee of the Agricultural Foundation at California State University, Fresno; board member of the Fresno Metropolitan Flood Control District; and Chairman of the Agricultural Lending Committee of the California Bankers Association. Mr. Layne has a B.S. degree in Dairy Husbandry from California State University, Fresno and is a graduate of the California Agriculture Leadership Program.

Mr. Layne's qualifications to serve on our Board include:

- extensive experience in various leadership positions;
- day-to-day leadership experience affords a deep understanding of business operations, challenges and opportunities;
- experience and involvement in California industry and community organizations provides a useful perspective; and
- ability to communicate and encourage discussion helps Mr. Layne discharge his duties effectively as chairman of our Compensation Committee.

Gilbert E. Nathan has served as an advisor to our Board since November 2015 and as a director since November 2019. Mr. Nathan is the Managing Member of Jackson Square Advisors LLC, which he founded in 2015. He serves on the Board of Directors of Ready Capital Corporation, a public company, and also serves as the Chief Executive Officer of Keycon Power Holdings LLC, a position he has held since November 2018, and as a liquidating trust board member of Hercules Offshore Liquidating Trust. He previously served on the boards of directors of Owens Realty Mortgage, Inc. and Emergent Capital, Inc. From 2013 to 2015, Mr. Nathan was a Senior Analyst with Candlewood Investment Group, an investment firm with significant debt and equity investments in the ethanol industry. From 2002 to 2012, Mr. Nathan was a Principal at Restoration Capital Management, an investment firm focused on distressed investments, event driven situations, and high-yield debt. Mr. Nathan has a B.S. degree in Management, Major in Finance from the A. B. Freeman School of Business at Tulane University.

Mr. Nathan's qualifications to serve on our Board include:

- experience in research, financial analysis and trading in debt and equity investments;
- experience in energy-related investments, including oil and gas exploration and production; renewable energy; power; and oil field services;
- experience in fiduciary roles, including service on boards of directors and special committees of public companies, and as a trustee;
- would qualify as an "audit committee financial expert," as defined by the Securities and Exchange Commission; and
- satisfies the "financial sophistication" requirements of Nasdaq's listing standards.

Dianne S. Nury has served as an advisor to our Board since August 2018 and as a director since November 2019. Ms. Nury has served since 1990 as President and Chief Executive Officer of Vie-Del Company, a family-owned winery, distillery and fruit juice processor manufacturing liquid ingredients for spirits, wine, food and beverage companies. Ms. Nury serves on the Board of Directors and is a former Chairman of the Board of the Wine Institute, the largest advocacy and public policy association for California wine. Ms. Nury is a member of the Juice Products Association, the national trade association representing the fruit and juice products industry, and formerly served as Chairman of its Board of Directors. She is a member of the Board of Directors of the Agricultural Foundation for California State University at Fresno, where she serves as the Vice Chairman of the Viticulture and Enology Industry Advisory Board. Ms. Nury previously served on the USDA Fruit and Vegetable Industry Advisory Committee. Ms. Nury is a Board Member of the Foundation for Clovis Schools, Clovis, California, and previously served on the Board of Trustees of the Saint Agnes Medical Center, Fresno, California. Ms. Nury has a B.S. degree in Business from California State University at Fresno.

Ms. Nury's qualifications to serve on our Board include:

- experience in an executive management role as a chief executive officer;
- experience in alcohol, beverage and food ingredient industries;
- experience on boards of alcohol and food products industry associations; and
- her nomination will further the Company's goal of increasing Board diversity.

Family Relationships

There are no family relationships among our directors.

Corporate Governance

Corporate Governance Guidelines

Our Board believes that good corporate governance is paramount to ensure that Pacific Ethanol is managed for the long-term benefit of our stockholders. Our Board has adopted corporate governance guidelines that guide its actions with respect to, among other things, the composition of the Board and its decision-making processes, Board meetings and involvement of management, the Board's standing committees and procedures for appointing members of the committees, and its performance evaluation of our Chief Executive Officer.

Our Board has adopted a Code of Ethics that applies to all of our directors, officers, employees and consultants and an additional Code of Ethics that applies to our Chief Executive Officer and senior financial officers. The Codes of Ethics, as applied to our principal executive officer, principal financial officer and principal accounting officer constitutes our "code of ethics" within the meaning of Section 406 of the Sarbanes-Oxley Act of 2002 and is our "code of conduct" within the meaning of Nasdaq's listing standards. Our Codes of Ethics are available on our website at <http://www.pacificethanol.com/governance>. Information on our Internet website is not, and shall not be deemed to be, a part of this prospectus or incorporated into any other filings we make with the SEC.

Board Leadership Structure

Our Chairman of the Board is William L. Jones, who is a non-employee director. Our Chief Executive Officer is Neil M. Koehler. These individuals have served in those capacities since our inception in 2005. Although we do not have a policy mandating the separation of the roles of Chairman and Chief Executive Officer, our Board, under our corporate governance guidelines, reserves the right to determine the appropriate leadership structure for our Board on a case-by-case basis. Our Board believes this separation remains appropriate as it allows our Chief Executive Officer to focus on the day-to-day business matters, while the Chairman focuses on leading the Board in its responsibilities of acting in the best interests of Pacific Ethanol and our stockholders. Under our corporate governance guidelines, our Board will appoint a lead independent director, nominated by our independent directors, whenever the offices of Chairman and Chief Executive Officer are held by the same individual, and at other times if requested by our independent directors.

Our Chairman of the Board is responsible for managing the business of the Board, including setting the Board agenda (with Board and management input), facilitating communication among directors, presiding at meetings of the Board and stockholders, sitting as chair at executive sessions at each regularly scheduled Board meeting, and providing support and counsel to the Chief Executive Officer. Our lead independent director, if separately appointed, is responsible for coordinating the activities of the independent directors and performing such other duties as the Board may determine. We believe that this Board leadership structure is appropriate in maximizing the effectiveness of our Board oversight and in providing perspective to our business that is independent from management.

Risk Oversight

Our Board has an active role, as a whole and also at the committee level, in overseeing management of Pacific Ethanol's risks. Our Board regularly reviews information regarding our credit, liquidity and operations, as well as the risks associated with each of these areas. Our Compensation Committee is responsible for overseeing the management of risks relating to our executive compensation plans and arrangements. Our Audit Committee oversees management of financial risks, including internal controls. Our Nominating and Corporate Governance Committee manages risks associated with the independence of members of our Board and potential conflicts of interest. While each committee is responsible for evaluating certain risks and overseeing the management of such risks, our entire Board is regularly informed through committee reports about such risks.

Director Independence

Our corporate governance guidelines provide that a majority of the Board and all members of our Audit, Compensation and Nominating and Corporate Governance Committees shall be independent. On an annual basis, each director and executive officer is obligated to complete a Director and Officer Questionnaire that requires disclosure of any transactions with Pacific Ethanol in which a director or executive officer, or any member of his or her immediate family, have a direct or indirect material interest. Following completion of these questionnaires, the Board, with the assistance of the Nominating and Corporate Governance Committee, makes an annual determination as to the independence of each director using the current standards for “independence” established by the Securities and Exchange Commission and Nasdaq, additional criteria contained in our corporate governance guidelines and consideration of any other material relationship a director may have with Pacific Ethanol.

The Board has determined that all of its directors are independent under these standards, except for Neil M. Koehler, who serves as our President and Chief Executive Officer, and Michael D. Kandris, who serves as our Chief Operating Officer. Messrs. Koehler and Kandris are deemed not to be independent due to their employment relationships with Pacific Ethanol, Inc.

Stockholder Communications with our Board of Directors

Our Board has implemented a process by which stockholders may send written communications directly to the attention of our Board or any individual member of our Board. The Chairman of our Audit Committee, Terry L. Stone, is responsible for monitoring communications from stockholders and providing copies of such communications to the other directors as he considers appropriate. Communications will be forwarded to all directors if they relate to substantive matters and include suggestions or comments that the Chairman considers to be important for the directors to consider. Stockholders who wish to communicate with our Board can write to Chairman of the Audit Committee, The Board of Directors, Pacific Ethanol, Inc., 400 Capitol Mall, Suite 2060, Sacramento, California 95814.

Board Committees

Our business, property and affairs are managed under the direction of our Board. Our directors are kept informed of our business through discussions with our executive officers, by reviewing materials provided to them and by participating in meetings of our Board and its committees.

Our Board has established standing Audit, Compensation and Nominating and Corporate Governance Committees. Each committee operates pursuant to a written charter that has been approved by our Board and the corresponding committee and that is reviewed annually and revised as appropriate.

Audit Committee

Our Audit Committee selects our independent auditors, reviews the results and scope of the audit and other services provided by our independent auditors, reviews our financial statements for each interim period and for the full year and implements and manages our enterprise risk management program. The Audit Committee also has the authority to retain consultants, and other advisors. Messrs. Stone, Jones, Prince and Nathan serve on our Audit Committee. Our Board has determined that each member of the Audit Committee is “independent” under the current Nasdaq listing standards and satisfies the other requirements under Nasdaq listing standards and SEC rules regarding audit committee membership. Our Board has determined that Mr. Stone qualifies as an “audit committee financial expert” under applicable SEC rules and regulations governing the composition of the Audit Committee, and satisfies the “financial sophistication” requirements of Nasdaq’s listing standards.

Compensation Committee

Our Compensation Committee is responsible for establishing, updating and administering our compensation program for executive officers including, among other things, annual salaries and bonuses, stock options, stock grants, other stock-based awards, and other incentive compensation arrangements. The Compensation Committee establishes the elements and mix of total compensation, sets the parameters and specific target metrics of our performance-based incentive compensation plan, and determines the target compensation of our executive officers. In addition, our Compensation Committee establishes the compensation philosophy and objectives, and oversees the administration of our compensation program for all other employees. Our Compensation Committee also has the authority to administer our equity incentive plans with respect to grants to executive officers and directors, and has authority to make equity awards under our equity incentive plans to all other eligible individuals. However, our Board may retain, reassume or exercise from time to time the power to administer our equity incentive plans. Equity awards made to members of the Compensation Committee must be authorized and approved by a disinterested majority of our Board.

Our Compensation Committee believes that our compensation program offered to our executive officers should attract, retain, motivate and reward key executive officers responsible for our success; align and strengthen the mutuality of interests of our executive officers, our company and our stockholders; deliver compensation that reflects our financial and operational performance, while providing the opportunity to earn above-targeted total compensation for exceptional performance; and provide total compensation to each executive officer that is internally equitable, competitive, and influenced by company and individual performance.

Our Compensation Committee has the authority to retain consultants and other advisors, and in furtherance of the foregoing objectives, our Compensation Committee initially in 2013, and again in each of the years 2014 and 2015, engaged Hay Group, a global human resources consulting firm, and in 2016, 2017, 2018 and 2019 engaged its successor, Korn Ferry Hay Group (collectively, "Korn Ferry Hay Group"), to conduct reviews of our compensation program for our executive officers and other employees. From those reviews, Korn Ferry Hay Group provided our Compensation Committee with relevant market data and alternatives to consider when making compensation decisions as to our executive officers and other employees.

Messrs. Layne, Kieta, Stone and Prince and Ms. Nury serve on our Compensation Committee. Our Board has determined that each member of the Compensation Committee is "independent" under the current Nasdaq listing standards.

Nominating and Corporate Governance Committee

Our Nominating and Corporate Governance Committee considers and reports periodically to the Board on matters related to the identification, selection and qualification of Board members and candidates nominated to the Board. Our Nominating and Corporate Governance Committee also advises and makes recommendations to the Board with respect to corporate governance matters. The Nominating and Corporate Governance Committee also has the authority to retain consultants and other advisors. Messrs. Prince, Kieta, Layne, Jones and Nathan serve on our Nominating and Corporate Governance Committee. Our Board has determined that each member of the Nominating and Corporate Governance Committee is "independent" under the current Nasdaq listing standards.

The Nominating and Corporate Governance Committee will consider candidates for director recommended by any stockholder that is the beneficial owner of shares representing more than 1.0% of the then-outstanding shares of our common stock and who has beneficially owned those shares for at least one year. The Nominating and Corporate Governance Committee will evaluate those recommendations by applying its regular nominee criteria and considering the additional information described in the Nominating and Corporate Governance Committee's charter. Stockholders who desire to recommend candidates for the Board for evaluation may do so by contacting Pacific Ethanol in writing, identifying the potential candidate and providing background and other relevant information. Stockholders must also comply with our bylaws, including our advance notice bylaw provisions relating to the nomination of persons for election to our Board that, among other things, require that nominations of persons for election to our Board at annual meetings be submitted to our Secretary at Pacific Ethanol, Inc., 400 Capitol Mall, Suite 2060, Sacramento, California 95814, unless otherwise notified, by the close of business on the 45th day before the first anniversary of the date on which we first mailed our prospectus materials for the prior year's annual meeting.

Our Nominating and Corporate Governance Committee utilizes a variety of methods for identifying and evaluating nominees for director. Candidates may also come to the attention of the Nominating and Corporate Governance Committee through current Board members, professional search firms and other persons. In evaluating potential candidates, our Nominating and Corporate Governance Committee will take into account a number of factors, including, among others, the following:

- the candidate's independence from management;
- whether the candidate has relevant business experience;
- judgment, skill, integrity and reputation;
- existing commitments to other businesses;
- corporate governance background;
- financial and accounting background, to enable the committee to determine whether the candidate would be suitable for Audit Committee membership; and
- the size and composition of our Board.

In addition, our Board and our Nominating and Corporate Governance Committee are committed to seeking out highly qualified women and minority candidates as well as candidates with diverse backgrounds, skills and experiences as part of each Board member candidate search the Nominating and Corporate Governance Committee undertakes. When searching for director nominees, our Nominating and Corporate Governance Committee will include highly qualified diverse candidates (including gender, race and ethnicity) in the pool from which nominees are chosen.

Our Nominating and Corporate Governance Committee has the authority to retain and terminate any search firm to be used to identify director nominees, including the authority to approve the firm's fees and other retention terms. Our Nominating and Corporate Governance Committee will direct any search firm it retains to include qualified women and minority candidates in the firm's list of potential director candidates. We will provide funding, as determined by our Nominating and Corporate Governance Committee, for the payment of compensation to any such search firms.

We intend to evaluate our diversity policy's effectiveness by periodically reviewing our ability to successfully include highly qualified diverse candidates in the pool from which nominees are chosen.

Director Compensation

We use a combination of cash and equity-based incentive compensation to attract and retain qualified candidates to serve on our Board. In setting the compensation of directors, we consider the significant amount of time that Board members spend in fulfilling their duties to Pacific Ethanol as well as the experience level we require to serve on our Board. The Board, through its Compensation Committee, annually reviews the compensation and compensation policies for Board members. In recommending director compensation, the Compensation Committee is guided by the following three goals:

- compensation should pay directors fairly for work required in a company of our size and scope;
- compensation should align directors' interests with the long-term interests of our stockholders; and
- the structure of the compensation should be clearly disclosed to our stockholders.

In making compensation decisions for 2019 as to our directors, our Compensation Committee compared our cash and equity compensation payable to directors against market data obtained by Korn Ferry Hay Group in 2015. Our Compensation Committee determined that this data from 2015 remained relevant to its compensation decisions for 2019. The Korn Ferry Hay Group data included a survey of 1,400 companies across 24 industries with revenues between \$1 billion and \$2.5 billion. For 2019, our Compensation Committee targeted compensation for our directors at approximately the median of compensation paid to directors of the companies contained in the Korn Ferry Hay Group data.

Cash Compensation

Our annual cash compensation program for directors includes the following:

- annual cash compensation provided to the Chairman of our Board is \$112,500;
- base annual cash compensation provided to our non-employee directors, other than our Chairman, is \$50,000;
- additional annual cash compensation provided to each of our Board committee chairs is \$25,000; and
- additional annual cash compensation provided to our lead independent director is \$12,000.

These amounts are paid in advance in bi-weekly installments. In addition, directors are reimbursed for specified reasonable and documented expenses in connection with attendance at meetings of our Board and its committees. Employee directors do not receive director compensation in connection with their service as directors.

Equity Compensation

Our Compensation Committee or our full Board typically grants equity compensation to our newly elected or reelected directors which normally vests as to 100% of the grants at the earlier of our next annual meeting or approximately one year after the date of grant. Vesting is typically subject to continued service on our Board during the full year.

In determining the amount of equity compensation for 2019, the Compensation Committee determined a target value of total compensation of approximately the median of compensation paid to directors of the companies comprising the market data provided to us by Korn Ferry Hay Group in 2015. The Compensation Committee then determined the cash component based on this market data. The balance of the total compensation target was then allocated to equity awards, and the number of shares to be granted to our directors was based on the estimated value of the underlying shares on the expected grant date.

Our annual equity compensation program for directors includes the following:

- the value of annual equity compensation provided to the Chairman of our Board is targeted at \$142,500; and
- the value of annual equity compensation provided to our non-employee directors, other than our Chairman, is targeted at \$95,000.

In addition, our Compensation Committee may grant, and has from time to time granted, additional equity compensation to directors at its discretion.

Compensation of Employee Directors

Messrs. Koehler and Kandris were compensated as full-time employees and officers and therefore received no additional compensation for service as Board members during 2019. Information regarding the compensation awarded to Messrs. Koehler and Kandris is included in “Executive Compensation—Summary Compensation Table” below.

Director Compensation Table – 2019

The following table summarizes the compensation of our non-employee directors for the year ended December 31, 2019:

Name	Fees Earned or Paid in Cash (\$) ⁽¹⁾	Stock Awards (\$)	Total (\$) ⁽²⁾
William L. Jones	\$ 112,500	\$ 25,175 ⁽³⁾	\$ 137,675
Terry L. Stone	\$ 75,000	\$ 16,783 ⁽⁴⁾	\$ 91,783
John L. Prince	\$ 87,000	\$ 16,783 ⁽⁵⁾	\$ 103,783
Douglas L. Kieta	\$ 75,000	\$ 16,783 ⁽⁶⁾	\$ 91,783
Larry D. Layne	\$ 75,000	\$ 16,783 ⁽⁷⁾	\$ 91,783
Gilbert N. Nathan	\$ 50,000 ⁽⁸⁾	\$ 16,783 ⁽⁹⁾	\$ 66,783
Dianne S. Nury	\$ 50,000 ⁽¹⁰⁾	\$ 16,783 ⁽¹¹⁾	\$ 66,783

- (1) For a description of annual director fees and fees for chair and lead independent director positions, see the disclosure above under “Compensation of Directors—Cash Compensation.”
- (2) The value of perquisites and other personal benefits was less than \$10,000 in aggregate for each director.
- (3) At December 31, 2019, Mr. Jones held 105,869 vested shares from stock awards. Mr. Jones was granted 47,500 shares of our common stock on November 18, 2019 having an aggregate grant date fair value of \$25,175, calculated based on the fair market value of our common stock on the applicable grant date. The shares vest on the earlier of July 1, 2020 or the date of our next annual stockholders meeting.
- (4) At December 31, 2019, Mr. Stone held 90,880 vested shares from stock awards. Mr. Stone was granted 31,666 shares of our common stock on November 18, 2019 having an aggregate grant date fair value of \$16,783, calculated based on the fair market value of our common stock on the applicable grant date. The shares vest on the earlier of July 1, 2020 or the date of our next annual stockholders meeting.
- (5) At December 31, 2019, Mr. Prince held 73,134 vested shares from stock awards. Mr. Prince was granted 31,666 shares of our common stock on November 18, 2019 having an aggregate grant date fair value of \$16,783, calculated based on the fair market value of our common stock on the applicable grant date. The shares vest on the earlier of July 1, 2020 or the date of our next annual stockholders meeting.
- (6) At December 31, 2019, Mr. Kieta held 102,854 vested shares from stock awards. Mr. Kieta was granted 31,666 shares of our common stock on November 18, 2019 having an aggregate grant date fair value of \$16,783, calculated based on the fair market value of our common stock on the applicable grant date. The shares vest on the earlier of July 1, 2020 or the date of our next annual stockholders meeting.
- (7) At December 31, 2019, Mr. Layne held 79,517 vested shares from stock awards. Mr. Layne was granted 31,666 shares of our common stock on November 18, 2019 having an aggregate grant date fair value of \$16,783, calculated based on the fair market value of our common stock on the applicable grant date. The shares vest on the earlier of July 1, 2020 or the date of our next annual stockholders meeting.
- (8) Includes \$42,308 in consulting fees prior to becoming a director.
- (9) At December 31, 2019, Mr. Nathan held no vested shares from stock awards. Mr. Nathan was granted 31,666 shares of our common stock on November 18, 2019 having an aggregate grant date fair value of \$16,783, calculated based on the fair market value of our common stock on the applicable grant date. The shares vest on the earlier of July 1, 2020 or the date of our next annual stockholders meeting.
- (10) Includes \$42,308 in consulting fees prior to becoming a director.
- (11) At December 31, 2019, Ms. Nury held no vested shares from stock awards. Ms. Nury was granted 31,666 shares of our common stock on November 18, 2019 having an aggregate grant date fair value of \$16,783, calculated based on the fair market value of our common stock on the applicable grant date. The shares vest on the earlier of July 1, 2020 or the date of our next annual stockholders meeting.

Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law permits a corporation to indemnify its directors and officers against expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with a pending or completed action, suit or proceeding if the officer or director acted in good faith and in a manner the officer or director reasonably believed to be in the best interests of the corporation.

Our certificate of incorporation provides that, except in certain specified instances, our directors shall not be personally liable to us or our stockholders for monetary damages for breach of their fiduciary duty as directors, except liability for the following:

- any breach of their duty of loyalty to Pacific Ethanol or our stockholders;
- acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; and
- any transaction from which the director derived an improper personal benefit.

In addition, our certificate of incorporation and bylaws obligate us to indemnify our directors and officers against expenses and other amounts reasonably incurred in connection with any proceeding arising from the fact that such person is or was an agent of ours. Our bylaws also authorize us to purchase and maintain insurance on behalf of any of our directors or officers against any liability asserted against that person in that capacity, whether or not we would have the power to indemnify that person under the provisions of the Delaware General Corporation Law. We have entered and expect to continue to enter into agreements to indemnify our directors and officers as determined by our Board. These agreements provide for indemnification of related expenses including attorneys' fees, judgments, fines and settlement amounts incurred by any of these individuals in any action or proceeding. We believe that these bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers. We also maintain directors' and officers' liability insurance.

The limitation of liability and indemnification provisions in our certificate of incorporation and bylaws may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and other stockholders. Furthermore, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and officers as required by these indemnification provisions.

Insofar as indemnification for liabilities arising under the Securities Act of 1933, as amended, or the Securities Act, may be permitted to our directors, officers and controlling persons under the foregoing provisions of our certificate of incorporation or bylaws, or otherwise, we have been informed that in the opinion of the SEC, this indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

EXECUTIVE COMPENSATION

This section discusses the material components of the executive compensation program offered to our named executive officers listed below.

Summary Compensation Table

The following table sets forth summary information concerning the compensation of our (i) President and Chief Executive Officer, who serves as our principal executive officer, (ii) Chief Operating Officer, and (iii) Chief Financial Officer, who serves as our principal financial officer (collectively, the “named executive officers”), for all services rendered in all capacities to us for the years ended December 31, 2019 and 2018.

Name and Principal Position	Year	Salary (\$)	Bonus \$(¹)	Stock Awards \$(²)	Non-Equity Incentive Plan Compensation	All Other Compensation ⁽³⁾	Total (\$)
Neil M. Koehler President and Chief Executive Officer	2019	\$ 489,305	\$ -	\$ 187,040	\$ -	\$ 18,600	\$ 694,495
	2018	\$ 484,955	\$ -	\$ 427,775	\$ -	\$ 18,200	\$ 930,930
Michael D. Kandris Chief Operating Officer	2019	\$ 350,745	\$ -	\$ 64,400	\$ -	\$ 18,400	\$ 433,545
	2018	\$ 347,601	\$ -	\$ 146,325	\$ -	\$ 16,500	\$ 510,426
Bryon T. McGregor Chief Financial Officer	2019	\$ 317,036	\$ -	\$ 64,400	\$ -	\$ 18,600	\$ 400,036
	2018	\$ 315,148	\$ -	\$ 146,325	\$ -	\$ 18,200	\$ 479,673

- (1) Bonuses under our annual performance-based cash incentive compensation plan were made and are reported in the “Non-Equity Incentive Plan Compensation” column.
- (2) The amounts shown are the fair value of stock awards on the date of grant. The fair value of stock awards is calculated by multiplying the number of shares of stock granted by the closing price of our common stock on the date of grant. The shares of common stock were issued under our 2016 Stock Incentive Plan. Information regarding the grants of restricted stock and vesting schedules for the named executive officers is included in the “Outstanding Equity Awards at Fiscal Year-End-2019” table below, the footnotes to that table, and in “Certain Relationships and Related Transactions.”
- (3) Except as specifically noted, the amounts represent matching contributions under our 401(k) plan and contributions to the executive’s health savings account. In addition, except as specifically noted, the value of perquisites and other personal benefits was less than \$10,000 in aggregate for each of the named executive officers.

Executive Employment Agreements

Neil M. Koehler

Our Amended and Restated Employment Agreement with Neil M. Koehler provides for at-will employment as our President and Chief Executive Officer. Mr. Koehler’s annual base salary is \$489,305. Mr. Koehler is eligible to participate in our short-term incentive plan with a pay-out target of 70% of his base salary, to be paid based upon performance criteria set by the Compensation Committee of our board of directors.

Upon termination by us without cause or resignation by Mr. Koehler for good reason, Mr. Koehler is entitled to receive (i) severance equal to eighteen months of his base salary, (ii) 150% of his total target short-term incentive plan award, (iii) continued health insurance coverage for eighteen months or until the earlier effective date of coverage under a subsequent employer’s plan, and (iv) accelerated vesting of 25% of all shares or options subject to any equity awards granted to Mr. Koehler prior to Mr. Koehler’s termination which are unvested as of the date of termination.

However, if Mr. Koehler is terminated without cause or resigns for good reason in anticipation of or twenty-four months after a change in control, Mr. Koehler is entitled to (i) severance equal to thirty-six months of base salary, (ii) 300% of his total target short-term incentive plan award, (iii) continued health insurance coverage for thirty-six months or until the earlier effective date of coverage under a subsequent employer's plan, and (iv) accelerated vesting of 100% of all shares or options subject to any equity awards granted to Mr. Koehler prior to Mr. Koehler's termination that are unvested as of the date of termination.

If we terminate Mr. Koehler's employment upon his disability, Mr. Koehler is entitled to severance equal to twelve months of base salary.

The term "for good reason" is defined in the Amended and Restated Employment Agreement as (i) the assignment to Mr. Koehler of any duties or responsibilities that result in the material diminution of Mr. Koehler's authority, duties or responsibility, (ii) a material reduction by us in Mr. Koehler's annual base salary, except to the extent the base salaries of all or our other executive officers are accordingly reduced, (iii) a relocation of Mr. Koehler's place of work, or our principal executive offices if Mr. Koehler's principal office is at these offices, to a location that increases Mr. Koehler's daily one-way commute by more than thirty-five miles, or (iv) any material breach by us of any material provision of the Amended and Restated Employment Agreement.

The term "cause" is defined in the Amended and Restated Employment Agreement as (i) Mr. Koehler's indictment or conviction of any felony or of any crime involving dishonesty, (ii) Mr. Koehler's participation in any fraud or other act of willful misconduct against us, (iii) Mr. Koehler's refusal to comply with any of our lawful directives, (iv) Mr. Koehler's material breach of his fiduciary, statutory, contractual, or common law duties to us, or (v) conduct by Mr. Koehler which, in the good faith and reasonable determination of our board of directors, demonstrates gross unfitness to serve; provided, however, that in the event that any of the foregoing events is reasonably capable of being cured, we shall, within twenty days after the discovery of the event, provide written notice to Mr. Koehler describing the nature of the event and Mr. Koehler shall thereafter have ten business days to cure the event.

A "change in control" is deemed to have occurred if, in a single transaction or series of related transactions (i) any person (as the term is used in Section 13(d) and 14(d) of the Exchange Act), or persons acting as a group, other than a trustee or fiduciary holding securities under an employee benefit program, is or becomes a "beneficial owner" (as defined in Rule 13-3 under the Exchange Act), directly or indirectly of securities of Pacific Ethanol, Inc. representing a majority of the combined voting power of Pacific Ethanol, Inc., (ii) there is a merger, consolidation or other business combination transaction of Pacific Ethanol, Inc. with or into another corporation, entity or person, other than a transaction in which the holders of at least a majority of the shares of voting capital stock of Pacific Ethanol, Inc. outstanding immediately prior to the transaction continue to hold (either by the shares remaining outstanding or by their being converted into shares of voting capital stock of the surviving entity) a majority of the total voting power represented by the shares of voting capital stock of Pacific Ethanol, Inc. (or the surviving entity) outstanding immediately after the transaction, or (iii) all or substantially all of our assets are sold.

Michael D. Kandris

Our Amended and Restated Employment Agreement with Michael D. Kandris provides for at-will employment as our Chief Operating Officer. Mr. Kandris's annual base salary is \$350,745. Mr. Kandris is eligible to participate in our short-term incentive plan with a pay-out target of 50% of his base salary, to be paid based upon performance criteria set by the Compensation Committee of our board of directors.

Upon termination by us without cause or resignation by Mr. Kandris for good reason, Mr. Kandris is entitled to receive (i) severance equal to twelve months of his base salary, (ii) 100% of his total target short-term incentive plan award, (iii) continued health insurance coverage for twelve months or until the earlier effective date of coverage under a subsequent employer's plan, and (iv) accelerated vesting of 25% of all shares or options subject to any equity awards granted to Mr. Kandris prior to Mr. Kandris's termination which are unvested as of the date of termination.

However, if Mr. Kandris is terminated without cause or resigns for good reason in anticipation of or twenty-four months after a change in control, Mr. Kandris is entitled to (i) severance equal to twenty-four months of base salary, (ii) 200% of his total target short-term incentive plan award, (iii) continued health insurance coverage for twenty-four months or until the earlier effective date of coverage under a subsequent employer's plan, and (iv) accelerated vesting of 100% of all shares or options subject to any equity awards granted to Mr. Kandris prior to Mr. Kandris's termination that are unvested as of the date of termination.

If we terminate Mr. Kandris's employment upon his disability, Mr. Kandris is entitled to severance equal to twelve months of base salary.

The meanings given to the terms "cause," "good reason" and "change in control" in Mr. Kandris's Amended and Restated Employment Agreement are the same as those contained in Mr. Koehler's Amended and Restated Employment Agreement described above.

Bryon T. McGregor

Our Amended and Restated Employment Agreement with Bryon T. McGregor provides for at-will employment as our Chief Financial Officer, Vice President and Assistant Secretary. Mr. McGregor's annual base salary is \$317,963. Mr. McGregor is eligible to participate in our short-term incentive plan with a pay-out target of 50% of his base salary, to be paid based upon performance criteria set by the Compensation Committee of our board of directors.

All other terms and conditions of Mr. McGregor's Amended and Restated Employment Agreement are substantially the same as those contained in Mr. Kandris's Amended and Restated Employment Agreement described above.

Clawback Policy

On March 29, 2018, our Compensation Committee instituted a new "clawback" policy with respect to incentive compensation. Except as otherwise required by applicable law and regulations, the clawback policy applies to any incentive compensation, including any cash or equity incentive compensation, awarded or paid after March 29, 2018. The clawback policy mitigates the risks associated with our compensation policies because our executive officers, including all of our named executive officers, will be required to repay compensation as provided under the policy.

The clawback policy requires recoupment of all incentive compensation, including any cash or equity incentive compensation, awarded or paid to any of our executive officers, including all of our named executive officers, in the event our financial statements are required to be restated, regardless of cause, including, without limitation, due to: (i) material noncompliance with any financial reporting requirements under the federal securities laws, (ii) an error, miscalculation or omission, or (iii) the commission of an act of fraud or other misconduct, including dishonesty, unethical conduct or falsification of our records. The recoupment period is the three-year period commencing from the date of the financial statement required to be restated; and if more than one financial statement is required to be restated, the date of the earliest dated financial statement. The amount of incentive compensation subject to recoupment is the amount received that exceeds the amount that otherwise would have been received had it been determined based on the accounting restatement, and is computed without regard to any taxes paid. We are prohibited under the policy from indemnifying or agreeing to indemnify any executive officer from the loss of any erroneously awarded incentive compensation.

Our clawback policy is a “no-fault” policy and applies even if the executive officer did not engage in any misconduct and even if the executive officer had no responsibility for the financial statement errors, miscalculations, omissions or other reasons requiring restatement.

Our Compensation Committee will reevaluate and, if necessary, revise our clawback policy to comply with the Dodd-Frank Wall Street Reform and Consumer Protection Act once the rules implementing the clawback requirements have been finalized by the SEC.

Outstanding Equity Awards at Fiscal Year-End – 2019

The following table sets forth information about outstanding equity awards held by our named executive officers as of December 31, 2019.

Name	Option Awards			Stock Awards	
	Number of Securities Underlying Unexercised Options (#) Exercisable	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#) ⁽¹⁾	Market Value of Shares or Units of Stock That Have Not Vested(\$) ⁽²⁾
Neil M. Koehler	3,750 ⁽³⁾	\$ 12.90	8/1/2021	25,186 ⁽⁵⁾	\$ 16,371
	113,379 ⁽⁴⁾	\$ 3.74	6/24/2023	93,055 ⁽⁶⁾	\$ 60,486
Michael D. Kandris				167,000 ⁽⁷⁾	\$ 108,550
	31,746 ⁽⁸⁾	\$ 3.74	6/24/2023	8,615 ⁽⁹⁾	\$ 5,600
Bryon T. McGregor				31,831 ⁽¹⁰⁾	\$ 20,690
	1,715 ⁽¹²⁾	\$ 12.90	8/1/2021	57,500 ⁽¹¹⁾	\$ 37,375
	31,746 ⁽⁸⁾	\$ 3.74	6/24/2023	31,831 ⁽¹⁰⁾	\$ 20,690
				57,500 ⁽¹¹⁾	\$ 37,375

- (1) The stock awards reported in the above table represent shares of restricted stock and stock options granted under our 2006 Stock Incentive Plan or 2016 Stock Incentive Plan.
- (2) Represents the fair market value per share of our common stock of \$0.65 on December 31, 2019, the last business day of the most recently completed fiscal year, multiplied by the number of shares that had not vested as of that date.
- (3) Represents shares underlying a stock option granted on August 1, 2011. The option vested as to 1/3rd of the 3,750 shares underlying the option on each of April 1, 2012, 2013 and 2014.

- (4) Represents shares underlying a stock option granted on June 24, 2013. The option vested as to 33%, 33% and 34% of the 113,379 shares underlying the option on April 1, 2014, 2015 and 2016, respectively.
- (5) Represents shares granted on March 15, 2017. The grant vests as to 25,186 shares on April 1, 2020.
- (6) Represents shares granted on June 14, 2018. The grant vests as to 45,833 shares on April 1, 2020 and 47,222 shares on April 1, 2021.
- (7) Represents shares granted on April 22, 2019. The grant vests as to 83,500 shares on each of April 1, 2020 and April 1, 2021.
- (8) Represents shares underlying a stock option granted on June 24, 2013. The option vested as to 33%, 33% and 34% of the 31,746 shares underlying the option on April 1, 2014, 2015 and 2016, respectively.
- (9) Represents shares granted on March 15, 2017. The grant vests as to 8,615 shares on April 1, 2020.
- (10) Represents shares granted on June 14, 2018. The grant vests as to 15,677 shares on April 1, 2020 and 16,154 shares on April 1, 2021.
- (11) Represents shares granted on April 22, 2019. The grant vests as to 28,750 shares on each of April 1, 2020 and April 1, 2021.
- (12) Represents shares underlying a stock option granted on August 1, 2011. The option vested as to 1/3rd of the 1,715 shares underlying the option on each of April 1, 2012, 2013 and 2014.

2006 Stock Incentive Plan

In 2016, our Board adopted and our stockholders ratified and approved the adoption of our 2016 Plan. On March 29, 2018, our Board approved, and on June 14, 2018 our stockholders approved, an increase in the number of shares of common stock authorized for issuance under our 2016 Plan from 1,150,000 shares to 3,650,000 shares. On April 5, 2019, our Board approved, and on November 7, 2019, our stockholders approved, a further increase in the number of shares of common stock authorized for issuance under our 2016 Plan from 3,650,000 shares to 5,650,000 shares.

On April 5, 2019, our Board also approved the following amendments to the Plan: (i) requirement of a minimum initial vesting period of one year for all awards under the Plan, (ii) elimination of the payment of any dividends on unvested shares unless and until the shares vest, and (iii) removal of the plan administrator's discretion to accelerate vesting except upon limited change in control circumstances and retirement.

Set forth below is information concerning awards of restricted stock and options under our 2016 Plan and our prior 2006 Stock Incentive Plan for each of the years ended December 31, 2015, 2016, 2017, 2018 and 2019. No other equity incentive compensation, whether under the 2006 Plan, the 2016 Plan or otherwise, was awarded in such years.

	Year Ended December 31,					Three-Year Average
	2015	2016	2017	2018	2019	
Shares and options granted	307,078	741,595	663,823	1,175,477	1,433,771	1,091,024
Shares outstanding at year-end	42,515,104	43,312,370	43,985,871	45,772,318	55,534,853	48,431,014
Annual run rate ⁽¹⁾	0.7%	1.7%	1.5%	2.6%	2.6%	2.2%
Unvested shares and options outstanding at year-end	539,081	930,212	1,077,408	1,864,991	2,456,779	1,799,726
Overhang ⁽²⁾	1.3%	2.1%	2.4%	4.1%	4.4%	3.6%

(1) Annual run rate is the number of shares of common stock and options granted during the year, divided by the number of shares of common stock outstanding at year-end.

(2) Overhang is the number of unvested shares of restricted common stock and options outstanding at year-end, divided by the total number of shares of common stock outstanding at year-end.

The 2016 Plan consists of two equity-based incentive programs, the Discretionary Grant Program and the Stock Issuance Program. Principal features of each program are summarized below.

Administration

The Compensation Committee of our Board has the exclusive authority to administer the Discretionary Grant and Stock Issuance Programs with respect to option grants, restricted stock awards, restricted stock units, stock appreciation rights, direct stock issuances and other stock-based awards ("equity awards") made to executive officers and non-employee Board members, and also has the authority to make equity awards under those programs to all other eligible individuals. However, the Board may retain, reassume or exercise from time to time the power to administer those programs. Equity awards made to members of the Compensation Committee must be authorized and approved by a disinterested majority of the Board.

The term "plan administrator," as used in this summary, means the Compensation Committee or the Board, to the extent either entity is acting within the scope of its administrative jurisdiction under the 2016 Plan.

Share Reserve

An aggregate of 5,650,000 shares of common stock are currently authorized for issuance under the 2016 Plan.

No participant in the 2016 Plan may be granted equity awards for shares of common stock having a value in excess of \$1,000,000 per calendar year.

The shares of common stock issuable under the 2016 Plan may be drawn from shares of our authorized but unissued shares or from shares reacquired by us, including shares repurchased on the open market.

Shares of common stock subject to outstanding awards under the 2016 Plan shall in no event become eligible for reissuance under the 2016 Plan, whether as a result of expiration or termination of an award, cancellation or repurchase of unvested shares, tender of shares in connection with a net/cashless exercise program, withholding of shares to cover withholding taxes, or otherwise.

We have registered the issuance of all of the shares of common stock currently authorized for issuance under our 2016 Plan on Form S-8 under the Securities Act.

Eligibility

Officers, employees, non-employee directors, and consultants and independent advisors who are under written contract and whose securities issued under the 2016 Plan could be registered under a registration statement on Form S-8, all of whom are in our service or the service of any parent or subsidiary of ours, whether now existing or subsequently established, are eligible to participate in the Discretionary Grant and Stock Issuance Programs.

As of January 17, 2020, six executive officers, approximately 500 other employees, seven non-executive officer members of our Board and an indeterminate number of consultants and independent advisors were eligible to participate in the 2016 Plan.

Valuation

The fair market value per share of our common stock on any relevant date under the 2016 Plan will be deemed to be equal to the closing price per share of our common stock at the close of regular trading hours on that date on The Nasdaq Capital Market (or any other primary successor exchange or market on which our securities are listed or traded). If there is no closing price for our common stock on the date in question, the fair market value will be the closing price on the last preceding date for which a quotation exists. On January 17, 2020, the fair market value determined on that basis was \$0.673 per share.

Discretionary Grant Program

The plan administrator has complete discretion under the Discretionary Grant Program to determine which eligible individuals are to receive equity awards under that program, the time or times when those equity awards are to be made, the number of shares subject to each award, the time or times when each equity award is to vest and become exercisable (subject to a minimum initial vesting period of one (1) year), the maximum term for which the equity award is to remain outstanding and the status of any granted option as either an incentive stock option or a non-statutory option under the federal tax laws.

Stock Options. Each granted option will have an exercise price per share determined by the plan administrator, provided that the exercise price will not be less than 85% or 100% of the fair market value of a share on the grant date in the case of non-statutory or incentive options, respectively. No granted option will have a term in excess of ten years. Incentive options granted to an employee who beneficially owns more than 10% of our outstanding common stock must have exercise prices not less than 110% of the fair market value of a share on the grant date and a term of not more than five years measured from the grant date. Options generally will become exercisable in one or more installments over a specified period of service measured from the grant date. Any unvested shares acquired under options will be subject to repurchase, at the exercise price paid per share, if the optionee ceases service with us prior to vesting in those shares.

An optionee who ceases service with us other than due to misconduct will have a limited time within which to exercise outstanding options for any shares for which those options are vested and exercisable at the time of cessation of service. The plan administrator has complete discretion to extend the period following the optionee's cessation of service during which outstanding options may be exercised (but not beyond the expiration date) and/or, solely in connection with the optionee's retirement, to accelerate the exercisability or vesting of options in whole or in part. Discretion may be exercised at any time while the options remain outstanding, whether before or after the optionee's actual cessation of service.

Stock Appreciation Rights. The plan administrator has the authority to issue the following three types of stock appreciation rights under the Discretionary Grant Program:

- Tandem stock appreciation rights, which provide the holders with the right, upon approval of the plan administrator, to surrender their options for an appreciation distribution in an amount equal to the excess of the fair market value of the vested shares of common stock subject to the surrendered option over the aggregate exercise price payable for those shares.
- Standalone stock appreciation rights, which allow the holders to exercise those rights as to a specific number of shares of common stock and receive in exchange an appreciation distribution in an amount equal to the excess of the fair market value on the exercise date of the shares of common stock as to which those rights are exercised over the aggregate base price in effect for those shares. The base price per share may not be less than the fair market value per share of the common stock on the date the standalone stock appreciation right is granted, and the right may not have a term in excess of ten years.

- Limited stock appreciation rights, which may be included in one or more option grants made under the Discretionary Grant Program to executive officers or directors who are subject to the short-swing profit liability provisions of Section 16 of the Exchange Act. Upon the successful completion of a hostile takeover for more than 50% of our outstanding voting securities or a change in a majority of our Board as a result of one or more contested elections for Board membership over a period of up to 36 consecutive months, each outstanding option with a limited stock appreciation right may be surrendered in return for a cash distribution per surrendered option share equal to the excess of the fair market value per share at the time the option is surrendered or, if greater and the option is a non-statutory option, the highest price paid per share in the transaction, over the exercise price payable per share under the option.

Payments with respect to exercised tandem or standalone stock appreciation rights may, at the discretion of the plan administrator, be made in cash or in shares of common stock. All payments with respect to exercised limited stock appreciation rights will be made in cash. Upon cessation of service with us, the holder of one or more stock appreciation rights will have a limited period within which to exercise those rights as to any shares as to which those stock appreciation rights are vested and exercisable at the time of cessation of service. The plan administrator will have complete discretion to extend the period following the holder's cessation of service during which his or her outstanding stock appreciation rights may be exercised and/or, solely in connection with the optionee's retirement, to accelerate the exercisability or vesting of the stock appreciation rights in whole or in part. Discretion may be exercised at any time while the stock appreciation rights remain outstanding, whether before or after the holder's actual cessation of service.

Stock Issuance Program

Shares of common stock may be issued under the Stock Issuance Program for valid consideration under the Delaware General Corporation Law as the plan administrator deems appropriate, including cash, past services or other property. In addition, restricted shares of common stock may be issued under restricted stock awards that vest in one or more installments over the recipient's period of service or upon attainment of specified performance objectives. Shares of common stock may also be issued under the program under restricted stock units or other stock-based awards that entitle the recipients to receive the shares underlying those awards upon the attainment of designated performance goals, the satisfaction of specified service requirements and/or upon the expiration of a designated time period following the vesting of those awards or units, including a deferred distribution date following the termination of the recipient's service with us.

The plan administrator will have complete discretion under the Stock Issuance Program to determine which eligible individuals are to receive equity awards under the program, the time or times when those equity awards are to be made, the number of shares subject to each equity award, the vesting schedule to be in effect for the equity award (subject to a minimum initial vesting period of one (1) year), and the consideration, if any, payable per share. The shares issued under an equity award may vest upon the completion of a designated service period (subject to a minimum initial vesting period of one (1) year), and/or the attainment of pre-established performance goals.

The plan administrator will also have the discretionary authority to structure one or more equity awards under the Stock Issuance Program so that the shares subject to those particular awards will vest only upon the achievement of pre-established corporate performance goals. Goals may be based on one or more of the following criteria: (i) return on total stockholders' equity; (ii) net income per share; (iii) net income or operating income; (iv) earnings before interest, taxes, depreciation, amortization and stock-based compensation costs, or operating income before depreciation and amortization; (v) sales or revenue targets; (vi) return on assets, capital or investment; (vii) cash flow; (viii) market share; (ix) cost reduction goals; (x) budget comparisons; (xi) implementation or completion of projects or processes strategic or critical to our business operations; (xii) measures of customer satisfaction; (xiii) any combination of, or a specified increase in, any of the foregoing; and (xiv) the formation of joint ventures, research and development collaborations, marketing or customer service collaborations, or the completion of other corporate transactions intended to enhance our revenue or profitability or expand our customer base; provided, however, that for purposes of items (ii), (iii) and (vii) above, the plan administrator may, at the time the equity awards are made, specify adjustments to those items as reported in accordance with United States generally accepted accounting principles, or GAAP, which will exclude from the calculation of those performance goals one or more of the following: charges related to acquisitions, stock-based compensation, employer payroll tax expense on stock option exercises, settlement costs, restructuring costs, gains or losses on strategic investments, non-operating gains, other non-cash charges, valuation allowance on deferred tax assets, and the related income tax effects, purchases of property and equipment, and any extraordinary non-recurring items, provided that those adjustments are in conformity with those reported by us on a non-GAAP basis. In addition, performance goals may be based upon the attainment of specified levels of our performance under one or more of the measures described above relative to the performance of other entities and may also be based on the performance of any of our business groups or divisions thereof or any parent or subsidiary. Performance goals may include a minimum threshold level of performance below which no award will be earned, levels of performance at which specified portions of an award will be earned, and a maximum level of performance at which an award will be fully earned. The plan administrator may provide that, if the actual level of attainment for any performance objective is between two specified levels, the amount of the award attributable to that performance objective shall be interpolated on a straight-line basis.

No vesting requirements tied to the attainment of performance objectives may be waived with respect to shares that were intended at the time of issuance to qualify as performance-based compensation under Section 162(m) of the Internal Revenue Code of 1986, as amended, or the Code, except in the event of specified involuntary terminations or changes in control or ownership.

Outstanding restricted stock units or other stock-based awards under the Stock Issuance Program will automatically terminate, and no shares of common stock will actually be issued in satisfaction of those awards, if the performance goals or service requirements established for those awards are not attained.

General Provisions

Acceleration. If a change in control occurs, each outstanding equity award under the Discretionary Grant Program will automatically accelerate and vest in full, unless (i) that award is assumed by the successor corporation or otherwise continued in effect; (ii) the award is replaced with a cash retention program that preserves the spread existing on the unvested shares subject to that equity award (the excess of the fair market value of those shares over the exercise or base price in effect for the shares) and provides for subsequent payout of that spread in accordance with the same vesting schedule in effect for those shares; or (iii) the acceleration of the award is subject to other limitations imposed by the plan administrator. In addition, all unvested shares outstanding under the Discretionary Grant and Stock Issuance Programs will immediately vest upon the change in control, except to the extent our repurchase rights with respect to those shares are to be assigned to the successor corporation or otherwise continued in effect or accelerated vesting is precluded by other limitations imposed by the plan administrator. Each outstanding equity award under the Stock Issuance Program will vest as to the number of shares of common stock subject to that award immediately prior to the change in control, unless that equity award is assumed by the successor corporation or otherwise continued in effect or replaced with a cash retention program similar to the program described in clause (ii) above or unless vesting is precluded by its terms. Immediately following a change in control, all outstanding awards under the Discretionary Grant Program will terminate and cease to be outstanding except to the extent assumed by the successor corporation or its parent or otherwise expressly continued in full force and effect under the terms of the change in control transaction.

The plan administrator will have the discretion to structure one or more equity awards under the Discretionary Grant and Stock Issuance Programs so that those equity awards will vest in full in the event the individual's service with us or the successor entity is terminated (actually or constructively) within a designated period following a change in control transaction, whether or not those equity awards are to be assumed or otherwise continued in effect or replaced with a cash retention program.

A change in control will be deemed to have occurred if, in a single transaction or series of related transactions:

(i) any person (as that term is used in Section 13(d) and 14(d) of the Exchange Act), or persons acting as a group, other than a trustee or fiduciary holding securities under an employment benefit program, is or becomes a beneficial owner (as defined in Rule 13-3 under the Exchange Act), directly or indirectly of securities representing 51% or more of the combined voting power of our company;

(ii) there is a merger, consolidation, or other business combination transaction of us with or into another corporation, entity or person, other than a transaction in which the holders of at least a majority of the shares of our voting capital stock outstanding immediately prior to the transaction continue to hold (either by the shares remaining outstanding or by their being converted into shares of voting capital stock of the surviving entity) a majority of the total voting power represented by the shares of voting capital stock of our company (or the surviving entity) outstanding immediately after the transaction; or

(iii) all or substantially all of our assets are sold.

Stockholder Rights and Option Transferability. The holder of an option or stock appreciation right will have no stockholder rights with respect to the shares subject to that option or stock appreciation right unless and until the holder exercises the option or stock appreciation right and becomes a holder of record of shares of common stock distributed upon exercise of the award. Incentive options are not assignable or transferable other than by will or the laws of inheritance following the optionee's death, and during the optionee's lifetime, may only be exercised by the optionee. However, non-statutory options and stock appreciation rights may be transferred or assigned during the holder's lifetime to one or more members of the holder's family or to a trust established for the benefit of the holder and/or one or more family members or to the holder's former spouse, to the extent the transfer is in connection with the holder's estate plan or under a domestic relations order.

A participant will have a number of rights with respect to shares of common stock issued to the participant under the Stock Issuance Program, whether or not the participant's interest in those shares is vested. Accordingly, the participant will have the right to vote the shares but will not have the right to receive any regular cash dividends paid on unvested shares or the right to transfer the shares prior to vesting; however, we will withhold and retain any dividends on unvested shares until such time as the shares vest, if at all, and will thereafter pay to the participant any such dividends withheld and retained or, if the shares do not vest, return any such dividends to the corporate treasury. A participant will not have any stockholder rights with respect to the shares of common stock subject to restricted stock units or other stock-based awards until the awards vest and the shares of common stock are actually issued. However, dividend-equivalent units may be paid or credited, either in cash or in actual or phantom shares of common stock, on outstanding restricted stock units or other stock-based awards, subject to terms and conditions the plan administrator deems appropriate and subject to the withholding and retention of dividends with respect to any unvested awards on the same terms as set forth above.

Changes in Capitalization. If any change is made to the outstanding shares of common stock by reason of any recapitalization, stock dividend, stock split, combination of shares, exchange of shares or other change in corporate structure effected without our receipt of consideration, appropriate adjustments will be made to (i) the maximum number and/or class of securities issuable under the 2016 Plan; (ii) the maximum number and/or class of securities for which any one person may be granted equity awards under the 2016 Plan per calendar year; (iii) the number and/or class of securities and the exercise price or base price per share in effect under each outstanding option or stock appreciation right; and (iv) the number and/or class of securities subject to each outstanding restricted stock unit or other stock-based award under the 2016 Plan and the cash consideration, if any, payable per share. All adjustments will be designed to preclude any dilution or enlargement of benefits under the 2016 Plan and the outstanding equity awards thereunder.

Special Tax Election. Subject to applicable laws, rules and regulations, the plan administrator may permit any or all holders of equity awards to utilize any or all of the following methods to satisfy all or part of the federal and state income and employment withholding taxes to which they may become subject in connection with the issuance, exercise or vesting of those equity awards:

- *Stock Withholding.* The election to have us withhold, from the shares otherwise issuable upon the issuance, exercise or vesting of an equity award, a portion of those shares with an aggregate fair market value equal to the percentage of the withholding taxes (not to exceed 100%) designated by the holder and make a cash payment equal to the fair market value directly to the appropriate taxing authorities on the individual's behalf.
- *Stock Delivery.* The election to deliver to us shares of common stock previously acquired by the holder (other than in connection with the issuance, exercise or vesting that triggered the withholding taxes) with an aggregate fair market value equal to the percentage of the withholding taxes (not to exceed 100%) designated by the holder.
- *Sale and Remittance.* The election to deliver to us, to the extent the award is issued or exercised for vested shares, through a special sale and remittance procedure under which the optionee or participant will concurrently provide irrevocable instructions to a brokerage firm to effect the immediate sale of the purchased or issued shares and remit to us, out of the sale proceeds available on the settlement date, sufficient funds to cover the withholding taxes we are required to withhold by reason of the issuance, exercise or vesting.

Amendment, Suspension and Termination

Our Board may suspend or terminate the 2016 Plan at any time. Our Board may amend or modify the 2016 Plan, subject to any required stockholder approval. Stockholder approval will be required for any amendment that materially increases the number of shares available for issuance under the 2016 Plan, materially expands the class of individuals eligible to receive equity awards under the 2016 Plan, materially increases the benefits accruing to optionees and other participants under the 2016 Plan or materially reduces the price at which shares of common stock may be issued or purchased under the 2016 Plan, materially extends the term of the 2016 Plan, expands the types of awards available for issuance under the 2016 Plan, or as to which stockholder approval is required by applicable laws, rules or regulations.

Unless sooner terminated by our Board, the 2016 Plan will terminate on the earliest to occur of: (i) March 25, 2026; (ii) the date on which all shares available for issuance under the 2016 Plan have been issued as fully-vested shares; (iii) and the termination of all outstanding equity awards upon specified changes in control or ownership. If the 2016 Plan terminates on March 25, 2026, then all equity awards outstanding at that time will continue to have force and effect in accordance with the provisions of the documents evidencing those awards.

Federal Income Tax Consequences

The following discussion summarizes the principal income tax consequences of equity awards granted under the 2016 Plan under current federal income tax law, which is subject to change, and is intended for general information only. In addition, the tax consequences described below may be subject to the limitations of Code Section 162(m), as discussed in further detail below. Other federal taxes and foreign, state and local income taxes are not discussed, and may vary depending upon individual circumstances and from locality to locality. We will not summarize the special rules that may apply if the recipient pays the exercise price of any equity award or any associated tax withholdings by delivery of shares the recipient already owns or will acquire with respect to the equity award.

Option Grants. Options granted under the 2016 Plan may be either incentive stock options, which satisfy the requirements of Code Section 422, or non-statutory stock options, which are not intended to meet those requirements. The federal income tax treatment for the two types of options differs as follows:

Incentive Stock Options. No taxable income is recognized by the optionee at the time of the option grant, and, if there is no disqualifying disposition of the underlying shares at the time of exercise, no taxable income is recognized for regular tax purposes at the time the option is exercised, although taxable income may arise at that time for alternative minimum tax purposes equal to the excess of the fair market value of the purchased shares at the time over the exercise price paid for those shares.

The optionee will recognize taxable income in the year in which the purchased shares are sold or otherwise made the subject of some dispositions. For federal tax purposes, dispositions are divided into two categories: qualifying and disqualifying. A qualifying disposition occurs if the sale or other disposition is made more than two years after the date the option for the shares involved in the sale or disposition was granted and more than one year after the date the option was exercised for those shares. If either of these two requirements is not satisfied, a disqualifying disposition will result.

Upon a qualifying disposition, the optionee will recognize long-term capital gain in an amount equal to the excess of the amount realized upon the sale or other disposition of the purchased shares over the exercise price paid for the shares or long-term capital loss to the extent the amount realized is less than the exercise price paid for the shares. If there is a disqualifying disposition of the shares, the excess of the fair market value of those shares on the exercise date over the exercise price paid for the shares will be taxable as ordinary income to the optionee if the amount realized exceeds the sum of that excess plus the exercise price paid for the shares. Otherwise, only the excess of the amount realized over the price paid for the shares will be treated as ordinary income to the optionee. Any additional gain or any loss recognized upon the disposition will be taxable as a capital gain or capital loss (long-term if the shares were held for more than one year and short-term otherwise).

If the optionee makes a disqualifying disposition of the purchased shares, we will generally be entitled to an income tax deduction, for our taxable year in which the disposition occurs, equal to the amount of ordinary income the optionee is to recognize. If the optionee makes a qualifying disposition, we will not be entitled to any income tax deduction.

Non-Statutory Stock Options. No taxable income is generally recognized by an optionee upon the grant of a non-statutory option (assuming the option is exempt from Code Section 409A). The optionee will, in general, recognize ordinary income, in the year in which the option is exercised, equal to the excess of the fair market value of the purchased shares on the exercise date over the exercise price paid for the shares, and we will be required to collect withholding taxes from the optionee on that amount of ordinary income. A participant's subsequent disposition of shares acquired upon the exercise of an option generally will result in only capital gain or loss.

We will generally be entitled to an income tax deduction equal to the amount of any ordinary income recognized by the optionee with respect to an exercised non-statutory option. The deduction will in general be allowed for our taxable year in which the ordinary income is recognized by the optionee.

If the shares acquired upon exercise of the non-statutory option are unvested and subject to repurchase in the event of the optionee's cessation of service prior to vesting in those shares, however the optionee will not recognize any taxable income at the time of exercise but will have to report as ordinary income (and we will have to withhold with respect thereto), as and when our repurchase right lapses, an amount equal to the excess of the fair market value of the shares on the date the repurchase right lapses over the exercise price paid for the shares. The optionee may elect under Code Section 83(b) to include as ordinary income in the year of exercise of the option an amount equal to the excess of the fair market value of the purchased shares on the exercise date over the exercise price paid for the shares. If a timely Code Section 83(b) election is made, the optionee will not recognize any additional income as and when the repurchase right lapses.

Stock Appreciation Rights. No taxable income is generally recognized upon receipt of a stock appreciation right. The holder will recognize ordinary income in the year in which the stock appreciation right is settled in an amount equal to the cash and the fair market value of the shares of common stock on the settlement date received for the right, and we will be required to collect withholding taxes from the holder on that ordinary income. A participant's subsequent disposition of shares acquired upon the exercise of a stock appreciation right generally will result in only capital gain or loss.

We will generally be entitled to an income tax deduction equal to the amount of any ordinary income recognized by the holder in connection with the exercise of a stock appreciation right. The deduction will in general be allowed for our taxable year in which the ordinary income is recognized by the holder.

Direct Stock Issuances. Stock granted under the 2016 Plan may include issuances of unrestricted stock, restricted stock and restricted stock units.

Unrestricted Stock Grants. The holder will recognize ordinary income in the year in which shares are actually issued to the holder. The amount of that income will be equal to the fair market value of the shares on the date of issuance (minus the amount, if any, paid by the participant for the shares), and we will be required to collect withholding taxes from the holder on that ordinary income. A participant's subsequent disposition of shares issued pursuant to an unrestricted stock grant generally will result in only capital gain or loss.

We generally will be entitled to an income tax deduction equal to the amount of ordinary income recognized by the holder at the time the shares are issued. The deduction will in general be allowed for our taxable year in which the ordinary income is recognized by the holder.

Restricted Stock Grants. No taxable income is recognized upon receipt of stock that qualifies as restricted stock unless the recipient elects to have the value of the stock (without consideration of any effect of the vesting conditions) included in income on the date of receipt. In that event, the recipient may elect under Code Section 83(b) to include as ordinary income in the year the shares are actually issued an amount equal to the fair market value of the shares at the time of issuance (and we will be required to withhold on that amount). If a timely Code Section 83(b) election is made, the holder will not recognize any additional income when the vesting conditions lapse and will not be entitled to a deduction in the event the stock is forfeited as a result of failure to vest.

If the recipient does not file an election under Code Section 83(b), he will not recognize income until the shares vest. At that time, the holder will recognize ordinary income in an amount equal to the fair market value of the shares on the date the shares vest. We will be required to collect withholding taxes from the holder at that time on that ordinary income. A participant's subsequent disposition of shares issued pursuant to a restricted stock grant generally will result in only capital gain or loss.

The holder also will recognize ordinary income and be subject to withholdings with respect to any cash dividends that are paid in connection with a restricted stock grant if they are paid prior to the time the shares vest (and assuming the holder does not make the election under Code Section 83(b)). If the holder makes the Code Section 83(b) election, all dividends received on a restricted stock award will be taxed as an ordinary dividend.

We generally will be entitled to an income tax deduction equal to the amount of ordinary income recognized by the holder at the time the shares are issued, if the holder elects to file an election under Code Section 83(b), or we will be entitled to an income tax deduction equal to the amount of ordinary income recognized by the holder at the time the vesting conditions occur, if the holder does not elect to file an election under Code Section 83(b).

Restricted Stock Units. No taxable income is generally recognized upon receipt of a restricted stock unit award. The holder will recognize ordinary income in the year in which the cash is paid and/or shares subject to that unit are actually issued to the holder. The amount of that income will be equal to the cash and the fair market value of the shares received on the date of issuance, and we will be required to collect withholding taxes from the holder on that ordinary income. A participant's subsequent disposition of shares issued pursuant to a restricted stock unit grant generally will result in only capital gain or loss.

We will generally be entitled to an income tax deduction equal to the amount of ordinary income recognized by the holder at the time the shares are issued. The deduction will in general be allowed for our taxable year in which the ordinary income is recognized by the holder.

Code Section 409A. A number of awards, including non-statutory stock options and stock appreciation rights granted with an exercise price that is less than fair market value, and some restricted stock units, might be considered "non-qualified deferred compensation" and subject to Code Section 409A. Awards that are subject to but do not meet the requirements of Code Section 409A will result in an additional 20% tax obligation, plus penalties and interest to the recipient, and may result in accelerated imposition of income tax at the time of vesting (as opposed to settlement) and the related withholding. The foregoing tax discussion assumes that the applicable equity award is exempt from Code Section 409A. Equity awards subject to Code Section 409A may only be paid on certain trigger events and are subject to a myriad number of other requirements.

Deductibility of Executive Compensation

Any compensation deemed paid by us in connection with awards under the 2016 Plan may be taken into account for purposes of the annual \$1,000,000 limitation per covered individual on the deductibility of compensation paid to certain executive officers under Code Section 162(m), except to the extent the vesting of those awards was based solely on one or more of the performance milestones specified above and those equity awards otherwise comply with the terms of “qualified performance based compensation” within the meaning of Code Section 162(m). Effective for years beginning on or after January 1, 2018, the exception for qualified performance-based compensation generally no longer applies. However, a transition rule continues to apply to any such awards that are outstanding as of November 2, 2017, or are granted pursuant to a legally binding contract in effect as of November 2, 2017, to the extent the awards or contract are not materially modified thereafter. To the extent the plan administrator grants an award under the 2016 Plan that qualifies under the transition rule, the 2016 Plan will require the award to continue to be administered so as to retain the award’s eligibility for the transition rule.

Accounting Treatment

In accordance with accounting standards established by the Financial Accounting Standards Board’s Accounting Standards Codification Topic 718, *Stock Compensation*, we are required to recognize all share-based payments, including grants of stock options, restricted stock and restricted stock units, in our financial statements. Accordingly, stock options are valued at fair value as of the grant date under an appropriate valuation formula, and that value will be charged as stock-based compensation expense against our reported earnings over the designated vesting period of the award. For shares issuable upon the vesting of restricted stock units that may be awarded under the 2016 Plan, we are required to expense over the vesting period a compensation cost equal to the fair market value of the underlying shares on the date of the award. Restricted stock issued under the 2016 Plan results in a direct charge to our reported earnings equal to the excess of the fair market value of those shares on the issuance date over the cash consideration (if any) paid for the shares. If the shares are unvested at the time of issuance, then any charge to our reported earnings is amortized over the vesting period. This accounting treatment for restricted stock units and restricted stock issuances is applicable whether vesting is tied to service periods or performance criteria.

Possible Anti-Takeover Effects

Although not intended as an anti-takeover measure by our Board, one of the possible effects of the 2016 Plan could be to place additional shares, and to increase the percentage of the total number of shares outstanding, or to place other incentive compensation, in the hands of the directors and officers of Pacific Ethanol. Those persons may be viewed as part of, or friendly to, incumbent management and may, therefore, under some circumstances be expected to make investment and voting decisions in response to a hostile takeover attempt that may serve to discourage or render more difficult the accomplishment of the attempt.

In addition, options or other incentive compensation may, in the discretion of the plan administrator, contain provisions providing for the acceleration of the exercisability or vesting of outstanding options and other incentive compensation upon a hostile takeover or other change in control, including a tender or exchange offer, merger, consolidation, other business combination, sale of all or substantially all of our assets, significant changes in the composition of our Board, or other attempted changes in the control of Pacific Ethanol. In the opinion of our Board, this acceleration provision merely ensures that optionees under the 2016 Plan will be able to exercise their options or obtain their incentive compensation as intended by our Board and stockholders prior to any extraordinary corporate transaction which might serve to limit or restrict that right. Our Board is, however, presently unaware of any threat of hostile takeover involving Pacific Ethanol.

Clawback Policy

The plan administrator has the power and authority, and is required, to terminate any vested or unvested award or require repayment to us of the proceeds received by our executive officers, including any named executive officer, arising from any award, to apply our Policy for Recoupment of Incentive Compensation dated March 29, 2018. The plan administrator will also apply any amended or successor “clawback” or similar policy adopted by us, including any policy or policy changes mandated by or implemented pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act or the applicable listing requirements or rules and regulations of The Nasdaq Capital Market, if applicable, and any other stock exchange or other market on which our common stock is then quoted or listed for trading.

Equity Compensation Plan Information

The following table provides information about our common stock that may be issued upon the exercise of options under all of our existing equity compensation plans as of December 31, 2019.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options	Weighted-Average Exercise Price of Outstanding Options	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans
Equity Compensation Plans Approved by Security Holders:			
2006 Stock Incentive Plan ⁽¹⁾	229,212	\$ 4.15	—
2016 Stock Incentive Plan	—	\$ —	2,214,745

(1) Our 2006 Plan was terminated effective July 19, 2016, except to the extent of then-outstanding options.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Policies and Procedures for Approval of Related Party Transactions

Our Board has the responsibility to review and discuss with management and approve, and has adopted written policies and procedures relating to approval or ratification of, interested transactions with related parties. During this process, the material facts as to the related party's interest in a transaction are disclosed to all members of our Board or the members of an appropriate independent committee of our Board. Under our written policies and procedures, the Board, or an appropriate independent committee of our Board, is to review each interested transaction with a related party that requires approval and either approve or disapprove of the entry into the interested transaction. An interested transaction is any transaction in which we are a participant and in which any related party has or will have a direct or indirect interest. Transactions that are in the ordinary course of business and would not require either disclosure required by Item 404(a) of Regulation S-K under the Securities Act or approval of the Board or an independent committee of the Board as required by applicable Nasdaq rules would not be deemed interested transactions. No director may participate in any approval of an interested transaction with respect to which he or she is a related party. Our Board intends to approve only those related party transactions that are in the best interests of Pacific Ethanol and our stockholders.

Other than as described below or elsewhere in this prospectus, since January 1, 2017, there has not been a transaction or series of related transactions to which Pacific Ethanol was or is a party involving an amount in excess of \$120,000 and in which any director, executive officer, holder of more than 5% of any class of our voting securities, or any member of the immediate family of any of the foregoing persons, had or will have a direct or indirect material interest. All of the below transactions were separately ratified and/or approved by our Board or an appropriate independent committee of our Board.

Certain Relationships and Related Transactions

Miscellaneous

We are or have been a party to employment and compensation arrangements with related parties, as more particularly described above in "Executive Compensation — Executive Employment Agreements." In addition, we have entered into an indemnification agreement with each of our directors and executive officers. The indemnification agreements and our certificate of incorporation and bylaws require us to indemnify our directors and officers to the fullest extent permitted by Delaware law.

Neil M. Koehler

Series B Preferred Stock

On May 20, 2008, we sold to Neil M. Koehler, who is our President and Chief Executive Officer and one of our directors, 256,410 shares of our Series B Preferred Stock, all of which were initially convertible into an aggregate of 7,326 shares of our common stock based on an initial preferred-to-common stock conversion ratio of approximately 1-for-0.03, and warrants to purchase an aggregate of 3,663 shares of our common stock at a split-adjusted exercise price of \$735 per share, for an aggregate purchase price of \$5,000,000. As a result of various anti-dilution adjustments, the conversion ratio of the Series B Preferred Stock has increased to approximately 1-for-0.68.

For the years ended December 31, 2019, 2018 and 2017, we accrued and paid cash dividends in the amount of \$261,781, \$350,000 and \$350,000, respectively, in respect of shares of Series B Preferred Stock held by Mr. Koehler. As of December 31, 2019, an aggregate of \$88,219 of dividends in respect of shares of our Series B Preferred Stock held by Mr. Koehler were accrued and unpaid.

On December 19, 2019, certain holders of our outstanding Series B Preferred Stock, including Mr. Koehler, agreed to waive any and all of their respective rights and remedies against us with respect to any unpaid quarterly cumulative dividends on our Series B Preferred Stock until we pay in full all of our obligations under the Notes and Note Amendment Agreement or upon certain events of default, whichever is earlier.

Restricted Stock Grants

On April 22, 2019, we granted 167,000 shares of our restricted common stock to Mr. Koehler in consideration of services to be provided. The value of the common stock was determined to be \$187,040. The shares vest 50% on April 1, 2020 and vest 50% on April 1, 2021.

On June 14, 2018, we granted 138,888 shares of our restricted common stock to Mr. Koehler in consideration of services to be provided. The value of the common stock was determined to be \$427,775. The shares vested 33% on April 1, 2019 and vest 33% and 34% on April 1, 2020 and 2021, respectively.

On March 15, 2017, we granted 74,074 shares of our restricted common stock to Mr. Koehler in consideration of services to be provided. The value of the common stock was determined to be \$500,000. The shares vested 33% on each of April 1, 2018 and 2019 and vest 34% on April 1, 2020.

Paul P. Koehler

Paul P. Koehler, a brother of Neil M. Koehler, who is our President and Chief Executive Officer and one of our directors, is employed by us as Vice President of Commodities and Corporate Development. Mr. Koehler's base salary rate was \$252,916 per year at the end of 2017 and was increased to \$260,504 per year effective April 15, 2018. In addition, Mr. Koehler received compensation of \$4,349 for 2018 in perquisites or personal benefits relating to payment or reimbursement of commuting expenses from Mr. Koehler's home to our corporate offices in Sacramento, California, and housing and other living expenses.

Series B Preferred Stock

On May 20, 2008, we sold to Mr. Koehler 12,820 shares of our Series B Preferred Stock, all of which were initially convertible into an aggregate of 366 shares of our common stock based on an initial preferred-to-common conversion ratio of approximately 1-for-0.03, and warrants to purchase an aggregate of 184 shares of our common stock at a split-adjusted exercise price of \$735 per share, for an aggregate purchase price of \$250,000. As a result of various anti-dilution adjustments, the conversion ratio of the Series B Preferred Stock has increased to approximately 1-for-0.68.

For each of the years ended December 31, 2019, 2018 and 2017, we accrued and paid cash dividends in the amount of \$13,089, \$17,500 and \$17,500, respectively, in respect of shares of Series B Preferred Stock held by Mr. Koehler. As of December 31, 2019, an aggregate of \$4,411 of dividends in respect of shares of our Series B Preferred Stock held by Mr. Koehler were accrued and unpaid.

On December 19, 2019, certain holders of our outstanding Series B Preferred Stock, including Mr. Koehler, agreed to waive any and all of their respective rights and remedies against us with respect to any unpaid quarterly cumulative dividends on our Series B Preferred Stock until we pay in full all of our obligations under the Notes and Note Amendment Agreement or upon certain events of default, whichever is earlier.

Restricted Stock Grants

On April 22, 2019, we granted 42,000 shares of our restricted common stock to Mr. Koehler in consideration of services to be provided. The value of the common stock was determined to be \$47,040. The shares vest 50% on April 1, 2020 and vest 50% on April 1, 2021.

On June 14, 2018, we granted 34,722 shares of our restricted common stock to Mr. Koehler in consideration of services to be provided. The value of the common stock was determined to be \$106,944. The shares vested 33% on April 1, 2019 and vest 33% and 34% on April 1, 2020 and 2021, respectively.

On March 15, 2017, we granted 18,518 shares of our restricted common stock to Mr. Koehler in consideration of services to be provided. The value of the common stock was determined to be \$124,997. The shares vested 33% on each of April 1, 2018 and 2019 and vest 34% on April 1, 2020.

Annual Cash Incentive Compensation

In April 2018, we paid Mr. Koehler annual performance-based cash incentive compensation of \$20,120 based on his 2017 performance.

In March 2017, we paid Mr. Koehler annual performance-based cash incentive compensation of \$19,534 based on his 2016 performance and a special discretionary cash bonus of \$25,000.

Thomas D. Koehler

Series B Preferred Stock

On May 20, 2008, we sold to Thomas D. Koehler, a brother of Neil M. Koehler, who is our President and Chief Executive Officer and one of our directors, 12,820 shares of our Series B Preferred Stock, all of which were initially convertible into an aggregate of 366 shares of our common stock based on an initial preferred-to-common conversion ratio of approximately 1-for-0.03, and warrants to purchase an aggregate of 184 shares of our common stock at a split-adjusted exercise price of \$735 per share, for an aggregate purchase price of \$250,000. As a result of various anti-dilution adjustments, the conversion ratio of the Series B Preferred Stock has increased to approximately 1-for-0.68.

For each of the years ended December 31, 2019, 2018 and 2017, we accrued and paid cash dividends in the amount of \$13,089, \$17,500 and \$17,500, respectively in respect of shares of Series B Preferred Stock held by Mr. Koehler. As of December 31, 2019, an aggregate of \$4,411 of dividends in respect of shares of our Series B Preferred Stock held by Mr. Koehler were accrued and unpaid.

On December 19, 2019, certain holders of our outstanding Series B Preferred Stock, including Mr. Koehler, agreed to waive any and all of their respective rights and remedies against us with respect to any unpaid quarterly cumulative dividends on our Series B Preferred Stock until we pay in full all of our obligations under the Notes and Note Amendment Agreement or upon certain events of default, whichever is earlier.

Independent Contractor Services Agreement

On April 1, 2008, we entered into an Independent Contractor Services Agreement with Mr. Koehler for the provision of strategic consulting services, including in connection with promoting Pacific Ethanol, and ethanol as a fuel additive and transportation fuel, with governmental agencies. Mr. Koehler was compensated at a rate of \$7,500 per month under this arrangement during 2019, 2018 and 2017 and through the filing of this prospectus.

William L. Jones

On May 20, 2008, we sold to William L. Jones, who is our Chairman of the Board and one of our directors, 12,820 shares of our Series B Preferred Stock, all of which were initially convertible into an aggregate of 366 shares of our common stock based on an initial preferred-to-common conversion ratio of approximately 1-for-0.03, and warrants to purchase an aggregate of 184 shares of our common stock at a split-adjusted exercise price of \$735 per share, for an aggregate purchase price of \$250,000. As a result of various anti-dilution adjustments, the conversion ratio of the Series B Preferred Stock has increased to approximately 1-for-0.68.

For each of the years ended December 31, 2019, 2018 and 2017, we accrued and paid cash dividends in the amount of \$13,089, \$17,500 and \$17,500, respectively, in respect of shares of Series B Preferred Stock held by Mr. Jones. As of December 31, 2019, an aggregate of \$4,411 of dividends in respect of shares of our Series B Preferred Stock held by Mr. Jones were accrued and unpaid.

On December 19, 2019, certain holders of our outstanding Series B Preferred Stock, including Mr. Jones, agreed to waive any and all of their respective rights and remedies against us with respect to any unpaid quarterly cumulative dividends on our Series B Preferred Stock until we pay in full all of our obligations under the Notes and Note Amendment Agreement or upon certain events of default, whichever is earlier.

Restricted Stock Grants

On November 18, 2019, we granted 47,500 shares of our restricted common stock to Mr. Jones in consideration of services to be provided. The value of the common stock was determined to be \$25,175. The shares vest on the earlier of (i) July 1, 2020, and (ii) the date of our next annual meeting of stockholders.

On June 14, 2018, we granted 48,966 shares of our restricted common stock to Mr. Jones in consideration of services to be provided. The value of the common stock was determined to be \$150,815. The shares vested on July 1, 2019.

On June 15, 2017, we granted 23,279 shares of our restricted common stock to Mr. Jones in consideration of services to be provided. The value of the common stock was determined to be \$139,674. The shares vested on June 14, 2018.

Michael D. Kandris and Bryon T. McGregor

Restricted Stock Grants

On April 22, 2019, we granted 57,500 shares of our restricted common stock to each of Messrs. Kandris and McGregor in consideration of services to be provided. The value of the common stock granted to each of Messrs. Kandris and McGregor was determined to be \$64,400. The shares vest 50% on April 1, 2020 and vest 50% on April 1, 2021.

On June 14, 2018, we granted 47,508 shares of our restricted common stock to each of Messrs. Kandris and McGregor in consideration of services to be provided. The value of the common stock granted to each of Messrs. Kandris and McGregor was determined to be \$146,325. The shares vested 33% on April 1, 2019 and vest 33% and 34% on April 1, 2020 and 2021, respectively.

On June 15, 2017, we granted 25,337 shares of our restricted common stock to each of Messrs. Kandris and McGregor in consideration of services to be provided. The value of the common stock granted to each of Messrs. Kandris and McGregor was determined to be approximately \$171,030. The shares vested 33% on each of April 1, 2018 and 2019 and vest 34% on April 1, 2020.

Christopher W. Wright

Christopher W. Wright is employed by us as Vice President, General Counsel and Secretary. Mr. Wright's base salary rate was \$298,093 per year at the end of 2017 and was increased to \$307,036 per year effective April 15, 2018. In addition, Mr. Wright received compensation of \$16,637 for 2019, \$21,816 for 2018 and \$23,220 for 2017 in perquisites or personal benefits relating to payment or reimbursement of commuting expenses from Mr. Wright's home to our corporate offices in Sacramento, California, and housing and other living expenses.

Restricted Stock Grants

On April 22, 2019, we granted 57,500 shares of our restricted common stock to Mr. Wright in consideration of services to be provided. The value of the common stock was determined to be \$64,400. The shares vest 50% on April 1, 2020 and vest 50% on April 1, 2021.

On June 14, 2018, we granted 47,508 shares of our restricted common stock to Mr. Wright in consideration of services to be provided. The value of the common stock granted was determined to be \$146,325. The shares vested 33% on April 1, 2019 and vest 33% and 34% on April 1, 2020 and 2021, respectively.

On June 15, 2017, we granted 25,337 shares of our restricted common stock to Mr. Wright in consideration of services to be provided. The value of the common stock granted was determined to be approximately \$171,030. The shares vested 33% on each of April 1, 2018 and 2019 and vest 34% on April 1, 2020.

Annual Cash Incentive Compensation

In April 2018, we paid Mr. Wright annual performance-based cash incentive compensation of \$29,642 based on his 2017 performance.

In March 2017, we paid Mr. Wright annual performance-based cash incentive compensation of \$28,779 based on his 2016 performance and a special discretionary cash bonus of \$50,000.

James R. Sneed

James R. Sneed is employed by us as Vice President of Supply and Trading. Mr. Sneed's base salary rate was \$252,916 per year at the end of 2017 and was increased to \$260,504 per year effective April 15, 2018.

Restricted Stock Grants

On October 10, 2019, we granted 11,896 shares of our restricted common stock to Mr. Sneed in consideration of services to be provided. The value of the common stock was determined to be \$6,543. The shares vest 50% on April 1, 2020 and vest 50% on April 1, 2021.

On April 22, 2019, we granted 42,000 shares of our restricted common stock to Mr. Sneed in consideration of services to be provided. The value of the common stock was determined to be \$47,040. The shares vest 50% on April 1, 2020 and vest 50% on April 1, 2021.

On June 14, 2018, we granted 34,722 shares of our restricted common stock to Mr. Sneed in consideration of services to be provided. The value of the common stock was determined to be \$106,944. The shares vested 33% on April 1, 2019 and vest 33% and 34% on April 1, 2020 and 2021, respectively.

On March 15, 2017, we granted 18,518 shares of our restricted common stock to Mr. Sneed in consideration of services to be provided. The value of the common stock was determined to be \$124,997. The shares vested 33% on each of April 1, 2018 and 2019 and vest 34% on April 1, 2020.

Annual Cash Incentive Compensation

In April 2018, we paid Mr. Sneed annual performance-based cash incentive compensation of \$20,121 based on his 2017 performance.

In March 2017, we paid Mr. Sneed annual performance-based cash incentive compensation of \$19,534 based on his 2016 performance and a special discretionary cash bonus of \$25,000.

Terry L. Stone, John L. Prince, Douglas L. Kieta, Larry D. Layne, Gilbert E. Nathan and Dianne S. Nury

Restricted Stock Grants

On November 18, 2019, we granted 31,666 shares of our restricted common stock to each of our non-employee directors (except for the Chairman of our Board, Mr. Jones) in consideration of services to be provided. The value of the common stock granted to each of Messrs. Stone, Prince, Kieta, Layne and Nathan and Ms. Nury was determined to be \$16,783. The shares vest on the earlier of (i) July 1, 2020, and (ii) the date of our next annual meeting of stockholders.

On June 14, 2018, we granted 32,759 shares of our restricted common stock to each of our non-employee directors (except for the Chairman of our Board, Mr. Jones) in consideration of services to be provided. The value of the common stock granted to each of Messrs. Stone, Prince, Kieta and Layne was determined to be \$100,898. The shares vested on July 1, 2019.

On June 15, 2017, we granted 15,574 shares of our restricted common stock to each of our non-employee directors (except for the Chairman of our Board, Mr. Jones) in consideration of services to be provided. The value of the common stock granted to each of Messrs. Stone, Prince, Kieta and Layne was determined to be \$93,444. The shares vested on June 14, 2018.

Gilbert E. Nathan

Consulting Agreement

On November 10, 2015, we entered into a Consulting Agreement with Gilbert E. Nathan, one of our current directors, for the provision of strategic consulting services prior to Mr. Nathan becoming a director. Mr. Nathan was compensated at a rate of \$50,000 per year under this arrangement during 2018 and 2017 and through November 6, 2019. Under this arrangement, we issued 3,500 shares of our common stock to Mr. Nathan in 2018 having a value of \$15,000 on the date of grant. We issued 2,500 shares of our common stock to Mr. Nathan in 2017 having a value of \$10,780 on the date of grant.

Dianne S. Nury

Consulting Agreement

On August 8, 2018, we entered into a Consulting Agreement with Dianne S. Nury, one of our current directors, for the provision of strategic consulting services prior to becoming a director. Ms. Nury was compensated at a rate of \$50,000 per year under this arrangement during 2018 and 2017 and through November 6, 2019. Under this arrangement, we issued 3,500 shares of our common stock to Ms. Nury in 2018 having a value of \$15,000 on the date of grant. We issued 2,500 shares of our common stock to Ms. Nury in 2017 having a value of \$10,780 on the date of grant.

Lyles United, LLC

On March 27, 2008, we sold to Lyles United, LLC an aggregate of 2,051,282 shares of our Series B Preferred Stock, all of which were initially convertible into an aggregate of 58,608 shares of our common stock based on an initial preferred-to-common conversion ratio of approximately 1-for-0.03, and warrants to purchase an aggregate of 29,304 shares of our common stock at a split-adjusted exercise price of \$735 per share, for an aggregate purchase price of \$40,000,000. As a result of various anti-dilution adjustments, the conversion ratio of the Series B Preferred Stock has increased to approximately 1-for-0.68.

For each of the years ended December 31, 2019, 2018 and 2017, we accrued and paid cash dividends in the amount of \$523,561, \$700,000 and \$700,000, respectively, in respect of shares of Series B Preferred Stock held by Lyles United, LLC. As of December 31, 2019, an aggregate of \$176,438 of dividends in respect of shares of our Series B Preferred Stock held by Lyles United were accrued and unpaid.

On December 19, 2019, Lyles United, LLC agreed to waive any and all of its respective rights and remedies against us with respect to any unpaid quarterly cumulative dividends on our Series B Preferred Stock until we pay in full all of our obligations under the Notes and Note Amendment Agreement, upon certain events of default, or December 19, 2021, whichever is earliest.

Frank P. Greinke

For each of the years ended December 31, 2019, 2018 and 2017, we accrued and paid cash dividends in the amount of \$86,964 in respect of shares of Series B Preferred Stock held by the Greinke Personal Living Trust Dated April 20, 1999 ("Greinke Trust"). As of December 31, 2019, an aggregate of \$29,307 of dividends in respect of shares of our Series B Preferred Stock held by the Greinke Trust were accrued and unpaid.

Frank P. Greinke was one of our former directors and the trustee of the Greinke Trust. The Greinke Trust acquired its shares of Series B Preferred Stock from Lyles United, LLC in December 2009. The preferred-to-common conversion ratio of the Series B Preferred Stock is approximately 1-for-0.68.

PRINCIPAL STOCKHOLDERS

The following table sets forth information with respect to the beneficial ownership of our voting securities as of January 17, 2020, the date of the table, by:

- each person known by us to beneficially own more than 5% of the outstanding shares of our common stock;
- each of our directors;
- each of our current executive officers; and
- all of our directors and executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the SEC, and includes voting or investment power with respect to the securities. To our knowledge, except as indicated by footnote, and subject to community property laws where applicable, the persons named in the table below have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them. Shares of common stock underlying derivative securities, if any, that currently are exercisable or convertible or are scheduled to become exercisable or convertible for or into shares of common stock within 60 days after the date of the table are deemed to be outstanding in calculating the percentage ownership of each listed person or group but are not deemed to be outstanding as to any other person or group. Except as indicated by footnote, percentage of beneficial ownership is based on 55,755,433 shares of common stock and 926,942 shares of Series B Preferred Stock outstanding as of the date of the table.

Name and Address of Beneficial Owner ⁽¹⁾	Title of Class	Amount and Nature of Beneficial Ownership	Percent of Class
William L. Jones	Common	162,146 ⁽²⁾	*
	Series B Preferred	12,820	1.38%
Neil M. Koehler	Common	1,225,668 ⁽³⁾	2.19%
	Series B Preferred	256,410	27.66%
Bryon T. McGregor	Common	247,356 ⁽⁴⁾	*
Terry L. Stone	Common	122,546	*
John L. Prince	Common	108,800	*
Douglas L. Kieta	Common	134,520	*
Larry D. Layne	Common	121,183	*
Michael D. Kandris	Common	229,654 ⁽⁵⁾	*
Gilbert E. Nathan	Common	89,866 ⁽⁶⁾	*
Dianne S. Nury	Common	31,666	*
Frank P. Greinke	Common	58,319 ⁽⁷⁾	*
	Series B Preferred	85,180	9.19%
Lyles United, LLC	Common	354,596 ⁽⁸⁾	*
	Series B Preferred	512,820	55.32%
Hightower Advisors, LLC	Common	4,073,641 ⁽⁹⁾	7.31%
Dimensional Fund Advisors LP	Common	3,278,627 ⁽¹⁰⁾	5.88%
All executive officers and directors as a group (11 persons)	Common	3,051,291 ⁽¹¹⁾	5.43%
	Series B Preferred	282,050	30.43%

* Less than 1.00%

(1) Messrs. Jones, Koehler, Stone, Prince, Kieta, Layne and Kandris are directors of Pacific Ethanol. Messrs. Koehler, McGregor and Kandris are executive officers of Pacific Ethanol. Mr. Nathan and Ms. Nury are director nominees of Pacific Ethanol. The address of each of these persons is c/o Pacific Ethanol, Inc., 400 Capitol Mall, Suite 2060, Sacramento, California 95814.

- (2) Amount represents 153,369 shares of common stock held by William L. Jones and Maurine Jones, husband and wife, as community property and 8,777 shares of common stock underlying our Series B Preferred Stock held by Mr. Jones.
- (3) Amount represents 932,985 shares of common stock held directly, 175,554 shares of common stock underlying our Series B Preferred Stock and 117,129 shares of common stock underlying options.
- (4) Includes 33,461 shares of common stock underlying options.
- (5) Includes 31,746 shares of common stock underlying options.
- (6) Amount represents 8,200 shares held directly and 13,000 shares held by Mr. Nathan in an individual retirement account.
- (7) Amount represents shares of common stock underlying our Series B Preferred Stock. The shares are beneficially owned by Frank P. Greinke, as trustee under the Greinke Personal Living Trust Dated April 20, 1999. The address of Frank P. Greinke is P.O. Box 4159, 1800 W. Katella, Suite 400, Orange, California 92863.
- (8) Amount includes 351,108 shares of common stock underlying our Series B Preferred Stock. In addition, The Lyles Foundation holds 3,488 shares of common stock. The address of Lyles United, LLC is P.O. Box 4376, Fresno, California 93744-4376.
- (9) The information with respect to Hightower Advisors, LLC, including the information in this footnote, is based solely on the Schedule 13G filed with the SEC on July 18, 2019 by Hightower Advisors, LLC as the reporting person. Hightower Advisors, LLC holds sole voting and dispositive power over, and beneficially owns, 4,073,641 shares. The address of Hightower Advisors, LLC is 200 W Madison, Suite 2500, Chicago, Illinois 60606.
- (10) The information with respect to Dimensional Fund Advisors LP, including the information in this footnote, is based solely on the Schedule 13G/A filed with the SEC on February 8, 2019 by Dimensional Fund Advisors LP as the reporting person. Dimensional Fund Advisors LP holds sole voting power over 3,143,818 shares, sole dispositive power over 3,278,627 shares and beneficially owns 3,278,627 shares. The address of Dimensional Fund Advisors LP is Building One, 6300 Bee Cave Road, Austin, Texas 78746.
- (11) Amount represents 2,631,180 shares of common stock held directly, 227,003 shares of common stock underlying options and 193,108 shares of common stock underlying our Series B Preferred Stock.

SELLING SECURITY HOLDERS

Selling Security Holder Table

This prospectus covers the sale by the selling security holders of up to an aggregate of 12,136,862 shares of common stock, including the Warrant Shares and the Additional Common Shares. We are registering the shares of common stock in order to permit the selling security holders to offer the shares for resale from time to time. Except for the ownership of the Notes and the Warrants described below, the selling security holders have not had any material relationship with us within the past three years except as disclosed under the heading “Our Relationships with the Selling Security Holders” below.

The table below lists the selling security holders and other information regarding the beneficial ownership of the shares of common stock held by each of the selling security holders. The second column lists the number of shares of common stock beneficially owned by the selling security holders, based on their respective ownership of shares of common stock and Warrants as of January 21, 2020.

The third column lists the shares of common stock being offered by this prospectus by the selling security holders and does not take into account the limitation on exercisability of the Warrants until the Exercisability Date. The selling security holders may sell all, some or none of their shares in this offering. See “Plan of Distribution.”

The fourth column assumes the sale of all of the shares offered by the selling security holders under this prospectus. The number of shares in the fourth column does not take into account any limitations on the exercise of any warrants held by the selling security holders.

Except as disclosed in the footnotes to the table below, each of the selling security holders has represented to us that it is not a broker-dealer, or affiliated with or associated with a broker-dealer, registered with the SEC or designated as a member of the Financial Industry Regulatory Authority. The shares of common stock being offered under this prospectus may be offered for sale from time to time during the period the registration statement of which this prospectus is a part remains effective, by or for the accounts of the selling security holders listed below.

Beneficial ownership is determined in accordance with the rules of the SEC, and includes voting or investment power with respect to the securities. To our knowledge, except as indicated by footnote, and subject to community property laws where applicable, the persons named in the table below have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them. Except as indicated by footnote, all shares of common stock underlying derivative securities, if any, that are currently exercisable or convertible or are scheduled to become exercisable or convertible for or into shares of common stock within 60 days after the date of the table are deemed to be outstanding for the purpose of calculating the percentage ownership of each listed person or group but are not deemed to be outstanding as to any other person or group.

Name of Beneficial Owner	Shares of Common Stock Beneficially Owned Prior to Offering	Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus(1)	Shares of Common Stock Beneficially Owned After Offering(2)	
			Number	Percentage
CKP South LLC	131,267	288,058	0	*
Corrum Capital Alternative Income Fund LP	1,436,146	3,151,547	0	*
Orange 2015 DisloCredit Fund, L.P.	1,240,449	2,722,098	0	*
CIF Income Partners (A) LLC	799,110	1,753,603	0	*
Sainsbury's Credit Opportunities Fund LTD	103,371	226,842	0	*
Co-Investment Fund, L.P. – US Taxable Series	69,097	151,631	0	*
Co-Investment Fund, L.P. – US Tax-Exempt Series	96,296	211,316	0	*
Alfred J. De Leo	243,819	535,047	0	*
Corrum Capital Global Credit Opportunities Co Investment Fund I LP	431,751	947,454	0	*
Corrum Capital Global Credit Opportunities Fund LP	312,634	686,059	0	*
David Koenig	460,322	1,010,151	0	*
Jonathan W. Weiss	79,737	174,978	0	*
Justin S. Wohler	59,876	131,394	0	*
Philip DeSantis	66,843	146,684	0	*

(*) Indicates beneficial ownership of less than 1%.

(1) Amounts include 5,530,718 shares of common stock issued in connection with the Note Amendment Agreement, 5,500,000 Warrant Shares, and 1,106,144 Additional Common Shares distributed pro rata to the selling security holders.

(2) Assumes all shares being offered under this prospectus are sold. The percentage of beneficial ownership is based on 67,892,295 shares of common stock, consisting of 55,755,433 shares of common stock outstanding as of January 17, 2020 and the 12,136,862 shares of common stock offered under this prospectus.

Our Relationships with the Selling Security Holders

In the past three years, we have not had any relationship or arrangement with any of the selling security holders, their affiliates, or any person with whom the selling security holders have a contractual relationship regarding the Note Amendment Agreement other than the agreements we have entered into in connection with the other senior secured notes and Note Amendment Agreement relating thereto.

PLAN OF DISTRIBUTION

We are registering the shares of common stock issued to the selling security holders, the Warrant Shares and the Additional Common Shares to permit the resale of these shares of common stock by the selling security holders from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling security holders of the shares of common stock. We will bear all fees and expenses incident to our obligation to register the shares of common stock.

The selling security holders may sell all or a portion of the shares of common stock held by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. If the shares of common stock are sold through underwriters or broker-dealers, the selling security holders will be responsible for underwriting discounts or commissions or agent's commissions. The shares of common stock may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions, pursuant to one or more of the following methods:

- on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale;
- in the over-the-counter market;
- in transactions otherwise than on these exchanges or systems or in the over-the-counter market;
- through the writing or settlement of options, whether such options are listed on an options exchange or otherwise;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales made after the date the Registration Statement is declared effective by the SEC;
- broker-dealers may agree with the selling security holders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling security holders may also sell shares of common stock under Rule 144 promulgated under the Securities Act, if available, rather than under this prospectus. In addition, the selling security holders may transfer the shares of common stock by other means not described in this prospectus. If the selling security holders effect such transactions by selling shares of common stock to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling security holders or commissions from purchasers of the shares of common stock for whom they may act as agent or to whom they may sell as principal (which discounts, concessions or commissions as to particular underwriters, broker-dealers or agents may be in excess of those customary in the types of transactions involved). In connection with sales of the shares of common stock or otherwise, the selling security holders may enter into hedging transactions with broker-dealers, which may in turn engage in short sales of the shares of common stock in the course of hedging in positions they assume. The selling security holders may also sell shares of common stock short and deliver shares of common stock covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sales. The selling security holders may also loan or pledge shares of common stock to broker-dealers that in turn may sell such shares.

The selling security holders may pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time pursuant to this prospectus or any amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending, if necessary, the list of selling security holders to include the pledgee, transferee or other successors in interest as selling security holders under this prospectus. The selling security holders also may transfer and donate the shares of common stock in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

To the extent required by the Securities Act and the rules and regulations thereunder, the selling security holders and any broker-dealer participating in the distribution of the shares of common stock may be deemed to be "underwriters" within the meaning of the Securities Act, and any commission paid, or any discounts or concessions allowed to, any such broker-dealer may be deemed to be underwriting commissions or discounts under the Securities Act. At the time a particular offering of the shares of common stock is made, a prospectus supplement, if required, will be distributed, which will set forth the aggregate amount of shares of common stock being offered and the terms of the offering, including the name or names of any broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the selling security holders and any discounts, commissions or concessions allowed or re-allowed or paid to broker-dealers.

Under the securities laws of some states, the shares of common stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of common stock may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

There can be no assurance that any selling security holder will sell any or all of the shares of common stock registered pursuant to the registration statement, of which this prospectus forms a part.

The selling security holders and any other person participating in such distribution will be subject to applicable provisions of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and the rules and regulations thereunder, including, without limitation, to the extent applicable, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the shares of common stock by the selling security holders and any other participating person. To the extent applicable, Regulation M may also restrict the ability of any person engaged in the distribution of the shares of common stock to engage in market-making activities with respect to the shares of common stock. All of the foregoing may affect the marketability of the shares of common stock and the ability of any person or entity to engage in market-making activities with respect to the shares of common stock.

We will pay all expenses of the registration of the shares of common stock pursuant to the registration rights agreement, estimated to be \$75,000 in total, including, without limitation, SEC filing fees and expenses of compliance with state securities or "blue sky" laws. However, a selling security holder will pay all underwriting discounts and selling commissions, if any. We will indemnify the selling security holders against liabilities, including some liabilities under the Securities Act in accordance with the registration rights agreements or the selling security holders will be entitled to contribution. We may be indemnified by the selling security holders against civil liabilities, including liabilities under the Securities Act that may arise from any written information furnished to us by the selling security holder specifically for use in this prospectus, in accordance with the related registration rights agreements or we may be entitled to contribution.

Once sold under the registration statement, of which this prospectus forms a part, the shares of common stock will be freely tradable in the hands of persons other than our affiliates.

DESCRIPTION OF NOTE AMENDMENT AGREEMENT

On December 22, 2019, we and the holders of our senior secured notes entered into the Note Amendment Agreement. Under the terms of the Note Amendment Agreement, we issued, on a pro rata basis to the holders of our senior secured notes, the Notes, an aggregate of 5,530,718 shares of common stock and Warrants to purchase an aggregate of 5,500,000 Warrant Shares. On December 23, 2019, CWD Summit, LLC - acting for and on behalf of Candlewood Renewable Energy Series I, an original signatory to the Note Amendment Agreement, transferred 2,872,350 shares of our common stock and Warrants to purchase an aggregate 2,856,397 shares of our common stock to eight of its accredited investor members, which accredited investors have executed a Joinder Agreement with us with respect to the Registration Rights Agreement.

Common Stock

Upon the closing of the Note Amendment Agreement, we issued an aggregate of 2,872,350 shares of common stock. If at any time between the closing date and March 31, 2020, we issue shares of common stock, other than shares issued (i) to employees, officers or directors of Pacific Ethanol, or any consultants to Pacific Ethanol pursuant to any stock or option plan or employment agreement, (ii) upon exercise or exchange or conversion of the securities issued under the Note Amendment Agreement or pursuant to the Warrants or other securities outstanding on the date of the Note Amendment Agreement, and (iii) pursuant to acquisitions or strategic transactions, for a consideration per share of common stock less than \$1.50, then we must issue to the selling security holders, on a pro rata basis, additional shares of common stock based on a weighted-average anti-dilution formula set forth in the Note Amendment Agreement.

Notes

The Notes were issued on December 22, 2019, which Notes amended the aggregate principal amount of the senior secured notes from approximately \$64.4 million to approximately \$65.6 million to account for an aggregate amendment fee of \$1,264,000, allocated among the holders of the senior secured notes on a pro rata basis and paid in kind through an increase in the principal amounts of the Notes.

The Notes mature on December 15, 2021 and interest accrues at a rate of 15% per annum, payable quarterly. We are obligated to make \$5.0 million quarterly amortization payments beginning on September 30, 2020 and must prepay a portion of the principal amount after the closing of asset sales. Following receipt by the selling security holders, collectively, of \$20.0 million, any additional proceeds from the sale of any of our western assets will generally be allocated 33/34/33% among PE Pekin's lender and ICP's lender, collectively, the selling security holders, and us, respectively. Following receipt by the lenders under the ICP credit agreement and PE Pekin credit agreement, collectively, of \$40.0 million in full, and once any loans corresponding to the particular midwestern asset sold are repaid, additional proceeds from the sale of any of our midwestern plant assets will generally be allocated 33/34/33% among PE Pekin's lender and ICP's lender, collectively, the selling security holders, and us, respectively. We may, at our option, prepay the Notes at a price equal to 102% of the outstanding principal amount.

Warrants

The Warrants were issued on December 22, 2019, and are exercisable on or after June 22, 2020, or the Exercisability Date, and entitle the holders to purchase up to an aggregate of 5,500,000 Warrant Shares for a period of three years after the issuance date at an exercise price of \$1.00 per share, or the Warrant Exercise Price, subject to adjustment. The Warrants are exercisable only for cash, with cash proceeds first used to prepay any outstanding principal amount due under the Notes. If at any time on or after the Exercisability Date the volume weighted average price of our common stock for the trailing five day period is at least \$1.50 (as adjusted for stock splits, stock combinations and the like occurring from and after December 22, 2019), we would have the right, upon written notice to the selling security holders, to require the selling security holders to exercise all, but not less than all, of the selling security holders' Warrants.

The Warrant Exercise Price is subject to adjustment for stock splits, combinations or similar events, and, in such event, the number of shares issuable upon the exercise of the Warrant will also be adjusted such that the aggregate Warrant Exercise Price will be the same immediately before and immediately after the adjustment. The Warrants impose penalties on us for failure to timely deliver Warrant Shares.

If we issue options, convertible securities, warrants, stock, or similar securities to all holders of shares of our common stock, each holder of a Warrant will have the right to acquire the same securities as if it had exercised its Warrant. If we make a distribution of our assets to all holders of shares of our common stock, each holder of a Warrant will have the right to acquire the same assets as if it had exercised its Warrant.

The Warrants contain provisions prohibiting us from entering into certain transactions involving a change of control, unless the successor assumes in writing all of our obligations under the Warrants. Upon the occurrence of a transaction involving a permitted change of control, the holders of the Warrants will have the right, among others, to have the Warrants repurchased for a purchase price in cash equal to the Black Scholes value (as calculated pursuant to the Warrants) of the then unexercised portion of the Warrants.

Registration Rights Agreement

In connection with the issuance and sale of shares of common stock and the Warrants under the terms of the Note Amendment Agreement, we entered into a registration rights agreement, or Registration Rights Agreement, with all of the selling security holders to file a registration statement with the SEC by January 21, 2020 for the resale by the selling security holders of up to 12,136,862 shares of common stock, including the Warrant Shares and the Additional Common Shares. We agreed under the Registration Rights Agreement that for purposes of filing this registration statement, we would register an additional 1,106,144 shares of common stock as Additional Common Shares, which amount equals 20% of the total aggregate amount of shares of common stock issued in connection with the Note Amendment Agreement. We are required to use commercially reasonable best efforts to have such registration statement declared effective by the SEC within sixty days after December 22, 2019.

We are obligated to use commercially reasonable best efforts to keep a registration statement we file in compliance with our obligations under the Registration Rights Agreement effective (and the prospectus contained therein available for use) for resales by the selling security holders on a delayed or continuous basis at then-prevailing market prices at all times until the earlier of (i) the date on which all of the shares of common stock covered by the registration statement may be sold without restriction pursuant to Rule 144 of the Securities Act (including, without limitation, volume restrictions and without the need for current public information required by Rule 144(c)(i) or Rule 142(i)(2) if applicable) or (ii) the date on which the selling security holders have sold all the shares of common stock covered by the registration statement, or which this prospectus is a part, or if only the Warrant shares remain unsold, the date on which all Warrants have expired.

The Registration Rights Agreement contains various indemnification provisions in connection with the registration of the 12,136,862 shares of common stock.

DESCRIPTION OF CAPITAL STOCK

Authorized and Outstanding Capital Stock

Our authorized capital stock consists of 300,000,000 shares of common stock, \$0.001 par value per share, 3,553,000 shares of non-voting common stock, \$0.001 par value per share, and 10,000,000 shares of preferred stock, \$0.001 par value per share, of which 1,684,375 shares are designated as Series A Cumulative Redeemable Convertible Preferred Stock, or Series A Preferred Stock, and 1,580,790 shares are designated as Series B Cumulative Convertible Preferred Stock, or Series B Preferred Stock. As of January 17, 2020, there were 55,755,433 shares of common stock, 896 shares of non-voting common stock, no shares of Series A Preferred Stock and 926,942 shares of Series B Preferred Stock issued and outstanding. The following description of our capital stock does not purport to be complete and should be reviewed in conjunction with our certificate of incorporation, including our Certificate of Designations, Powers, Preferences and Rights of the Series A Preferred Stock, or Series A Certificate of Designations, our Certificate of Designations, Powers, Preferences and Rights of the Series B Preferred Stock, or Series B Certificate of Designations, and our bylaws. See “Where You Can Find Additional Information.”

Common Stock

All outstanding shares of our common stock are fully paid and nonassessable. The following summarizes the rights of holders of our common stock:

- a holder of common stock is entitled to one vote per share on all matters to be voted upon generally by the stockholders;
- subject to preferences that may apply to shares of preferred stock outstanding, the holders of common stock are entitled to receive lawful dividends as may be declared by our Board;
- upon our liquidation, dissolution or winding up, the holders of shares of common stock are entitled to receive a pro rata portion of all our assets remaining for distribution after satisfaction of all our liabilities and the payment of any liquidation preference of any outstanding preferred stock;
- there are no redemption or sinking fund provisions applicable to our common stock; and
- there are no preemptive or conversion rights applicable to our common stock.

Non-Voting Common Stock

The rights and preferences of shares of our non-voting common are substantially the same in all respects to the rights and preferences of shares of our common stock, except that (i) the holders of shares of non-voting common stock are not be entitled to vote, (ii) shares of non-voting common stock are convertible into shares of common stock, and (iii) shares of non-voting common stock are not listed on any stock exchange, including The Nasdaq Capital Market.

The following summarizes the rights of holders of our non-voting common stock:

- a holder of non-voting common stock is not entitled to vote on any matter submitted to a vote of the stockholders, however such holders are entitled to prior notice of, and to attend and observe, all meetings of the stockholders;
- subject to preferences that may apply to shares of preferred stock issued and outstanding, the holders of non-voting common stock are entitled to receive lawful dividends as may be declared by the Board on parity in all respects with the holders of common stock, provided that if the holders of common stock become entitled to receive a dividend or distribution of shares of common stock, holders of non-voting common stock shall receive, in lieu of the shares of common stock, an equal number of shares of non-voting common stock;
- upon liquidation, dissolution or winding up Pacific Ethanol, the holders of shares of common stock and non-voting common stock will be entitled to receive a pro rata portion of all of our assets remaining for distribution after satisfaction of all our liabilities and the payment of any liquidation preference of any outstanding preferred stock;
- there are no redemption or sinking fund provisions applicable to our non-voting common stock; and
- there are no preemptive rights applicable to our non-voting common stock.

Conversion

Each share of non-voting common stock is convertible at the option of the holder into one share of our common stock at any time. The conversion price is subject to customary adjustment for stock splits, stock combinations, stock dividends, mergers, consolidations, reorganizations, share exchanges, reclassifications, distributions of assets and issuances of convertible securities, and the like.

No shares of non-voting common stock may be converted into common stock if the holder of such shares or any of its affiliates would, after such conversion, beneficially own in excess of 9.99% of our outstanding shares of common stock (sometimes referred to as the Blocker). The Blocker applicable to the conversion of shares of non-voting common stock may be raised or lowered at the option of the holder to any percentage not in excess of 9.99%, except that any increase will only be effective upon 61-days' prior notice to us.

When shares of non-voting common stock cease to be held by the initial holder or an affiliate of an initial holder of such shares, such shares shall automatically convert into one share of our common stock.

Preferred Stock

Our Board is authorized to issue from time to time, in one or more designated series, any or all of our authorized but unissued shares of preferred stock with dividend, redemption, conversion, exchange, voting and other provisions as may be provided in that particular series. The issuance need not be approved by our common stockholders and need only be approved by holders, if any, of our Series A Preferred Stock and Series B Preferred Stock if, as described below, the shares of preferred stock to be issued have preferences that are senior to or on parity with those of our Series A Preferred Stock and Series B Preferred Stock.

The rights of the holders of our common stock, Series A Preferred Stock and Series B Preferred Stock will be subject to, and may be adversely affected by, the rights of the holders of any preferred stock that may be issued in the future. Issuance of a new series of preferred stock, while providing desirable flexibility in connection with possible acquisitions and other corporate purposes, could have the effect of entrenching our Board and making it more difficult for a third-party to acquire, or discourage a third-party from acquiring, a majority of our outstanding voting stock. The following is a summary of the terms of the Series A Preferred Stock and the Series B Preferred Stock.

Series B Preferred Stock

As of January 17, 2020, 926,942 shares of Series B Preferred Stock were issued and outstanding and an aggregate of 1,419,210 shares of Series B Preferred Stock had been converted into shares of our common stock. The converted shares of Series B Preferred Stock have been returned to undesignated preferred stock. A balance of 653,848 shares of Series B Preferred Stock remain authorized for issuance.

Rank and Liquidation Preference

Shares of Series B Preferred Stock rank prior to our common stock as to distribution of assets upon liquidation events, which include a liquidation, dissolution or winding up of Pacific Ethanol, whether voluntary or involuntary. The liquidation preference of each share of Series B Preferred Stock is equal to \$19.50, or the Series B Issue Price, plus any accrued but unpaid dividends on the Series B Preferred Stock. If assets remain after the amounts are distributed to the holders of Series B Preferred Stock, the assets shall be distributed pro rata, on an as-converted to common stock basis, to the holders of our common stock and Series B Preferred Stock. The written consent of a majority of the outstanding shares of Series B Preferred Stock is required before we can authorize the issuance of any class or series of capital stock that ranks senior to or on parity with shares of Series B Preferred Stock.

Dividend Rights

As long as shares of Series B Preferred Stock remain outstanding, each holder of shares of Series B Preferred Stock are entitled to receive, and shall be paid quarterly in arrears, in cash out of funds legally available therefor, cumulative dividends, in an amount equal to 7.0% of the Series B Issue Price per share per annum with respect to each share of Series B Preferred Stock. The dividends may, at our option, be paid in shares of Series B Preferred Stock valued at the Series B Issue Price. In the event we declare, order, pay or make a dividend or other distribution on our common stock, other than a dividend or distribution made in common stock, the holders of the Series B Preferred Stock shall be entitled to receive with respect to each share of Series B Preferred Stock held, any dividend or distribution that would be received by a holder of the number of shares of our common stock into which the Series B Preferred Stock is convertible on the record date for the dividend or distribution.

The Series B Preferred Stock ranks *pari passu* with respect to dividends and liquidation rights with the Series A Preferred Stock and *pari passu* with respect to any class or series of capital stock specifically ranking on parity with the Series B Preferred Stock.

Optional Conversion Rights

Each share of Series B Preferred Stock is convertible at the option of the holder into shares of our common stock at any time. Each share of Series B Preferred Stock is convertible into the number of shares of common stock as calculated by multiplying the number of shares of Series B Preferred Stock to be converted by the Series B Issue Price, and dividing the result thereof by the conversion price. The conversion price was initially \$682.50 per share of Series B Preferred Stock, subject to adjustment; therefore, each share of Series B Preferred Stock was initially convertible into approximately 0.03 shares of common stock, which number is equal to the quotient of the Series B Issue Price of \$19.50 divided by the initial conversion price of \$682.50 per share of Series B Preferred Stock. Accrued and unpaid dividends are to be paid in cash upon any conversion.

Mandatory Conversion Rights

In the event of a Transaction which will result in an internal rate of return to holders of Series B Preferred Stock of 25% or more, each share of Series B Preferred Stock shall, concurrently with the closing of the Transaction, be converted into shares of common stock. A "Transaction" is defined as a sale, lease, conveyance or disposition of all or substantially all of our capital stock or assets or a merger, consolidation, share exchange, reorganization or other transaction or series of related transactions (whether involving us or a subsidiary) in which the stockholders immediately prior to the transaction do not retain a majority of the voting power in the surviving entity. Any mandatory conversion will be made into the number of shares of common stock determined on the same basis as the optional conversion rights above. Accrued and unpaid dividends are to be paid in cash upon any conversion.

No shares of Series B Preferred Stock will be converted into common stock on a mandatory basis unless at the time of the proposed conversion we have on file with the SEC an effective registration statement with respect to the shares of common stock issued or issuable to the holders on conversion of the Series B Preferred Stock then issued or issuable to the holders and the shares of common stock are eligible for trading on The Nasdaq Stock Market (or approved by and listed on a stock exchange approved by the holders of 66 2/3% of the then outstanding shares of Series B Preferred Stock).

Conversion Price Adjustments

The conversion price is subject to customary adjustment for stock splits, stock combinations, stock dividends, mergers, consolidations, reorganizations, share exchanges, reclassifications, distributions of assets and issuances of convertible securities, and the like. The conversion price is also subject to downward adjustments if we issue shares of common stock or securities convertible into or exercisable for shares of common stock, other than specified excluded securities, at per share prices less than the then effective conversion price. In this event, the conversion price shall be reduced to the price determined by dividing (i) an amount equal to the sum of (a) the number of shares of common stock outstanding immediately prior to the issue or sale multiplied by the then existing conversion price, and (b) the consideration, if any, received by us upon such issue or sale, by (ii) the total number of shares of common stock outstanding immediately after the issue or sale. For purposes of determining the number of shares of common stock outstanding as provided in clauses (i) and (ii) above, the number of shares of common stock issuable upon conversion of all outstanding shares of Series B Preferred Stock, and the exercise of all outstanding securities convertible into or exercisable for shares of common stock, will be deemed to be outstanding.

The conversion price will not be adjusted in the case of the issuance or sale of the following: (i) securities issued to our employees, officers or directors or options to purchase common stock granted by us to our employees, officers or directors under any option plan, agreement or other arrangement duly adopted by us and the grant of which is approved by the compensation committee of our Board; (ii) the Series B Preferred Stock and any common stock issued upon conversion of the Series B Preferred Stock; (iii) securities issued on the conversion of any convertible securities, in each case, outstanding on the date of the filing of the Series B Certificate of Designations; and (iv) securities issued in connection with a stock split, stock dividend, combination, reorganization, recapitalization or other similar event for which adjustment is made in accordance with the foregoing.

Voting Rights and Protective Provisions

The Series B Preferred Stock votes together with all other classes and series of our voting stock as a single class on all actions to be taken by our stockholders. Each share of Series B Preferred Stock entitles the holder thereof to the number of votes equal to the number of shares of common stock into which each share of Series B Preferred Stock is convertible on all matters to be voted on by our stockholders, however, the number of votes for each share of Series B Preferred Stock may not exceed the number of shares of common stock into which each share of Series B Preferred Stock would be convertible if the applicable conversion price were \$682.50 (subject to appropriate adjustment for stock splits, stock dividends, combinations and other similar recapitalizations affecting the shares).

We are not permitted, without first obtaining the written consent of the holders of at least a majority of the then outstanding shares of Series B Preferred Stock voting as a separate class, to:

- increase or decrease the total number of authorized shares of Series B Preferred Stock or the authorized shares of our common stock reserved for issuance upon conversion of the Series B Preferred Stock (except as otherwise required by our certificate of incorporation or the Series B Certificate of Designations);
- increase or decrease the number of authorized shares of preferred stock or common stock (except as otherwise required by our certificate of incorporation or the Series B Certificate of Designations);
- alter, amend, repeal, substitute or waive any provision of our certificate of incorporation or our bylaws, so as to affect adversely the voting powers, preferences or other rights, including the liquidation preferences, dividend rights, conversion rights, redemption rights or any reduction in the stated value of the Series B Preferred Stock, whether by merger, consolidation or otherwise;
- authorize, create, issue or sell any securities senior to or on parity with the Series B Preferred Stock or securities that are convertible into securities senior to or on parity the Series B Preferred Stock with respect to voting, dividend, liquidation or redemption rights, including subordinated debt;
- authorize, create, issue or sell any securities junior to the Series B Preferred Stock other than common stock or securities that are convertible into securities junior to Series B Preferred Stock other than common stock with respect to voting, dividend, liquidation or redemption rights, including subordinated debt;
- authorize, create, issue or sell any additional shares of Series B Preferred Stock other than the Series B Preferred Stock initially authorized, created, issued and sold, Series B Preferred Stock issued as payment of dividends and Series B Preferred Stock issued in replacement or exchange therefore;
- engage in a Transaction that would result in an internal rate of return to holders of Series B Preferred Stock of less than 25%;
- declare or pay any dividends or distributions on our capital stock in a cumulative amount in excess of the dividends and distributions paid on the Series B Preferred Stock in accordance with the Series B Certificate of Designations;

- authorize or effect the voluntary liquidation, dissolution, recapitalization, reorganization or winding up of our business; or
- purchase, redeem or otherwise acquire any of our capital stock other than Series B Preferred Stock, or any warrants or other rights to subscribe for or to purchase, or any options for the purchase of, our capital stock or securities convertible into or exchangeable for our capital stock.

Reservation of Shares

We initially were required to reserve 3,000,000 shares of common stock for issuance upon conversion of shares of Series B Preferred Stock and are required to maintain a sufficient number of reserved shares of common stock to allow for the conversion of all shares of Series B Preferred Stock.

Series A Preferred Stock

As of January 17, 2020, no shares of Series A Preferred Stock were issued and outstanding and an aggregate of 5,315,625 shares of Series A Preferred Stock had been converted into shares of our common stock and returned to undesignated preferred stock. A balance of 1,684,375 shares of Series A Preferred Stock remain authorized for issuance. The rights and preferences of the Series A Preferred Stock are substantially the same as the Series B Preferred Stock, except as follows:

- the Series A Issue Price, on which the Series A Preferred Stock liquidation preference is based, is \$16.00 per share;
- dividends accrue and are payable at a rate per annum of 5.0% of the Series A Issue Price per share;
- each share of Series A Preferred Stock is convertible at a rate equal to the Series A Issue Price divided by an initial conversion price of \$840.00 per share;
- holders of the Series A Preferred Stock have a number of votes equal to the number of shares of common stock into which each share of Series A Preferred Stock is convertible on all matters to be voted on by our stockholders, voting together as a single class; provided, however, that the number of votes for each share of Series A Preferred Stock shall not exceed the number of shares of common stock into which each share of Series A Preferred Stock would be convertible if the applicable conversion price were \$943.95 (subject to appropriate adjustment for stock splits, stock dividends, combinations and other similar recapitalizations affecting the shares); and
- we are not permitted, without first obtaining the written consent of the holders of at least a majority of the then outstanding shares of Series A Preferred Stock voting as a separate class, to:
 - change the number of members of our Board to be more than nine members or less than seven members;
 - effect any material change in our industry focus or that of our subsidiaries, considered on a consolidated basis;

- authorize or engage in, or permit any subsidiary to authorize or engage in, any transaction or series of transactions with one of our or our subsidiaries' current or former officers, directors or members with value in excess of \$100,000, excluding compensation or the grant of options approved by our Board; or
- authorize or engage in, or permit any subsidiary to authorize or engage in, any transaction with any entity or person that is affiliated with any of our or our subsidiaries' current or former directors, officers or members, excluding any director nominated by the initial holder of the Series B Preferred Stock.

Preemptive Rights

Holders of our Series A Preferred Stock have preemptive rights to purchase a pro rata portion of all capital stock or securities convertible into capital stock that we issue, sell or exchange, or agree to issue, sell or exchange, or reserve or set aside for issuance, sale or exchange. We must deliver each holder of our Series A Preferred Stock a written notice of any proposed or intended issuance, sale or exchange of capital stock or securities convertible into capital stock which must include a description of the securities and the price and other terms upon which they are to be issued, sold or exchanged together with the identity of the persons or entities (if known) to which or with which the securities are to be issued, sold or exchanged, and an offer to issue and sell to or exchange with the holder of the Series A Preferred Stock the holder's pro rata portion of the securities, and any additional amount of the securities should the other holders of Series A Preferred Stock subscribe for less than the full amounts for which they are entitled to subscribe. In the case of a public offering of our common stock for a purchase price of at least \$12.00 per share and a total gross offering price of at least \$50 million, the preemptive rights of the holders of the Series A Preferred Stock shall be limited to 50% of the securities. Holders of our Series A Preferred Stock have a 30 day period during which to accept the offer. We will have 90 days from the expiration of this 30 day period to issue, sell or exchange all or any part of the securities as to which the offer has not been accepted by the holders of the Series A Preferred Stock, but only as to the offerees or purchasers described in the offer and only upon the terms and conditions that are not more favorable, in the aggregate, to the offerees or purchasers or less favorable to us than those contained in the offer.

The preemptive rights of the holders of the Series A Preferred Stock do not apply to any of the following securities: (i) securities issued to our employees, officers or directors or options to purchase common stock granted by us to our employees, officers or directors under any option plan, agreement or other arrangement duly adopted by us and the grant of which is approved by the compensation committee of our Board; (ii) the Series A Preferred Stock and any common stock issued upon conversion of the Series A Preferred Stock; (iii) securities issued on the conversion of any convertible securities, in each case, outstanding on the date of the filing of the Series A Certificate of Designations; (iv) securities issued in connection with a stock split, stock dividend, combination, reorganization, recapitalization or other similar event for which adjustment is made in accordance with the Series A Certificate of Designations; and (v) the issuance of our securities issued for consideration other than cash as a result of a merger, consolidation, acquisition or similar business combination by us approved by our Board.

Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws

A number of provisions of Delaware law, our certificate of incorporation and our bylaws contain provisions that could have the effect of delaying, deferring and discouraging another party from acquiring control of Pacific Ethanol. These provisions, which are summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of Pacific Ethanol to first negotiate with our Board. We believe that the benefits of increased protection of our potential ability to negotiate with an unfriendly or unsolicited acquiror outweigh the disadvantages of discouraging a proposal to acquire Pacific Ethanol because negotiation of these proposals could result in an improvement of their terms. However, the existence of these provisions also could limit the price that investors might be willing to pay for our securities.

Undesignated Preferred Stock

The ability to authorize undesignated preferred stock makes it possible for our Board to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to acquire us. These and other provisions may have the effect of deferring hostile takeovers or delaying changes in control or management of Pacific Ethanol.

Advance Notice Requirements for Stockholder Proposals and Director Nominations

Our bylaws provide that a stockholder seeking to bring business before an annual meeting of stockholders, or to nominate candidates for election as directors, must provide timely notice of such stockholder's intention in writing. To be timely, a stockholder nominating individuals for election to the Board or proposing business must provide advanced notice to Pacific Ethanol (a) not later than the close of business on the 90th day, nor earlier than the close of business on the 120th day in advance of the anniversary of the previous year's annual meeting if such meeting is to be held on a day which is not more than thirty (30) days in advance of the anniversary of the previous year's annual meeting or not later than seventy (70) days after the anniversary of the previous year's annual meeting, and (b) with respect to any other annual meeting of stockholders, the close of business on the 10th day following the date of public disclosure of the date of such meeting. In the event we call a special meeting of stockholders for the purpose of electing one or more directors to the Board, any stockholder entitled to vote in such election of directors may nominate a person or persons (as the case may be) for election to such position(s) as specified in our notice of meeting, if the stockholder's notice is delivered to us not later than the close of business on the 90th day prior to such special meeting and not earlier than the close of business on the later of the 120th day prior to such special meeting or the 10th day following the date of public disclosure of the date of the special meeting and of the nominees proposed by the Board to be elected at such meeting.

Delaware Anti-Takeover Statute

We are subject to the provisions of Section 203 of the Delaware General Corporation Law (sometimes referred to as Section 203) regulating corporate takeovers. In general, Section 203 prohibits a publicly-held Delaware corporation from engaging, under specified circumstances, in a business combination with an interested stockholder for a period of three years following the date the person became an interested stockholder unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares of voting stock outstanding (but not the outstanding voting stock owned by the stockholder) (1) shares owned by persons who are directors and also officers and (2) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

- on or subsequent to the date of the transaction, the business combination is approved by the board and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66-2/3% of the outstanding voting stock that is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An interested stockholder is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of a corporation's outstanding voting securities. We expect the existence of this provision to have an anti-takeover effect with respect to transactions the Board does not approve in advance. We also anticipate that Section 203 may also discourage attempts that might result in a premium over the market price for the shares of our common stock held by stockholders.

The provisions of Delaware law, our certificate of incorporation and our bylaws could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

Warrants

As of January 17, 2020, other than the Warrants, we did not have any outstanding warrants.

Options

As of January 17, 2020, we had outstanding options to purchase 229,212 shares of our common stock at exercise prices ranging from \$3.74 to \$12.90 per share issued under our 2006 Plan.

Registration Rights

A number of holders of shares of our Series B Preferred Stock and all holders of Warrants are entitled to rights with respect to the registration of the underlying shares of common stock, respectively, under the Securities Act. The registration rights with respect to the shares of common stock and Warrant Shares issuable under the Note Amendment Agreement are described in the "Selling Security Holders" section of this prospectus.

Lyles Registration Rights Agreement

A number of holders of our Series B Preferred Stock have registration rights under a registration rights agreement dated March 27, 2008, or Series B Registration Rights Agreement, with respect to shares of common stock issued, issuable or that may be issuable under shares of Series B Preferred Stock that were purchased under the terms of a securities purchase agreement dated March 18, 2008 between us and Lyles United, LLC. The Series B Registration Rights Agreement provides that holders of a majority of the Series B Preferred Stock, including the shares of common stock into which the Series B Preferred Stock have been converted, may demand at any time that we register on their behalf the shares of common stock issued, issuable or that may be issuable upon conversion of the Series B Preferred Stock and as payment of dividends on the Series B Preferred Stock. Following such demand, we are required to notify any other parties that are entitled to registration rights under the Lyles Registration Rights Agreement of our intent to file a registration statement and include them in the related registration statement upon their request. We are required to keep a registration statement filed under the Lyles Registration Rights Agreement effective until all shares that are entitled to be registered are sold or can be sold under Rule 144 of the Securities Act. The holders are entitled to two demand registrations on Form S-1 and an unlimited demand registrations on Form S-3 (except that we are not obligated to effect more than one demand registration on Form S-3 in any calendar year).

In addition to the demand registration rights under the Lyles Registration Rights Agreement, the holders are entitled to “piggyback” registration rights. These rights entitle the holders who so elect to be included in certain registration statements to be filed by us with respect to other registrations of equity securities. The holders are entitled to unlimited “piggyback” registration rights.

The Lyles Registration Rights Agreement includes customary cross-indemnity provisions under which we are obligated to indemnify the holders and their affiliates as a result of losses caused by untrue or allegedly untrue statements of material fact contained or incorporated by reference in any registration statement under which a holder’s shares are registered, including any prospectuses or amendments related thereto. Our indemnity obligations also apply to omissions of material facts and to any failure on our part to comply with any law, rule or regulation applicable to such registration statement. Each holder is obligated to indemnify us and our affiliates as a result of losses caused by untrue or allegedly untrue statements of material fact contained in any registration statement under which their shares are registered, including any prospectuses or amendments related thereto, which statements were furnished in writing by that holder, but only to the extent of the net proceeds received by that holder with respect to shares sold under the registration statement. The holders’ indemnity obligations also apply to omissions of material facts on the part of the holders.

A number of customary limitations to our registration obligations are included in the Lyles Registration Rights Agreement. These limitations include our right to, in good faith, delay or withdrawal registrations requested by the holders under demand and “piggyback” registration rights, and the right to exclude portions of holders’ shares upon the advice of its underwriters.

We are responsible for all costs of registration, plus reasonable fees of one legal counsel for the holders, which fees are not to exceed \$25,000 per registration. The Lyles Registration Rights Agreement provides for reasonable access on the part of the holders to all of our books, records and other information and the opportunity to discuss the same with our management.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC. Its telephone number is (718) 921-8200.

LEGAL MATTERS

The validity of the shares of common stock offered under this prospectus will be passed upon by Troutman Sanders LLP, Irvine, California.

EXPERTS

The consolidated financial statements of Pacific Ethanol as of and for the years ended December 31, 2018 and 2017 and the effectiveness of Pacific Ethanol’s internal control over financial reporting as of December 31, 2018 appearing in this prospectus and registration statement of which this prospectus is a part have been audited by RSM US LLP, an independent registered public accounting firm, as stated in their reports thereon, included therein, and are included in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act, and the rules and regulations promulgated under the Securities Act, with respect to the common stock offered under this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information contained in the registration statement and the exhibits and schedules to the registration statement. Many of the contracts and documents described in this prospectus are filed as exhibits to the registration statements and you may review the full text of these contracts and documents by referring to these exhibits.

For further information with respect to us and the common stock offered under this prospectus, reference is made to the registration statement and its exhibits and schedules. We file reports, including annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K with the SEC. The public may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, DC 20549, on official business days during the hours of 10 a.m. to 3 p.m. The registration statement, including its exhibits and schedules, may be inspected at the Public Reference Room. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330.

The SEC maintains an Internet web site that contains reports, prospectus and information statements and other information regarding issuers, including Pacific Ethanol, that file electronically with the SEC. The SEC's Internet website address is <http://www.sec.gov>. Our Internet website address is <http://www.pacificethanol.net/>.

We do not anticipate that we will send an annual report to our stockholders until and unless we are required to do so by the rules of the SEC.

All trademarks or trade names referred to in this prospectus are the property of their respective owners.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The documents incorporated by reference into this prospectus contain important information that you should read about us.

We incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items unless such Form 8-K expressly provides to the contrary) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made after the date of the initial filing of the registration statement of which this prospectus forms a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the termination of the offering of the common stock made by this prospectus and such future filings will become a part of this prospectus from the respective dates that such documents are filed with the SEC. Any statement contained herein or in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes hereof or of the related prospectus supplement to the extent that a statement contained herein or in any other subsequently filed document which is also incorporated or deemed to be incorporated herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

The documents incorporated by reference into this prospectus are also available on our corporate website at www.caredx.com under the heading "Investors." Information contained on, or that can be accessed through, our website is not part of this prospectus, and you should not consider information on our website to be part of this report unless specifically incorporated herein by reference. You may obtain copies of the documents incorporated by reference in this prospectus from us free of charge by requesting them in writing or by telephone at the following address:

Pacific Ethanol, Inc.
400 Capitol Mall, Suite 2060
Sacramento, California 95814
Attn: Investor Relations
Telephone: (916) 403-2123

PACIFIC ETHANOL, INC.
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PACIFIC ETHANOL, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands)

<u>ASSETS</u>	<u>September 30, 2019</u> (unaudited)	<u>December 31, 2018</u> *
Current Assets:		
Cash and cash equivalents	\$ 18,921	\$ 26,627
Accounts receivable, net (net of allowance for doubtful accounts of \$39 and \$12, respectively)	69,297	67,636
Inventories	62,509	57,820
Prepaid inventory	3,191	3,090
Derivative instruments	2,790	1,765
Other current assets	5,228	11,866
Total current assets	<u>161,936</u>	<u>168,804</u>
Property and equipment, net	<u>442,810</u>	<u>482,657</u>
Other Assets:		
Right of use operating lease assets, net	38,791	—
Intangible assets	2,678	2,678
Other assets	6,645	5,842
Total other assets	<u>48,114</u>	<u>8,520</u>
Total Assets	<u>\$ 652,860</u>	<u>\$ 659,981</u>

* Amounts derived from the audited consolidated financial statements for the year ended December 31, 2018.

See accompanying notes to consolidated financial statements.

PACIFIC ETHANOL, INC.
CONSOLIDATED BALANCE SHEETS (CONTINUED)
(in thousands, except par value)

<u>LIABILITIES AND STOCKHOLDERS' EQUITY</u>	<u>September 30, 2019</u> (unaudited)	<u>December 31, 2018</u> *
Current Liabilities:		
Accounts payable – trade	\$ 47,068	\$ 48,176
Accrued liabilities	18,614	23,421
Current portion – operating leases	6,925	—
Current portion – long-term debt	144,543	146,671
Derivative instruments	3,619	6,309
Other current liabilities	7,662	7,282
Total current liabilities	228,431	231,859
Long-term debt, net of current portion	98,673	84,767
Operating leases, net of current portion	30,323	—
Assessment financing	9,342	9,342
Other liabilities	13,576	14,648
Total Liabilities	380,345	340,616
Commitments and Contingencies (Note 7)		
Stockholders' Equity:		
Pacific Ethanol, Inc. Stockholders' Equity:		
Preferred stock, \$0.001 par value; 10,000 shares authorized; Series A: 1,684 shares authorized; no shares issued and outstanding as of September 30, 2019 and December 31, 2018; Series B: 1,581 shares authorized; 927 shares issued and outstanding as of September 30, 2019 and December 31, 2018; liquidation preference of \$18,075 as of September 30, 2019	1	1
Common stock, \$0.001 par value; 300,000 shares authorized; 49,783 and 45,771 shares issued and outstanding as of September 30, 2019 and December 31, 2018, respectively	50	46
Non-voting common stock, \$0.001 par value; 3,553 shares authorized; 1 share issued and outstanding as of September 30, 2019 and December 31, 2018, respectively	—	—
Additional paid-in capital	937,795	932,179
Accumulated other comprehensive loss	(2,459)	(2,459)
Accumulated deficit	(678,808)	(630,000)
Total Pacific Ethanol, Inc. Stockholders' Equity	256,579	299,767
Noncontrolling interests	15,936	19,598
Total Stockholders' Equity	272,515	319,365
Total Liabilities and Stockholders' Equity	\$ 652,860	\$ 659,981

* Amounts derived from the audited consolidated financial statements for the year ended December 31, 2018.

See accompanying notes to consolidated financial statements.

PACIFIC ETHANOL, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited, in thousands, except per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net sales	\$ 365,160	\$ 370,407	\$ 1,067,264	\$ 1,180,956
Cost of goods sold	379,976	366,639	1,080,398	1,175,099
Gross profit (loss)	(14,816)	3,768	(13,134)	5,857
Selling, general and administrative expenses	8,687	8,970	23,630	27,183
Loss from operations	(23,503)	(5,202)	(36,764)	(21,326)
Interest expense, net	(5,163)	(4,193)	(15,014)	(12,875)
Other income (expense), net	(407)	91	254	233
Loss before benefit for income taxes	(29,073)	(9,304)	(51,524)	(33,968)
Benefit for income taxes	—	—	—	563
Consolidated net loss	(29,073)	(9,304)	(51,524)	(33,405)
Net loss attributed to noncontrolling interests	1,747	1,790	3,662	5,142
Net loss attributed to Pacific Ethanol, Inc.	\$ (27,326)	\$ (7,514)	\$ (47,862)	\$ (28,263)
Preferred stock dividends	\$ (319)	\$ (319)	\$ (946)	\$ (946)
Net loss available to common stockholders	\$ (27,645)	\$ (7,833)	\$ (48,808)	\$ (29,209)
Net loss per share, basic and diluted	\$ (0.58)	\$ (0.18)	\$ (1.04)	\$ (0.68)
Weighted-average shares outstanding, basic and diluted	47,777	43,299	47,030	43,171

See accompanying notes to consolidated financial statements.

PACIFIC ETHANOL, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited, in thousands)

	Nine Months Ended	
	September 30,	
	2019	2018
Operating Activities:		
Consolidated net loss	\$ (51,524)	\$ (33,405)
Adjustments to reconcile consolidated net loss to net cash provided by (used in) operating activities:		
Depreciation and amortization of intangibles	35,944	30,635
Deferred income taxes	—	(563)
Amortization of debt discount	539	539
Amortization of deferred financing fees	566	754
Non-cash compensation	2,103	2,579
(Gain) loss on derivative instruments	(1,565)	4,362
Bad debt expense	27	44
Changes in operating assets and liabilities:		
Accounts receivable	(370)	12,656
Inventories	(4,689)	6,784
Prepaid expenses and other assets	5,836	(2,454)
Prepaid inventory	(101)	1,839
Operating leases	(7,646)	—
Accounts payable and accrued expenses	(6,323)	2,307
Net cash provided by (used in) operating activities	<u>(27,203)</u>	<u>26,077</u>
Investing Activities:		
Additions to property and equipment	(2,144)	(10,874)
Net cash used in investing activities	<u>(2,144)</u>	<u>(10,874)</u>
Financing Activities:		
Net proceeds from Kinergy's line of credit	22,629	9,880
Proceeds from issuance of common stock	3,670	—
Proceeds from CoGen contract amendment	8,036	—
Proceeds from assessment financing	—	728
Principal payments on borrowings	(11,748)	(17,500)
Payments on capital leases	—	(761)
Preferred stock dividends paid	(946)	(946)
Net cash provided by (used in) financing activities	<u>21,641</u>	<u>(8,599)</u>
Net change in cash and cash equivalents	(7,706)	6,604
Cash and cash equivalents at beginning of period	26,627	49,489
Cash and cash equivalents at end of period	<u>\$ 18,921</u>	<u>\$ 56,093</u>
Supplemental Cash Flow Information:		
Interest paid	<u>\$ 13,877</u>	<u>\$ 11,299</u>
Income tax refunds received	<u>\$ —</u>	<u>\$ 743</u>
Noncash financing and investing activities:		
Initial right of use assets and liabilities recorded under ASC 842	<u>\$ 43,753</u>	<u>\$ —</u>

See accompanying notes to consolidated financial statements.

PACIFIC ETHANOL, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(unaudited, in thousands)

	Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accum. Other Comprehensive Income (Loss)	Non- Controlling Interests	Total
	Shares	Amount	Shares	Amount					
Balances, January 1, 2019	<u>927</u>	<u>\$ 1</u>	<u>45,771</u>	<u>\$ 46</u>	<u>\$ 932,179</u>	<u>\$ (630,000)</u>	<u>\$ (2,459)</u>	<u>\$ 19,598</u>	<u>\$ 319,365</u>
Stock-based compensation expense – restricted stock issued to employees and directors, net of cancellations and tax	—	—	(24)	—	797	—	—	—	797
Issuances of common stock	—	—	3,137	3	3,667	—	—	—	3,670
Preferred stock dividends	—	—	—	—	—	(312)	—	—	(312)
Net loss	—	—	—	—	—	(12,890)	—	(1,271)	(14,161)
Balances, March 31, 2019	<u>927</u>	<u>\$ 1</u>	<u>48,884</u>	<u>\$ 49</u>	<u>\$ 936,643</u>	<u>\$ (643,202)</u>	<u>\$ (2,459)</u>	<u>\$ 18,327</u>	<u>\$ 309,359</u>
Stock-based compensation expense – restricted stock issued to employees and directors, net of cancellations and tax	—	—	954	1	565	—	—	—	566
Preferred stock dividends	—	—	—	—	—	(315)	—	—	(315)
Net loss	—	—	—	—	—	(7,646)	—	(644)	(8,290)
Balances, June 30, 2019	<u>927</u>	<u>\$ 1</u>	<u>49,838</u>	<u>\$ 50</u>	<u>\$ 937,208</u>	<u>\$ (651,163)</u>	<u>\$ (2,459)</u>	<u>\$ 17,683</u>	<u>\$ 301,320</u>
Stock-based compensation expense – restricted stock issued to employees and directors, net of cancellations and tax	—	—	(54)	—	587	—	—	—	587
Preferred stock dividends	—	—	—	—	—	(319)	—	—	(319)
Net loss	—	—	—	—	—	(27,326)	—	(1,747)	(29,073)
Balances, September 30, 2019	<u>927</u>	<u>\$ 1</u>	<u>49,784</u>	<u>\$ 50</u>	<u>\$ 937,795</u>	<u>\$ (678,808)</u>	<u>\$ (2,459)</u>	<u>\$ 15,936</u>	<u>\$ 272,515</u>

PACIFIC ETHANOL, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(unaudited, in thousands)

	Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accum. Other Comprehensive Income (Loss)	Non- Controlling Interests	Total
	Shares	Amount	Shares	Amount					
Balances, January 1, 2018	<u>927</u>	<u>\$ 1</u>	<u>43,986</u>	<u>\$ 44</u>	<u>\$ 927,090</u>	<u>\$ (568,462)</u>	<u>\$ (2,234)</u>	<u>\$ 27,261</u>	<u>\$ 383,700</u>
Stock-based compensation expense – restricted stock issued to employees and directors, net of cancellations and tax	—	—	(31)	—	735	—	—	—	735
Preferred stock dividends	—	—	—	—	—	(312)	—	—	(312)
Net loss	—	—	—	—	—	(7,841)	—	(1,656)	(9,497)
Balances, March 31, 2018	<u>927</u>	<u>\$ 1</u>	<u>43,955</u>	<u>\$ 44</u>	<u>\$ 927,825</u>	<u>\$ (576,615)</u>	<u>\$ (2,234)</u>	<u>\$ 25,605</u>	<u>\$ 374,626</u>
Stock-based compensation expense – restricted stock issued to employees and directors, net of cancellations and tax	—	—	1,006	1	553	—	—	—	554
Preferred stock dividends	—	—	—	—	—	(315)	—	—	(315)
Net loss	—	—	—	—	—	(12,908)	—	(1,696)	(14,604)
Balances, June 30, 2018	<u>927</u>	<u>\$ 1</u>	<u>44,961</u>	<u>\$ 45</u>	<u>\$ 928,378</u>	<u>\$ (589,838)</u>	<u>\$ (2,234)</u>	<u>\$ 23,909</u>	<u>\$ 360,261</u>
Stock-based compensation expense – restricted stock issued to employees and directors, net of cancellations and tax	—	—	(14)	—	884	—	—	—	884
Preferred stock dividends	—	—	—	—	—	(319)	—	—	(319)
Net loss	—	—	—	—	—	(7,514)	—	(1,790)	(9,304)
Balances, September 30, 2018	<u>927</u>	<u>\$ 1</u>	<u>44,947</u>	<u>\$ 45</u>	<u>\$ 929,262</u>	<u>\$ (597,671)</u>	<u>\$ (2,234)</u>	<u>\$ 22,119</u>	<u>\$ 351,522</u>

See accompanying notes to consolidated financial statements.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

1. ORGANIZATION AND BASIS OF PRESENTATION.

Organization and Business – The consolidated financial statements include, for all periods presented, the accounts of Pacific Ethanol, Inc., a Delaware corporation (“Pacific Ethanol”), and its direct and indirect subsidiaries (collectively, the “Company”), including its subsidiaries, Kinergy Marketing LLC, an Oregon limited liability company (“Kinergy”), Pacific Ag. Products, LLC, a California limited liability company (“PAP”), PE Op Co., a Delaware corporation (“PE Op Co.”) and all nine of the Company’s ethanol production facilities.

The Company is a leading producer and marketer of low-carbon renewable fuels in the United States.

The Company’s four ethanol plants in the Western United States (together with their respective holding companies, the “Pacific Ethanol West Plants”) are located in close proximity to both feed and ethanol customers and thus enjoy unique advantages in efficiency, logistics and product pricing.

The Company’s five ethanol plants in the Midwest (together with their respective holding companies, the “Pacific Ethanol Central Plants”) are located in the heart of the Corn Belt, benefit from low-cost and abundant feedstock production and allow for access to many additional domestic markets. In addition, the Company’s ability to load unit trains from these facilities in the Midwest allows for greater access to international markets.

The Company has a combined production capacity of 605 million gallons per year, markets, on an annualized basis, nearly 1.0 billion gallons of ethanol and specialty alcohols, and produces, on an annualized basis, nearly 3.0 million tons of co-products on a dry matter basis, such as wet and dry distillers grains, wet and dry corn gluten feed, condensed distillers solubles, corn gluten meal, corn germ, dried yeast and CO₂.

As of September 30, 2019, all but one of the Company’s production facilities, specifically, the Company’s Aurora East facility, were operating. As market conditions change, the Company may increase, decrease or idle production at one or more operating facilities or resume operations at any idled facility.

Basis of Presentation—Interim Financial Statements – The accompanying unaudited consolidated financial statements and related notes have been prepared in accordance with accounting principles generally accepted in the United States for interim financial information and the instructions to Form 10-Q and Rule 10-01 of Regulation S-X. Results for interim periods should not be considered indicative of results for a full year. These interim consolidated financial statements should be read in conjunction with the consolidated financial statements and related notes contained in the Company’s Annual Report on Form 10-K for the year ended December 31, 2018. The accounting policies used in preparing these consolidated financial statements are the same as those described in Note 1 to the consolidated financial statements in the Company’s Annual Report on Form 10-K for the year ended December 31, 2018, with the exception of new lease accounting, as discussed further below. In the opinion of management, all adjustments (consisting of normal recurring adjustments) considered necessary for a fair statement of the results for interim periods have been included. All significant intercompany accounts and transactions have been eliminated in consolidation.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

Liquidity – The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. The Company and the ethanol industry as a whole experienced significant adverse conditions throughout most of 2018 and 2019 as a result of industry-wide record low ethanol prices due to reduced demand and high industry inventory levels. These factors resulted in prolonged negative operating margins, significantly lower cash flow from operations and substantial net losses. In response to the low-margin environment, the Company has pursued strategic initiatives focused on the potential sale of certain production assets, a reduction of its debt levels, a strengthening of its cash and liquidity position, and opportunities for strategic partnerships and capital raising activities, positioning the Company to optimize its business performance. The most significant challenges to the Company in meeting these objectives would be a sustained adverse margin environment and insufficient cash flows to make its scheduled debt payments.

In implementing these strategic initiatives, the Company, as of September 30, 2019, had the following available liquidity and capital resources to achieve its objectives:

- Cash of \$18.9 million and excess availability under Kinergy’s line of credit of \$2.2 million; and
- Nine ethanol production facilities with an aggregate of 605 million gallons of annual production capacity, of which plant assets representing 355 million gallons of capacity are either unencumbered, or their entire sales proceeds would be used to repay the Company’s senior secured notes. The Company has engaged a financial advisor to help market certain of these assets.

The Company will likely not have sufficient cash to make its short-term scheduled debt payments, and is working on extensions with its lenders. While the lenders are secured by certain plant assets, the Company believes it has other unencumbered assets that may be used to satisfy the lenders. The Company continues working on a comprehensive long-term solution with its lenders to increase liquidity and extend the maturity dates of its debt.

The Company believes that its strategic initiatives, if implemented timely and on suitable terms, will provide sufficient liquidity to meet its anticipated working capital, debt service and other liquidity needs through at least the next twelve months.

Accounts Receivable and Allowance for Doubtful Accounts – Trade accounts receivable are presented at face value, net of the allowance for doubtful accounts. The Company sells ethanol to gasoline refining and distribution companies, sells distillers grains and other feed co-products to dairy operators and animal feedlots and sells corn oil to poultry and biodiesel customers generally without requiring collateral.

The Company maintains an allowance for doubtful accounts for balances that appear to have specific collection issues. The collection process is based on the age of the invoice and requires attempted contacts with the customer at specified intervals. If, after a specified number of days, the Company has been unsuccessful in its collection efforts, a bad debt allowance is recorded for the balance in question. Delinquent accounts receivable are charged against the allowance for doubtful accounts once uncollectibility has been determined. The factors considered in reaching this determination are the apparent financial condition of the customer and the Company’s success in contacting and negotiating with the customer. If the financial condition of the Company’s customers were to deteriorate, resulting in an impairment of ability to make payments, additional allowances may be required.

Of the accounts receivable balance, approximately \$61,743,000 and \$54,820,000 at September 30, 2019 and December 31, 2018, respectively, were used as collateral under Kinergy’s operating line of credit. The allowance for doubtful accounts was \$39,000 and \$12,000 as of September 30, 2019 and December 31, 2018, respectively. The Company recorded a bad debt expense of \$0 and a bad debt recovery of \$1,000 for the three months ended September 30, 2019 and 2018, respectively. The Company recorded a bad debt expense of \$27,000 and \$44,000 for the nine months ended September 30, 2019 and 2018, respectively.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

Financial Instruments – The carrying values of cash and cash equivalents, accounts receivable, accounts payable, accrued liabilities, derivative assets and derivative liabilities are reasonable estimates of their fair values because of the short maturity of these items. The Company believes the carrying value of its long-term debt approximates fair value because the interest rates on these instruments are variable, and are considered Level 2 fair value measurements.

Recent Accounting Pronouncements– In February 2016, the Financial Accounting Standards Board (“FASB”) issued new guidance on accounting for leases under Accounting Standards Codification 842 (“ASC 842”). Under the new guidance, lessees are required to recognize the following for all leases (with the exception of short-term leases) at the commencement date: (1) a lease liability, which is a lessee’s obligation to make lease payments arising from a lease, measured on a discounted cash flow basis; and (2) a “right of use” asset, which is an asset that represents the lessee’s right to use the specified asset for the lease term. Under the new guidance, lessor accounting is largely unchanged, with some minor exceptions. Lease expense under the new guidance is substantially the same as prior to the adoption. See Note 5 for further information.

Estimates and Assumptions – The preparation of the consolidated financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates are required as part of determining the allowance for doubtful accounts, net realizable value of inventory, estimated lives of property and equipment, long-lived asset impairments, valuation allowances on deferred income taxes and the potential outcome of future tax consequences of events recognized in the Company’s financial statements or tax returns, and the valuation of assets acquired and liabilities assumed as a result of business combinations. Actual results and outcomes may materially differ from management’s estimates and assumptions.

2. SEGMENTS.

The Company reports its financial and operating performance in two segments: (1) ethanol production, which includes the production and sale of ethanol, specialty alcohols and co-products, with all of the Company’s production facilities aggregated, and (2) marketing and distribution, which includes marketing and merchant trading for Company-produced ethanol, specialty alcohols and co-products and third-party ethanol.

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The following tables set forth certain financial data for the Company's operating segments (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
<u>Net Sales</u>				
Production, recorded as gross:				
Ethanol/alcohol sales	\$ 212,897	\$ 216,788	\$ 586,680	\$ 670,304
Co-product sales	65,693	73,259	199,177	226,307
Intersegment sales	403	518	1,187	1,531
Total production sales	<u>278,993</u>	<u>290,565</u>	<u>787,044</u>	<u>898,142</u>
Marketing and distribution:				
Ethanol/alcohol sales, gross	\$ 86,124	\$ 79,877	\$ 280,032	\$ 282,940
Ethanol/alcohol sales, net	446	483	1,375	1,405
Intersegment sales	2,079	2,201	5,839	6,757
Total marketing and distribution sales	<u>88,649</u>	<u>82,561</u>	<u>287,246</u>	<u>291,102</u>
Intersegment eliminations	(2,482)	(2,719)	(7,026)	(8,288)
Net sales as reported	<u>\$ 365,160</u>	<u>\$ 370,407</u>	<u>\$ 1,067,264</u>	<u>\$ 1,180,956</u>
<u>Cost of goods sold:</u>				
Production	\$ 294,888	\$ 295,574	\$ 810,670	\$ 914,638
Marketing and distribution	87,976	73,784	277,545	268,917
Intersegment eliminations	(2,888)	(2,719)	(7,817)	(8,456)
Cost of goods sold as reported	<u>\$ 379,976</u>	<u>\$ 366,639</u>	<u>\$ 1,080,398</u>	<u>\$ 1,175,099</u>
<u>Income (loss) before benefit for income taxes:</u>				
Production	\$ (25,999)	\$ (15,571)	\$ (50,682)	\$ (45,355)
Marketing and distribution	(998)	7,416	4,991	18,095
Corporate activities	(2,076)	(1,149)	(5,833)	(6,708)
	<u>\$ (29,073)</u>	<u>\$ (9,304)</u>	<u>\$ (51,524)</u>	<u>\$ (33,968)</u>
<u>Depreciation and amortization:</u>				
Production	\$ 11,833	\$ 10,040	\$ 35,390	\$ 30,017
Corporate activities	195	177	554	618
	<u>\$ 12,028</u>	<u>\$ 10,217</u>	<u>\$ 35,944</u>	<u>\$ 30,635</u>
<u>Interest expense:</u>				
Production	\$ 1,969	\$ 1,692	\$ 5,724	\$ 5,416
Marketing and distribution	929	344	2,291	1,042
Corporate activities	2,265	2,157	6,999	6,417
	<u>\$ 5,163</u>	<u>\$ 4,193</u>	<u>\$ 15,014</u>	<u>\$ 12,875</u>

The following table sets forth the Company's total assets by operating segment (in thousands):

	September 30, 2019	December 31, 2018
<u>Total assets:</u>		
Production	\$ 527,950	\$ 532,790
Marketing and distribution	108,960	112,984
Corporate assets	15,950	14,117
	<u>\$ 652,860</u>	<u>\$ 659,891</u>

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3. INVENTORIES.

Inventories consisted primarily of bulk ethanol, specialty alcohols, corn, co-products, low-carbon and Renewable Identification Number (“RIN”) credits and unleaded fuel, and are valued at the lower-of-cost-or-net realizable value, with cost determined on a first-in, first-out basis. Inventory is net of a \$0 and \$2,328,000 valuation adjustment as of September 30, 2019 and December 31, 2018, respectively. Inventory balances consisted of the following (in thousands):

	September 30, 2019	December 31, 2018
Finished goods	\$ 41,034	\$ 35,778
Work in progress	8,207	6,855
Raw materials	7,236	7,233
Low-carbon and RIN credits	4,150	6,130
Other	1,882	1,824
Total	<u>\$ 62,509</u>	<u>\$ 57,820</u>

4. DERIVATIVES.

The business and activities of the Company expose it to a variety of market risks, including risks related to changes in commodity prices. The Company monitors and manages these financial exposures as an integral part of its risk management program. This program recognizes the unpredictability of financial markets and seeks to reduce the potentially adverse effects that market volatility could have on operating results.

Commodity Risk – Cash Flow Hedges – The Company uses derivative instruments to protect cash flows from fluctuations caused by volatility in commodity prices for periods of up to twelve months in order to protect gross profit margins from potentially adverse effects of market and price volatility on ethanol sale and purchase commitments where the prices are set at a future date and/or if the contracts specify a floating or index-based price for ethanol. In addition, the Company hedges anticipated sales of ethanol to minimize its exposure to the potentially adverse effects of price volatility. These derivatives may be designated and documented as cash flow hedges and effectiveness is evaluated by assessing the probability of the anticipated transactions and regressing commodity futures prices against the Company’s purchase and sales prices. Ineffectiveness, which is defined as the degree to which the derivative does not offset the underlying exposure, is recognized immediately in cost of goods sold. For the three and nine months ended September 30, 2019 and 2018, the Company did not designate any of its derivatives as cash flow hedges.

Commodity Risk – Non-Designated Hedges – The Company uses derivative instruments to lock in prices for certain amounts of corn and ethanol by entering into exchange-traded forward contracts for those commodities. These derivatives are not designated for hedge accounting treatment. The changes in fair value of these contracts are recorded on the balance sheet and recognized immediately in cost of goods sold. The Company recognized losses of \$3,320,000 and \$991,000 as the changes in the fair values of these contracts for the three months ended September 30, 2019 and 2018, respectively. The Company recognized gains of \$1,565,000 and losses of \$4,362,000 as the changes in the fair values of these contracts for the nine months ended September 30, 2019 and 2018, respectively.

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Non Designated Derivative Instruments – The classification and amounts of the Company’s derivatives not designated as hedging instruments, and related cash collateral balances, are as follows (in thousands):

Type of Instrument	As of September 30, 2019			
	Assets		Liabilities	
	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
Cash collateral balance	Other current assets	\$ 2,400		
Commodity contracts	Derivative instruments	\$ 2,790	Derivative instruments	\$ 3,619

Type of Instrument	As of December 31, 2018			
	Assets		Liabilities	
	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
Cash collateral balance	Other current assets	\$ 8,479		
Commodity contracts	Derivative instruments	\$ 1,765	Derivative instruments	\$ 6,309

The classification and amounts of the Company’s recognized gains (losses) for its derivatives not designated as hedging instruments are as follows (in thousands):

Type of Instrument	Statements of Operations Location	Realized Gains	
		Three Months Ended	
		2019	2018
Commodity contracts	Cost of goods sold	\$ 2,262	\$ 916

Type of Instrument	Statements of Operations Location	Unrealized Losses	
		Three Months Ended	
		2019	2018
Commodity contracts	Cost of goods sold	\$ (5,582)	\$ (1,907)

Type of Instrument	Statements of Operations Location	Realized Losses	
		Nine Months Ended	
		2019	2018
Commodity contracts	Cost of goods sold	\$ (2,150)	\$ (1,241)

Type of Instrument	Statements of Operations Location	Unrealized Gains (Losses)	
		Nine Months Ended	
		2019	2018
Commodity contracts	Cost of goods sold	\$ 3,715	\$ (3,121)

5. LEASES.

As discussed in Note 1, on January 1, 2019, the Company adopted the provisions of ASC 842 using the prospective transition approach, which applies the provisions of ASC 842 upon adoption, with no change to prior periods. This adoption resulted in the Company recognizing initial right of use assets and lease liabilities of \$43,753,000. The adoption did not have a significant impact on the Company’s consolidated statements of operations.

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Upon the initial adoption of ASC 842, the Company elected the following practical expedients allowable under the guidance: not to reassess whether any expired or existing contracts are or contain leases; not to reassess the lease classification for any expired or existing leases; not to reassess initial direct costs for any existing leases; not to separately identify lease and nonlease components; and not to evaluate historical land easements. Additionally, the Company elected the short-term lease exemption policy, applying the requirements of ASC 842 to only long-term (greater than 1 year) leases.

The Company leases railcar equipment, office equipment and land for certain of its facilities. Operating lease right of use assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. The Company uses its estimated incremental borrowing rate, unless an implicit rate is readily determinable, as the discount rate for each lease in determining the present value of lease payments. For the three and nine months ended September 30, 2019, the Company's weighted average discount rate was 6.01%. Operating lease expense is recognized on a straight-line basis over the lease term.

The Company determines if an arrangement is a lease or contains a lease at inception. The Company's leases have remaining lease terms of approximately 1 year to 57 years, which may include options to extend the lease when it is reasonably certain the Company will exercise those options. For the three and nine months ended September 30, 2019, the weighted average remaining lease terms of equipment and land-related leases were 2.66 years and 13.43 years, respectively. The Company does not have lease arrangements with residual value guarantees, sale leaseback terms or material restrictive covenants. The Company does not have any material finance lease obligations nor sublease agreements.

The following table summarizes the remaining maturities of the Company's operating lease liabilities, assuming all land lease extensions are taken, as of September 30, 2019 (in thousands):

Year Ended:	Equipment	Land Related
2019	\$ 2,220	\$ 262
2020	7,349	1,054
2021	4,364	1,077
2022	4,140	1,100
2023	3,500	1,013
2024-43	10,181	34,931
	<u>\$ 31,754</u>	<u>\$ 39,437</u>

For the three and nine months ended September 30, 2019, the Company recorded operating lease costs of \$2,157,000 and \$6,490,000 in cost of goods sold, respectively, and \$119,000 and \$354,000 in selling, general and administrative expenses, respectively, in the Company's statements of operations.

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6. DEBT.

Long-term borrowings are summarized as follows (in thousands):

	September 30, 2019	December 31, 2018
Kinergy line of credit	\$ 79,685	\$ 57,057
Pekin term loan	39,500	43,000
Pekin revolving loan	32,000	32,000
ICP term loan	12,000	16,500
ICP revolving loan	18,000	18,000
Parent notes payable	63,200	66,948
	<u>244,385</u>	<u>233,505</u>
Less unamortized debt discount	(150)	(690)
Less unamortized debt financing costs	(1,019)	(1,377)
Less short-term portion	(144,543)	(146,671)
Long-term debt	<u>\$ 98,673</u>	<u>\$ 84,767</u>

Kinergy Operating Line of Credit – On July 31, 2019, Kinergy amended its credit facility to continue, until November 30, 2019 or earlier on ten days prior notice from the lender, the borrowing base under the credit facility at 90% of eligible accounts receivable, plus the lesser of (a) \$50,000,000, (b) 80% of eligible inventory, or (c) 95% of the estimated recovery value of eligible inventory. Additional borrowings under the expanded credit terms, which were \$4,430,000 as of September 30, 2019, accrue interest at an annual rate equal to the daily three month LIBOR plus an applicable margin of 4.00%. As of September 30, 2019, Kinergy had additional unused borrowing availability under its credit facility of \$2,247,000.

Pekin Term Loan – On March 30, 2018, Pacific Ethanol Pekin, LLC (“PE Pekin”), one of the Company’s subsidiaries, amended its term loan facility by reducing the amount of working capital it is required to maintain to not less than \$13.0 million from March 31, 2018 through November 30, 2018 and not less than \$16.0 million from December 1, 2018 and continuing at all times thereafter. In addition, a principal payment in the amount of \$3.5 million due for May 2018 was deferred until the maturity date of the term loan.

On March 21, 2019, PE Pekin amended its term and revolving credit facilities by agreeing to increase the interest rate under the facilities by 125 basis points to an annual rate equal to the 30-day LIBOR plus 5.00%. PE Pekin and its lender also agreed that it is required to maintain working capital of not less than \$15,000,000 from March 21, 2019 through July 15, 2019 and working capital of not less than \$30,000,000 from July 15, 2019 and continuing at all times thereafter. On July 15, 2019, PE Pekin and its lender agreed to a further amendment extending the aforementioned July 15, 2019 dates to November 15, 2019. As of the filing of this prospectus, the Company believes PE Pekin is in compliance with its working capital requirement.

Under these amendments, the lenders also agreed to temporarily waive financial covenant violations, working capital maintenance violations and intercompany accounts receivable collections violations that occurred with respect to PE Pekin’s credit agreement. In addition, the lenders agreed to defer scheduled principal payments, including further deferral of principal payments in the amount of \$3,500,000 each due on February 20, 2019 and May 20, 2019. On August 6, 2019, the Company paid its \$3,500,000 principal payment scheduled for August 20, 2019.

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The waivers and principal deferrals expire on November 15, 2019, or earlier in the case of an event of default, at which time the waivers will become permanent if Pacific Ethanol Central, LLC (“PE Central”), PE Pekin’s parent, has made a contribution to PE Pekin in an amount equal to \$30,000,000, minus the then-existing amount of PE Pekin’s working capital, plus the amount of any accounts receivable owed by PE Central to PE Pekin, plus \$12,000,000 (the “PE Central Contribution Amount”). In addition, if the PE Central Contribution Amount is timely received, the lenders agreed to waive PE Pekin’s debt service coverage ratio financial covenant for the year ended December 31, 2019. If the PE Central Contribution Amount is not timely made, then the temporary waivers will automatically expire.

PE Pekin is also required to pay by November 15, 2019 the aggregate amount of \$10,500,000 representing all deferred and unpaid scheduled principal payments and all additional scheduled principal payments for the remainder of 2019.

ICP Credit Facilities – As of September 30, 2019, ICP did not meet its minimum working capital requirement, however, ICP’s lender subsequently waived the minimum working capital deficiency. As of the filing of this prospectus, the Company believes ICP is in compliance with its working capital requirement.

Restrictions – At September 30, 2019, there were approximately \$184.8 million of net assets at the Company’s subsidiaries that were not available to be transferred to Pacific Ethanol, Inc. in the form of dividends, loans or advances due to restrictions contained in the credit facilities of the Company’s subsidiaries.

7. COMMITMENTS AND CONTINGENCIES.

Sales Commitments – At September 30, 2019, the Company had entered into sales contracts with its major customers to sell certain quantities of ethanol and co-products. The Company had open ethanol indexed-price contracts for 184,865,000 gallons of ethanol as of September 30, 2019 and open fixed-price ethanol sales contracts totaling \$124,090,000 as of September 30, 2019. The Company had open fixed-price co-product sales contracts totaling \$33,575,000 and open indexed-price co-product sales contracts for 50,000 tons as of September 30, 2019. These sales contracts are scheduled to be completed throughout 2019.

Purchase Commitments – At September 30, 2019, the Company had indexed-price purchase contracts to purchase 7,150,000 gallons of ethanol and fixed-price purchase contracts to purchase \$23,930,000 of ethanol from its suppliers. The Company had fixed-price purchase contracts to purchase \$14,304,000 of corn from its suppliers as of September 30, 2019. These purchase commitments are scheduled to be satisfied throughout 2019.

Litigation – General – The Company is subject to various claims and contingencies in the ordinary course of its business, including those related to litigation, business transactions, employee-related matters, environmental regulations, and others. When the Company is aware of a claim or potential claim, it assesses the likelihood of any loss or exposure. If it is probable that a loss will result and the amount of the loss can be reasonably estimated, the Company will record a liability for the loss. If the loss is not probable or the amount of the loss cannot be reasonably estimated, the Company discloses the claim if the likelihood of a potential loss is reasonably possible and the amount involved could be material. While there can be no assurances, the Company does not expect that any of its pending legal proceedings will have a material impact on the Company’s financial condition or results of operations.

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8. PENSION AND RETIREMENT BENEFIT PLANS.

The Company sponsors a defined benefit pension plan (the "Retirement Plan") and a health care and life insurance plan (the "Postretirement Plan"). The Company assumed the Retirement Plan and the Postretirement Plan as part of its acquisition of PE Central on July 1, 2015.

The Retirement Plan is noncontributory, and covers only "grandfathered" unionized employees at the Company's Pekin, Illinois facility who fulfill minimum age and service requirements. Benefits are based on a prescribed formula based upon the employee's years of service. The Retirement Plan, which is part of a collective bargaining agreement, covers only union employees hired prior to November 1, 2010.

The Company uses a December 31 measurement date for its Retirement Plan. The Company's funding policy is to make the minimum annual contribution required by applicable regulations. As of December 31, 2018, the Retirement Plan's accumulated projected benefit obligation was \$18,690,000, with a fair value of plan assets of \$13,257,000. The underfunded amount of \$5,433,000 is recorded on the Company's consolidated balance sheet in other liabilities.

The Company's net periodic Retirement Plan costs are as follows (in thousands):

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2019	2018	2019	2018
Interest cost	\$ 190	\$ 174	\$ 570	\$ 522
Service cost	94	106	282	318
Expected return on plan assets	(190)	(204)	(570)	(612)
Net periodic expense	<u>\$ 94</u>	<u>\$ 76</u>	<u>\$ 282</u>	<u>\$ 228</u>

The Postretirement Plan provides postretirement medical benefits and life insurance to certain "grandfathered" unionized employees. Employees hired after December 31, 2000 are not eligible to participate in the Postretirement Plan. The Postretirement Plan is contributory, with contributions required at the same rate as active employees. Benefit eligibility under the plan reduces at age 65 from a defined benefit to a defined dollar cap based upon years of service. As of December 31, 2018, the Postretirement Plan's accumulated projected benefit obligation was \$5,711,000 and is recorded on the Company's consolidated balance sheet in other liabilities. The Company's funding policy is to make the minimum annual contribution required by applicable regulations.

The Company's net periodic Postretirement Plan costs are as follows (in thousands):

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2019	2018	2019	2018
Interest cost	\$ 55	\$ 46	\$ 165	\$ 138
Service cost	17	2	51	6
Amortization of loss	30	33	90	99
Net periodic expense	<u>\$ 102</u>	<u>\$ 81</u>	<u>\$ 306</u>	<u>\$ 243</u>

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9. FAIR VALUE MEASUREMENTS.

The fair value hierarchy prioritizes the inputs used in valuation techniques into three levels, as follows:

- Level 1 – Observable inputs – unadjusted quoted prices in active markets for identical assets and liabilities;
- Level 2 – Observable inputs other than quoted prices included in Level 1 that are observable for the asset or liability through corroboration with market data; and
- Level 3 – Unobservable inputs – includes amounts derived from valuation models where one or more significant inputs are unobservable. For fair value measurements using significant unobservable inputs, a description of the inputs and the information used to develop the inputs is required along with a reconciliation of Level 3 values from the prior reporting period.

Pooled separate accounts – Pooled separate accounts invest primarily in domestic and international stocks, commercial paper or single mutual funds. The net asset value is used as a practical expedient to determine fair value for these accounts. Each pooled separate account provides for redemptions by the Retirement Plan at reported net asset values per share, with little to no advance notice requirement, therefore these funds are classified within Level 2 of the valuation hierarchy.

Other Derivative Instruments – The Company's other derivative instruments consist of commodity positions. The fair values of the commodity positions are based on quoted prices on the commodity exchanges and are designated as Level 1 inputs.

The following table summarizes recurring fair value measurements by level at September 30, 2019 (in thousands):

	<u>Fair Value</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>
Assets:				
Derivative financial instruments(1)	\$ 2,790	\$ 2,790	\$ —	\$ —
	<u>\$ 2,790</u>	<u>\$ 2,790</u>	<u>\$ —</u>	<u>\$ —</u>
Liabilities:				
Derivative financial instruments(1)	\$ (3,619)	\$ (3,619)	\$ —	\$ —
	<u>\$ (3,619)</u>	<u>\$ (3,619)</u>	<u>\$ —</u>	<u>\$ —</u>

The following table summarizes recurring fair value measurements by level at December 31, 2018 (in thousands):

	<u>Fair Value</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Benefit Plan Percentage Allocation</u>
Assets:					
Derivative financial instruments(1)	\$ 1,765	\$ 1,765	\$ —	\$ —	
Defined benefit plan assets (pooled separate accounts):					
Large U.S. Equity(2)	3,621	—	3,621	—	27%
Small/Mid U.S. Equity(3)	1,844	—	1,844	—	14%
International Equity(4)	2,106	—	2,106	—	16%
Fixed Income(5)	5,686	—	5,686	—	43%
	<u>\$ 15,022</u>	<u>\$ 1,765</u>	<u>\$ 13,257</u>	<u>\$ —</u>	
Liabilities:					
Derivative financial instruments	\$ (6,309)	\$ (6,309)	\$ —	\$ —	

(1) Included in derivative instruments in the consolidated balance sheets.

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- (2) This category includes investments in funds comprised of equity securities of large U.S. companies. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund.
- (3) This category includes investments in funds comprised of equity securities of small- and medium-sized U.S. companies. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund.
- (4) This category includes investments in funds comprised of equity securities of foreign companies including emerging markets. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund.
- (5) This category includes investments in funds comprised of U.S. and foreign investment-grade fixed income securities, high-yield fixed income securities that are rated below investment-grade, U.S. treasury securities, mortgage-backed securities, and other asset-backed securities. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund.

10. EARNINGS PER SHARE.

The following tables compute basic and diluted earnings per share (in thousands, except per share data):

	Three Months Ended September 30, 2019		
	Loss Numerator	Shares Denominator	Per-Share Amount
Net loss attributed to Pacific Ethanol, Inc.	\$ (27,326)		
Less: Preferred stock dividends	(319)		
Basic and diluted loss per share:			
Loss available to common stockholders	<u>\$ (27,645)</u>	<u>47,777</u>	<u>\$ (0.58)</u>
	Three Months Ended September 30, 2018		
	Loss Numerator	Shares Denominator	Per-Share Amount
Net loss attributed to Pacific Ethanol, Inc.	\$ (7,514)		
Less: Preferred stock dividends	(319)		
Basic and diluted loss per share:			
Loss available to common stockholders	<u>\$ (7,833)</u>	<u>43,299</u>	<u>\$ (0.18)</u>
	Nine Months Ended September 30, 2019		
	Loss Numerator	Shares Denominator	Per-Share Amount
Net loss attributed to Pacific Ethanol, Inc.	\$ (47,862)		
Less: Preferred stock dividends	(946)		
Basic and diluted loss per share:			
Loss available to common stockholders	<u>\$ (48,808)</u>	<u>47,030</u>	<u>\$ (1.04)</u>

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	Nine Months Ended September 30, 2018		
	Loss Numerator	Shares Denominator	Per-Share Amount
Net loss attributed to Pacific Ethanol, Inc.	\$ (28,263)		
Less: Preferred stock dividends	(946)		
Basic and diluted loss per share:			
Loss available to common stockholders	\$ (29,209)	43,171	\$ (0.68)

There were an aggregate of 635,000 potentially dilutive weighted-average shares from convertible securities outstanding for the three and nine months ended September 30, 2019. There were an aggregate of 425,000 and 635,000 potentially dilutive weighted-average shares from convertible securities outstanding for the three and nine months ended September 30, 2018, respectively. These convertible securities were not considered in calculating diluted net loss per share, as their effect would have been anti-dilutive.

11. PARENT COMPANY FINANCIALS.

Restricted Net Assets – At September 30, 2019, the Company had approximately \$184,763,000 of net assets at its subsidiaries that were not available to be transferred to Pacific Ethanol in the form of dividends, distributions, loans or advances due to restrictions contained in the credit facilities of these subsidiaries.

Parent company financial statements for the periods covered in this prospectus are set forth below (in thousands):

	September 30, 2019	December 31, 2018
Current Assets:		
Cash and cash equivalents	\$ 5,658	\$ 6,759
Receivables from subsidiaries	12,270	17,156
Other current assets	1,183	1,659
Total current assets	19,111	25,574
Property and equipment, net	308	522
Other Assets:		
Investments in subsidiaries	249,641	286,666
Pacific Ethanol West plant receivable	55,750	58,766
Right of use operating lease assets, net	3,318	—
Other assets	1,529	1,437
Total other assets	310,238	346,869
Total Assets	\$ 329,657	\$ 372,965
Current Liabilities:		
Accounts payable and accrued liabilities	\$ 2,437	\$ 2,469
Accrued PE Op Co. purchase	3,829	3,829
Current portion of long-term debt	62,866	66,255
Other current liabilities	587	385
Total current liabilities	69,719	72,938
Operating leases, net of current portion	3,108	—
Deferred tax liabilities	251	251
Other liabilities	—	9
Total Liabilities	73,078	73,198
Stockholders' Equity:		
Preferred stock	1	1
Common and non-voting common stock	50	46
Additional paid-in capital	937,795	932,179
Accumulated other comprehensive loss	(2,459)	(2,459)
Accumulated deficit	(678,808)	(630,000)
Total Pacific Ethanol, Inc. stockholders' equity	256,579	299,767
Total Liabilities and Stockholders' Equity	\$ 329,657	\$ 372,965

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Management fees from subsidiaries	\$ 3,330	\$ 3,330	\$ 9,660	\$ 9,738
Selling, general and administrative expenses	3,827	3,181	11,374	13,069
Income (loss) from operations	(497)	149	(1,714)	(3,331)
Interest income	1,145	1,185	3,486	3,518
Interest expense	(2,276)	(2,171)	(7,039)	(6,458)
Other expense	(4)	(4)	(86)	—
Loss before benefit for income taxes	(1,632)	(841)	(5,353)	(6,271)
Benefit for income taxes	—	—	—	563
Loss before benefit for income taxes	(1,632)	(841)	(5,353)	(5,708)
Equity in losses of subsidiaries	(25,694)	(6,673)	(42,509)	(22,555)
Consolidated net loss	\$ (27,326)	\$ (7,514)	\$ (47,862)	\$ (28,263)

	For the Nine Months Ended September 30,	
	2019	2018
Operating Activities:		
Net loss	\$ (47,862)	\$ (28,263)
Adjustments to reconcile net loss to cash used in operating activities:		
Equity in losses of subsidiaries	42,509	22,555
Depreciation	227	481
Deferred income taxes	—	563
Amortization of debt discounts	539	357
Changes in operating assets and liabilities:		
Accounts receivables	(114)	(5,062)
Other assets	173	2,489
Accounts payable and accrued expenses	1,950	5
Accounts payable with subsidiaries	(502)	(622)
Net cash used in operating activities	\$ (3,080)	\$ (7,497)
Investing Activities:		
Dividend from subsidiaries	\$ —	\$ 10,000
Contributions to subsidiaries	—	(5,000)
Additions to property and equipment	(13)	(6)
Net cash provided by (used in) investing activities	\$ (13)	\$ 4,994
Financing Activities:		
Proceeds from issuances of common stock	\$ 3,670	\$ —
Proceeds from Pacific Ethanol West	3,016	—
Payments on senior notes	(3,748)	—
Preferred stock dividend payments	(946)	(946)
Net cash provided by (used in) financing activities	\$ 1,992	\$ (946)
Net decrease in cash and cash equivalents	(1,101)	(3,449)
Cash and cash equivalents at beginning of period	6,759	5,314
Cash and cash equivalents at end of period	\$ 5,658	\$ 1,865

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

**To the Stockholders and the Board of Directors of
Pacific Ethanol, Inc.**

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Pacific Ethanol, Inc. and its subsidiaries (the Company) as of December 31, 2018 and 2017, the related consolidated statements of operations, other comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes to the consolidated financial statements (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31 2018, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013, and our report dated March 18, 2019, expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ RSM US LLP

We have served as the Company's auditor since 2015.

Des Moines, Iowa
March 18, 2019

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of
Pacific Ethanol, Inc.

Opinion on the Internal Control Over Financial Reporting

We have audited Pacific Ethanol, Inc.'s (the Company) internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets as of December 31, 2018 and 2017, the related consolidated statements of operations, other comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 31, 2018 of the Company and our report dated March 18, 2019 expressed an unqualified opinion.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ RSM US LLP
Des Moines, Iowa
March 18, 2019

PACIFIC ETHANOL, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except shares and par value)

	December 31,	
ASSETS	2018	2017
Current Assets:		
Cash and cash equivalents	\$ 26,627	\$ 49,489
Accounts receivable, net of allowance for doubtful accounts of \$12 and \$19, respectively	67,636	80,344
Inventories	57,820	61,550
Prepaid inventory	3,090	3,281
Income tax receivables	612	743
Derivative assets	1,765	998
Other current assets	11,254	6,841
Total current assets	168,804	203,246
Property and equipment, net	482,657	508,352
Other Assets:		
Intangible asset	2,678	2,678
Other assets	5,842	6,020
Total other assets	8,520	8,698
Total Assets	\$ 659,981	\$ 720,296

The accompanying notes are an integral part of these consolidated financial statements.

PACIFIC ETHANOL, INC.
CONSOLIDATED BALANCE SHEETS (CONTINUED)
(in thousands, except shares and par value)

	December 31,	
	2018	2017
<u>LIABILITIES AND STOCKHOLDERS' EQUITY</u>		
Current Liabilities:		
Accounts payable – trade	\$ 48,176	\$ 39,738
Accrued liabilities	23,421	21,673
Current portion – capital leases	45	592
Current portion – long-term debt, net	146,671	20,000
Derivative liabilities	6,309	2,307
Other current liabilities	7,237	6,396
Total current liabilities	231,859	90,706
Long-term debt, net of current portion	84,767	221,091
Assessment financing	9,342	7,714
Capital leases, net of current portion	78	123
Other liabilities	14,570	16,962
Total Liabilities	340,616	336,596
Commitments and contingencies (Notes 1, 8, 9 and 14)		
Stockholders' Equity:		
Preferred stock, \$0.001 par value; 10,000,000 shares authorized:		
Series A: 1,684,375 shares authorized; no shares issued and outstanding as of December 31, 2018 and 2017	—	—
Series B: 1,580,790 shares authorized; 926,942 shares issued and outstanding as of December 31, 2018 and 2017; liquidation preference of \$18,075 as of December 31, 2018	1	1
Common stock, \$0.001 par value; 300,000,000 shares authorized; 45,771,422 and 43,984,975 shares issued and outstanding as of December 31, 2018 and 2017, respectively	46	44
Non-voting common stock, \$0.001 par value; 3,553,000 shares authorized; 896 shares issued and outstanding as of December 31, 2018 and 2017	—	—
Additional paid-in capital	932,179	927,090
Accumulated other comprehensive loss	(2,459)	(2,234)
Accumulated deficit	(630,000)	(568,462)
Total Pacific Ethanol, Inc. stockholders' equity	299,767	356,439
Noncontrolling interests	19,598	27,261
Total stockholders' equity	319,365	383,700
Total Liabilities and Stockholders' Equity	\$ 659,981	\$ 720,296

The accompanying notes are an integral part of these consolidated financial statements.

PACIFIC ETHANOL, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)

	Years Ended December 31,		
	2018	2017	2016
Net sales	\$ 1,515,371	\$ 1,632,255	\$ 1,624,758
Cost of goods sold	1,530,535	1,626,324	1,570,400
Gross profit (loss)	(15,164)	5,931	54,358
Selling, general and administrative expenses	36,373	31,516	30,849
Income (loss) from operations	(51,537)	(25,585)	23,509
Fair value adjustments	—	473	(557)
Interest expense, net	(17,132)	(12,938)	(22,406)
Other income (expense), net	171	(345)	(1)
Income (loss) before provision (benefit) for income taxes	(68,498)	(38,395)	545
Provision (benefit) for income taxes	(562)	(321)	(981)
Consolidated net income (loss)	(67,936)	(38,074)	1,526
Net (income) loss attributed to noncontrolling interests	7,663	3,110	(107)
Net income (loss) attributed to Pacific Ethanol, Inc.	\$ (60,273)	\$ (34,964)	\$ 1,419
Preferred stock dividends	\$ (1,265)	\$ (1,265)	\$ (1,269)
Income allocated to participating securities	—	—	(2)
Income (loss) available to common stockholders	\$ (61,538)	\$ (36,229)	\$ 148
Income (loss) per share, basic and diluted	\$ (1.42)	\$ (0.85)	\$ 0.00
Weighted-average shares outstanding, basic	43,376	42,745	42,182
Weighted-average shares outstanding, diluted	43,376	42,745	42,251

The accompanying notes are an integral part of these consolidated financial statements.

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

	Years Ended December 31,		
	2018	2017	2016
Consolidated net income (loss)	\$ (67,936)	\$ (38,074)	\$ 1,526
Other comprehensive income (expense) – net gain (loss) arising during the period on defined benefit pension plans	(225)	386	(3,660)
Total comprehensive loss	(68,161)	(37,688)	(2,134)
Comprehensive (income) loss attributed to noncontrolling interests	7,663	3,110	(107)
Comprehensive loss attributed to Pacific Ethanol, Inc.	\$ (60,498)	\$ (34,578)	\$ (2,241)

The accompanying notes are an integral part of these consolidated financial statements.

PACIFIC ETHANOL, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands)

	Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accum. Other Comprehensive Income (Loss)	Non-Controlling Interests	Total
	Shares	Amount	Shares	Amount					
Balances, December 31, 2015	<u>927</u>	<u>\$ 1</u>	<u>42,515</u>	<u>\$ 43</u>	<u>\$ 902,843</u>	<u>\$ (532,383)</u>	<u>\$ 1,040</u>	<u>\$ —</u>	<u>\$ 371,544</u>
Stock-based compensation expense – restricted stock and options to employees and directors, net of cancellations and tax	—	—	659	1	2,281	—	—	—	2,282
Warrant exercises	—	—	138	—	1,338	—	—	—	1,338
ACEC contribution to form Pacific Aurora	—	—	—	—	5,761	—	—	10,739	16,500
Pension plan adjustment	—	—	—	—	—	—	(3,660)	—	(3,660)
Sale of Pacific Aurora interests to ACEC	—	—	—	—	10,475	—	—	19,525	30,000
Preferred stock dividends	—	—	—	—	—	(1,269)	—	—	(1,269)
Net income	—	—	—	—	—	1,419	—	107	1,526
Balances, December 31, 2016	<u>927</u>	<u>\$ 1</u>	<u>43,312</u>	<u>\$ 44</u>	<u>\$ 922,698</u>	<u>\$ (532,233)</u>	<u>\$ (2,620)</u>	<u>\$ 30,371</u>	<u>\$ 418,261</u>
Stock-based compensation expense – restricted stock and options to employees and directors, net of cancellations and tax	—	—	473	—	3,014	—	—	—	3,014
Warrant and option exercises	—	—	201	—	1,378	—	—	—	1,378
Pension plan adjustment	—	—	—	—	—	—	386	—	386
Preferred stock dividends	—	—	—	—	—	(1,265)	—	—	(1,265)
Net loss	—	—	—	—	—	(34,964)	—	(3,110)	(38,074)
Balances, December 31, 2017	<u>927</u>	<u>\$ 1</u>	<u>43,986</u>	<u>\$ 44</u>	<u>\$ 927,090</u>	<u>\$ (568,462)</u>	<u>\$ (2,234)</u>	<u>\$ 27,261</u>	<u>\$ 383,700</u>
Stock-based compensation expense – restricted stock and options to employees and directors, net of cancellations and tax	—	—	947	1	3,033	—	—	—	3,034
Common stock issuances	—	—	838	1	2,056	—	—	—	2,057
Pension plan adjustment	—	—	—	—	—	—	(225)	—	(225)
Preferred stock dividends	—	—	—	—	—	(1,265)	—	—	(1,265)
Net loss	—	—	—	—	—	(60,273)	—	(7,663)	(67,936)
Balances, December 31, 2018	<u>927</u>	<u>\$ 1</u>	<u>45,771</u>	<u>\$ 46</u>	<u>\$ 932,179</u>	<u>\$ (630,000)</u>	<u>\$ (2,459)</u>	<u>\$ 19,598</u>	<u>\$ 319,365</u>

The accompanying notes are an integral part of these consolidated financial statements.

PACIFIC ETHANOL, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	For the Years Ended December 31,		
	2018	2017	2016
Operating Activities:			
Consolidated net income (loss)	\$ (67,936)	\$ (38,074)	\$ 1,526
Adjustments to reconcile consolidated net income (loss) to cash provided by operating activities:			
Depreciation	40,849	38,651	35,441
Fair value adjustments	—	(473)	557
Deferred income taxes	27	169	(1,122)
Inventory valuation	(350)	2,678	—
Change in fair value on commodity derivative instruments	6,714	2,077	1,984
Amortization of deferred financing costs	900	503	137
Amortization of debt discounts	720	636	2,322
Noncash compensation	3,438	3,828	2,616
Bad debt expense	45	5	306
Interest expense added to plant term debt	—	—	9,451
Changes in operating assets and liabilities, net of effects from acquisitions:			
Accounts receivable	12,663	17,562	(25,235)
Inventories	4,080	5,070	750
Prepaid expenses and other assets	(3,880)	2,677	3,189
Prepaid inventory	191	6,738	(3,973)
Accounts payable and accrued expenses	4,105	(5,538)	9,279
Net cash provided by operating activities	<u>\$ 1,566</u>	<u>\$ 36,509</u>	<u>\$ 37,228</u>
Investing Activities:			
Additions to property and equipment	\$ (15,154)	\$ (20,866)	\$ (19,171)
Purchase of ICP, net of cash acquired	—	(29,574)	—
Proceeds from cash collateralized letters of credit	—	—	4,574
Net cash used in investing activities	<u>\$ (15,154)</u>	<u>\$ (50,440)</u>	<u>\$ (14,597)</u>
Financing Activities:			
Proceeds from issuances of common stock	\$ 2,057	\$ —	\$ —
Proceeds from warrant and option exercises	—	1,202	1,164
Proceeds from assessment financing	2,043	5,618	2,096
Payments on assessment financing	(415)	—	—
Net proceeds (payments) on Kinerigy's line of credit	7,578	(385)	(11,141)
Proceeds from plant term and revolving credit agreements	—	42,000	97,000
Proceeds from parent notes	—	13,530	53,350
Payments on plant borrowings	(16,500)	(59,927)	(172,073)
Payments on senior notes	(2,000)	—	—
Preferred stock dividend payments	(1,265)	(1,265)	(1,269)
Payments on capital leases	(772)	(626)	(7,089)
Sale of noncontrolling interests	—	—	30,000
Debt issuance costs	—	(986)	(1,960)
Net cash used in financing activities	<u>\$ (9,274)</u>	<u>\$ (839)</u>	<u>\$ (9,922)</u>
Net increase (decrease) in cash and cash equivalents	(22,862)	(14,770)	12,709
Cash and cash equivalents at beginning of period	49,489	64,259	51,550
Cash and cash equivalents at end of period	<u>\$ 26,627</u>	<u>\$ 49,489</u>	<u>\$ 64,259</u>

The accompanying notes are an integral part of these consolidated financial statements.

PACIFIC ETHANOL, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

Supplemental Information:	For the Years Ended December 31,		
	2018	2017	2016
Interest paid	\$ 15,147	\$ 11,133	\$ 11,168
Income tax refunds	\$ 743	\$ 5,614	\$ 4,784
Noncash financing and investing activities:			
Capital leases added to plant and equipment	\$ —	\$ 180	\$ —
Reclass of warrant liability to equity upon exercises	\$ —	\$ 178	\$ 179
Contribution of property and equipment for noncontrolling interest (see Note 2)	\$ —	\$ —	\$ 16,500
Debt issued in ICP acquisition (see Note 2)	\$ —	\$ 46,927	\$ —

The accompanying notes are an integral part of these consolidated financial statements.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES.

Organization and Business – The consolidated financial statements include, for all periods presented, the accounts of Pacific Ethanol, Inc., a Delaware corporation (“Pacific Ethanol”), and its direct and indirect subsidiaries (collectively, the “Company”), including its wholly-owned subsidiaries, Kinergy Marketing LLC, an Oregon limited liability company (“Kinergy”), Pacific Ag. Products, LLC, a California limited liability company (“PAP”) and PE Op Co., a Delaware corporation (“PE Op Co.”).

The Company’s acquisition of Illinois Corn Processing, LLC (“ICP”) was consummated on July 3, 2017, and as a result, the Company’s consolidated financial statements include the results of ICP only since that date.

On December 15, 2016, the Company and Aurora Cooperative Elevator Company, a Nebraska cooperative corporation (“ACEC”), closed a transaction under a contribution agreement under which the Company contributed its Aurora, Nebraska ethanol facilities and ACEC contributed its Aurora grain elevator and related grain handling assets to Pacific Aurora, LLC (“Pacific Aurora”) in exchange for equity interests in Pacific Aurora. On December 15, 2016, concurrently with the closing under the contribution agreement, the Company sold a portion of its equity interest in Pacific Aurora to ACEC. As a result, the Company owns 73.93% of Pacific Aurora and ACEC owns 26.07% of Pacific Aurora. Further, the Company has consolidated 100% of the results of Pacific Aurora and recorded ACEC’s 26.07% equity interest as noncontrolling interests in the accompanying financial statements for the years ended December 31, 2018 and 2017 and for the period December 15, 2016 through December 31, 2016.

The Company is a leading producer and marketer of low-carbon renewable fuels in the United States. The Company’s four ethanol plants in the Western United States (together with their respective holding companies, the “Pacific Ethanol West Plants”) are located in close proximity to both feed and ethanol customers and thus enjoy unique advantages in efficiency, logistics and product pricing. The Company’s five ethanol plants in the Midwest (together with their respective holding companies, the “Pacific Ethanol Central Plants”) are located in the heart of the Corn Belt, benefit from low-cost and abundant feedstock production and allow for access to many additional domestic markets. In addition, the Company’s ability to load unit trains from these facilities in the Midwest allows for greater access to international markets.

The Company has a combined production capacity of 605 million gallons per year, markets, on an annualized basis, nearly 1.0 billion gallons of ethanol and specialty alcohols, and produces, on an annualized basis, over 3.0 million tons of co-products on a dry matter basis, such as wet and dry distillers grains, wet and dry corn gluten feed, condensed distillers solubles, corn gluten meal, corn germ, dried yeast and CO₂.

As of December 31, 2018, all but one of the Company’s production facilities, specifically, the Company’s Aurora East facility, were operating. As market conditions change, the Company may increase, decrease or idle production at one or more operating facilities or resume operations at any idled facility.

Basis of Presentation – The consolidated financial statements and related notes have been prepared in accordance with accounting principles generally accepted in the United States (“GAAP”) and include the accounts of the Company. All significant intercompany accounts and transactions have been eliminated in consolidation.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Liquidity— The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. The Company and the ethanol industry as a whole experienced significant adverse conditions throughout most of 2018 as a result of industry-wide record low ethanol prices due to reduced demand and high industry inventory levels. These factors resulted in prolonged negative operating margins, significantly lower cash flow from operations and substantial net losses that resulted in reduced liquidity and violations of certain debt covenants. Although the Company expects margins to improve, they may not. In response to these circumstances, the Company has initiated and expects to complete a strategic realignment of its business within the next six months. The Company's primary focus is the potential sale of certain production assets, a reduction of its debt levels, a strengthening of its cash and liquidity, and opportunities for strategic partnerships and capital raising activities, positioning the Company to optimize its business performance. The most significant challenge to management meeting these objectives would be a continued adverse margin environment.

In implementing its strategic realignment plan, the Company, as of December 31, 2018, had the following available liquidity and capital resources to achieve its objectives:

- Cash of \$26.6 million and excess availability under Kinergy's line of credit of \$10.2 million;
- Nine ethanol production facilities with an aggregate 605 million gallons of annual production capacity, of which plant assets representing 355 million gallons of capacity are either unencumbered, or their entire sales proceeds would be used to repay the senior secured notes. The Company has engaged an independent third party to help facilitate the marketing of certain of these assets; and
- In excess of \$20 million of equity available under the Company's shelf registration statement, including under its at-the-market equity program. These funds would first be required to repay the Company's senior secured notes.

The Company also will continue working with its lenders and stakeholders to pursue other options to increase liquidity, obtain waivers or forbearance of debt covenant violations, and extend the maturity date of its debt.

The Company believes that its strategic realignment will provide sufficient liquidity to meet its anticipated working capital, debt service and other liquidity needs through the next twelve months, or March 18, 2020.

Segments— A segment is a component of an enterprise whose operating results are regularly reviewed by the enterprise's chief operating decision maker to make decisions about resources to be allocated to the segment and assess its performance, and for which discrete financial information is available. The Company determines and discloses its segments in accordance with the Financial Accounting Standards Board's ("FASB") Accounting Standards Codification Section 280, *Segment Reporting*, which defines how to determine segments. The Company reports its financial and operating performance in two reportable segments: (1) ethanol production, which includes the production and sale of ethanol, specialty alcohols and co-products, with all of the Company's production facilities aggregated, and (2) marketing and distribution, which includes marketing and merchant trading for Company-produced ethanol, specialty alcohols and co-products and third-party ethanol.

Cash and Cash Equivalents— The Company considers all highly-liquid investments with an original maturity of three months or less to be cash equivalents. The Company maintains its accounts at several financial institutions. These cash balances regularly exceed amounts insured by the Federal Deposit Insurance Corporation, however, the Company does not believe it is exposed to any significant credit risk on these balances.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Accounts Receivable and Allowance for Doubtful Accounts – Trade accounts receivable are presented at face value, net of the allowance for doubtful accounts. The Company sells ethanol to gasoline refining and distribution companies, sells distillers grains and other feed co-products to dairy operators and animal feedlots and sells corn oil to poultry and biodiesel customers generally without requiring collateral. Due to a limited number of ethanol customers, the Company had significant concentrations of credit risk from sales of ethanol as of December 31, 2018 and 2017, as described below.

The Company maintains an allowance for doubtful accounts for balances that appear to have specific collection issues. The collection process is based on the age of the invoice and requires attempted contacts with the customer at specified intervals. If, after a specified number of days, the Company has been unsuccessful in its collection efforts, a bad debt allowance is recorded for the balance in question. Delinquent accounts receivable are charged against the allowance for doubtful accounts once uncollectibility has been determined. The factors considered in reaching this determination are the apparent financial condition of the customer and the Company's success in contacting and negotiating with the customer. If the financial condition of the Company's customers were to deteriorate, resulting in an impairment of ability to make payments, additional allowances may be required.

Of the accounts receivable balance, approximately \$54,820,000 and \$64,501,000 at December 31, 2018 and 2017, respectively, were used as collateral under Kinergy's operating line of credit. The allowance for doubtful accounts was \$12,000 and \$19,000 as of December 31, 2018 and 2017, respectively. The Company recorded a bad debt expense of \$45,000, \$5,000 and \$306,000 for the years ended December 31, 2018, 2017 and 2016, respectively. The Company does not have any off-balance sheet credit exposure related to its customers.

Concentration Risks – Credit risk represents the accounting loss that would be recognized at the reporting date if counterparties failed completely to perform as contracted. Concentrations of credit risk, whether on- or off-balance sheet, that arise from financial instruments exist for groups of customers or counterparties when they have similar economic characteristics that would cause their ability to meet contractual obligations to be similarly affected by changes in economic or other conditions described below. Financial instruments that subject the Company to credit risk consist of cash balances maintained in excess of federal depository insurance limits and accounts receivable which have no collateral or security. The Company has not experienced any significant losses in such accounts and believes that it is not exposed to any significant risk of loss of cash.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The Company sells fuel-grade ethanol to gasoline refining and distribution companies. The Company sold ethanol to customers representing 10% or more of the Company's total net sales, as follows.

	Years Ended December 31,		
	2018	2017	2016
Customer A	14%	16%	17%
Customer B	11%	11%	12%

The Company had accounts receivable due from these customers totaling \$13,405,000 and \$17,792,000, representing 20% and 24% of total accounts receivable, as of December 31, 2018 and 2017, respectively.

The Company purchases corn, its largest cost component in producing ethanol, from its suppliers. The Company purchased corn from suppliers representing 10% or more of the Company's total corn purchases, as follows:

	Years Ended December 31,		
	2018	2017	2016
Supplier A	17%	14%	13%
Supplier B	14%	13%	4%
Supplier C	11%	9%	13%
Supplier D	10%	10%	8%

Approximately 35% of the Company's employees are covered by a collective bargaining agreement.

Inventories – Inventories consisted primarily of bulk ethanol, specialty alcohols, corn, co-products, low-carbon and Renewable Identification Number (“RIN”) credits and unleaded fuel, and are valued at the lower-of-cost-or-net realizable value, with cost determined on a first-in, first-out basis. Inventory is net of a \$2,328,000 and \$2,678,000 valuation adjustment as of December 31, 2018 and 2017, respectively. Inventory balances consisted of the following (in thousands):

	December 31,	
	2018	2017
Finished goods	\$ 35,778	\$ 35,652
Work in progress	6,855	8,807
Raw materials	7,233	7,601
Low-carbon and RIN credits	6,130	7,952
Other	1,824	1,538
Total	\$ 57,820	\$ 61,550

Property and Equipment – Property and equipment are stated at cost. Depreciation is computed using the straight-line method over the following estimated useful lives:

Buildings	40 years
Facilities and plant equipment	10 – 25 years
Other equipment, vehicles and furniture	5 – 10 years

The cost of normal maintenance and repairs is charged to operations as incurred. Significant capital expenditures that increase the life of an asset are capitalized and depreciated over the estimated remaining useful life of the asset. The cost of property and equipment sold, or otherwise disposed of, and the related accumulated depreciation or amortization are removed from the accounts, and any resulting gains or losses are reflected in current operations.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Intangible Asset – The Company assesses indefinite-lived intangible assets for impairment annually, or more frequently if circumstances indicate impairment may have occurred. If the carrying value of an indefinite-lived intangible asset exceeds its fair value, an impairment loss is recognized in an amount equal to that excess. If the Company determines that an impairment charge is needed, the charge will be recorded as an asset impairment in the consolidated statements of operations.

Derivative Instruments and Hedging Activities – Derivative transactions, which can include exchange-traded forward contracts and futures positions on the New York Mercantile Exchange or the Chicago Board of Trade, are recorded on the balance sheet as assets and liabilities based on the derivative's fair value. Changes in the fair value of derivative contracts are recognized currently in income unless specific hedge accounting criteria are met. If derivatives meet those criteria, and hedge accounting is elected, effective gains and losses are deferred in accumulated other comprehensive income (loss) and later recorded together with the hedged item in consolidated income (loss). For derivatives designated as a cash flow hedge, the Company formally documents the hedge and assesses the effectiveness with associated transactions. The Company has designated and documented contracts for the physical delivery of commodity products to and from counterparties as normal purchases and normal sales.

Revenue Recognition – In May 2014, the FASB issued new guidance on the recognition of revenue ("ASC 606"). ASC 606 states that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The standard was effective for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period. In March and April 2016, the FASB issued further revenue recognition guidance amending principal vs. agent considerations regarding whether an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods and services.

The provisions of ASC 606 include a five-step process by which an entity will determine revenue recognition, depicting the transfer of goods or services to customers in amounts reflecting the payment to which an entity expects to be entitled in exchange for those goods or services. ASC 606 requires the Company to apply the following steps: (1) identify the contract with the customer; (2) identify the performance obligations in the contract; (3) determine the transaction price; (4) allocate the transaction price to the performance obligations in the contract; and (5) recognize revenue when, or as, the Company satisfies the performance obligation.

Effective January 1, 2018, the Company adopted ASC 606 using the modified retrospective method for all of its contracts. Following the adoption of ASC 606, the Company continues to recognize revenue at a point-in-time when control of goods transfers to the customer. The timing of recognition is consistent with the Company's previous revenue recognition accounting policy under which the Company recognized revenue when title and risk of loss pass to the customer and collectability was reasonably assured. In addition, ASC 606 did not impact the Company's presentation of revenue on a gross or net basis.

The Company recognizes revenue primarily from sales of ethanol and its related co-products.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The Company has nine ethanol production facilities from which it produces and sells ethanol to its customers through Kinergy. Kinergy enters into sales contracts with ethanol customers under exclusive intercompany ethanol sales agreements with each of the Company's nine ethanol plants. Kinergy also acts as a principal when it purchases third party ethanol which it resells to its customers. Finally, Kinergy has exclusive sales agreements with other third-party owned ethanol plants under which it sells their ethanol production for a fee plus the costs to deliver the ethanol to Kinergy's customers. These sales are referred to as third-party agent sales. Revenue from these third-party agent sales is recorded on a net basis, with Kinergy recognizing its predetermined fees and any associated delivery costs.

The Company has nine ethanol production facilities from which it produces and sells co-products to its customers through PAP. PAP enters into sales contracts with co-product customers under exclusive intercompany co-product sales agreements with each of the Company's nine ethanol plants.

The Company recognizes revenue from sales of ethanol and co-products at the point in time when the customer obtains control of such products, which typically occurs upon delivery depending on the terms of the underlying contracts. In some instances, the Company enters into contracts with customers that contain multiple performance obligations to deliver volumes of ethanol or co-products over a contractual period of less than 12 months. The Company allocates the transaction price to each performance obligation identified in the contract based on relative standalone selling prices and recognizes the related revenue as control of each individual product is transferred to the customer in satisfaction of the corresponding performance obligations.

When the Company is the agent, the supplier controls the products before they are transferred to the customer because the supplier is primarily responsible for fulfilling the promise to provide the product, has inventory risk before the product has been transferred to a customer and has discretion in establishing the price for the product. When the Company is the principal, the Company controls the products before they are transferred to the customer because the Company is primarily responsible for fulfilling the promise to provide the products, has inventory risk before the product has been transferred to a customer and has discretion in establishing the price for the product.

See Note 4 for the Company's revenue by type of contracts.

Shipping and Handling Costs – The Company accounts for shipping and handling costs relating to contracts with customers as costs to fulfill its promise to transfer its products. Accordingly, the costs are classified as a component of cost of goods sold in the accompanying consolidated statements of operations.

Selling Costs – Selling costs associated with the Company's product sales are classified as a component of selling, general and administrative expenses in the accompanying consolidated statements of operations.

Stock-Based Compensation – The Company accounts for the cost of employee services received in exchange for the award of equity instruments based on the fair value of the award, determined on the date of grant. The expense is recognized over the period during which an employee is required to provide services in exchange for the award. The Company accounts for forfeitures as they occur. The Company recognizes stock-based compensation expense as a component of selling, general and administrative expenses in the consolidated statements of operations.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Impairment of Long-Lived Assets – The Company assesses the impairment of long-lived assets, including property and equipment, internally developed software and purchased intangibles subject to amortization, when events or changes in circumstances indicate that the fair value of assets could be less than their net book value. In such event, the Company assesses long-lived assets for impairment by first determining the forecasted, undiscounted cash flows the asset group is expected to generate plus the net proceeds expected from the sale of the asset group. If this amount is less than the carrying value of the asset, the Company will then determine the fair value of the asset group. An impairment loss would be recognized when the fair value is less than the related asset group's net book value, and an impairment expense would be recorded in the amount of the difference. Forecasts of future cash flows are judgments based on the Company's experience and knowledge of its operations and the industries in which it operates. These forecasts could be significantly affected by future changes in market conditions, the economic environment, including inflation, and purchasing decisions of the Company's customers. The Company performed an undiscounted cash flow analysis for its long-lived assets as of December 31, 2018, resulting in amounts in excess of carrying values.

Deferred Financing Costs – Deferred financing costs are costs incurred to obtain debt financing, including all related fees, and are amortized as interest expense over the term of the related financing using the straight-line method, which approximates the interest rate method. Amortization of deferred financing costs was approximately \$900,000, \$503,000 and \$137,000 for the years ended December 31, 2018, 2017 and 2016, respectively. Unamortized deferred financing costs were approximately \$1,377,000 and \$1,925,000 as of December 31, 2018 and 2017, respectively, and are recorded net of long-term debt in the consolidated balance sheets.

Provision for Income Taxes – Income taxes are accounted for under the asset and liability approach, where deferred tax assets and liabilities are determined based on differences between financial reporting and tax basis of assets and liabilities, and are measured using enacted tax rates and laws that are expected to be in effect when the differences reverse. Valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized.

The Company accounts for uncertainty in income taxes using a two-step approach to recognizing and measuring uncertain tax positions. The first step is to evaluate the tax position for recognition by determining whether it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount which is more than 50% likely of being realized upon ultimate settlement. An uncertain tax position is considered effectively settled on completion of an examination by a taxing authority if certain other conditions are satisfied. Should the Company incur interest and penalties relating to tax uncertainties, such amounts would be classified as a component of interest expense and other income (expense), net, respectively. Deferred tax assets and liabilities are classified as noncurrent in the Company's consolidated balance sheets.

The Company files a consolidated federal income tax return. This return includes all wholly-owned subsidiaries as well as the Company's pro-rata share of taxable income from pass-through entities in which the Company owns less than 100%. State tax returns are filed on a consolidated, combined or separate basis depending on the applicable laws relating to the Company and its subsidiaries.

Income (Loss) Per Share – Basic income (loss) per share is computed on the basis of the weighted-average number of shares of common stock outstanding during the period. Preferred dividends are deducted from net income (loss) attributed to Pacific Ethanol, Inc. and are considered in the calculation of income (loss) available to common stockholders in computing basic income (loss) per share. Common stock equivalents to preferred stock are considered participating securities and are also included in this calculation when dilutive.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following tables compute basic and diluted earnings per share (in thousands, except per share data):

	Year Ended December 31, 2018		
	Loss Numerator	Shares Denominator	Per-Share Amount
Net loss attributed to Pacific Ethanol	\$ (60,273)		
Less: Preferred stock dividends	(1,265)		
Basic and diluted loss per share:			
Loss available to common stockholders	<u>\$ (61,538)</u>	<u>43,376</u>	<u>\$ (1.42)</u>
	Year Ended December 31, 2017		
	Loss Numerator	Shares Denominator	Per-Share Amount
Net loss attributed to Pacific Ethanol	\$ (34,964)		
Less: Preferred stock dividends	(1,265)		
Basic and diluted loss per share:			
Loss available to common stockholders	<u>\$ (36,229)</u>	<u>42,745</u>	<u>\$ (0.85)</u>
	Year Ended December 31, 2016		
	Income Numerator	Shares Denominator	Per-Share Amount
Net income attributed to Pacific Ethanol	\$ 1,419		
Less: Preferred stock dividends	(1,269)		
Less: Income allocated to participating securities	(2)		
Basic income per share:			
Income available to common stockholders	\$ 148	42,182	<u>\$ 0.00</u>
Add: Options	—	69	
Diluted income per share:			
Income available to common stockholders	<u>\$ 148</u>	<u>42,251</u>	<u>\$ 0.00</u>

There were an aggregate of 635,000, 719,000 and 704,000 potentially dilutive shares from convertible securities outstanding as of December 31, 2018, 2017 and 2016, respectively. These convertible securities were not considered in calculating diluted income (loss) per common share for the years ended December 31, 2018, 2017 and 2016 as their effect would be anti-dilutive.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Financial Instruments – The carrying values of cash and cash equivalents, accounts receivable, derivative assets, accounts payable, accrued liabilities and derivative liabilities are reasonable estimates of their fair values because of the short maturity of these items. The Company believes the carrying value of its long-term debt and assessment financing approximates fair value because the interest rates on these instruments are variable, and are considered Level 2 fair value measurements.

Employment-related Benefits – Employment-related benefits associated with pensions and postretirement health care are expensed based on actuarial analysis. The recognition of expense is affected by estimates made by management, such as discount rates used to value certain liabilities, investment rates of return on plan assets, increases in future wage amounts and future health care costs. Discount rates are determined based on a spot yield curve that includes bonds with maturities that match expected benefit payments under the plan.

Estimates and Assumptions – The preparation of the consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates are required as part of determining the allowance for doubtful accounts, net realizable value of inventory, estimated lives of property and equipment, long-lived asset impairments, valuation allowances on deferred income taxes and the potential outcome of future tax consequences of events recognized in the Company's financial statements or tax returns, and the valuation of assets acquired and liabilities assumed as a result of business combinations. Actual results and outcomes may materially differ from management's estimates and assumptions.

Subsequent Events – Management evaluates, as of each reporting period, events or transactions that occur after the balance sheet date through the date that the financial statements are issued for either disclosure or adjustment to the consolidated financial results.

Reclassifications – Certain prior year amounts have been reclassified to conform to the current presentation. Such reclassifications had no effect on the consolidated net income (loss), working capital or stockholders' equity reported in the consolidated statements of operations and consolidated balance sheets.

Recent Accounting Pronouncements – In February 2016, the FASB issued new guidance on accounting for leases. Under the new guidance, lessees will be required to recognize the following for all leases (with the exception of short-term leases) at the commencement date: (1) a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted cash flow basis; and (2) a "right of use" asset, which is an asset that represents the lessee's right to use the specified asset for the lease term. Under the new guidance, lessor accounting is largely unchanged, with some minor exceptions. Lessees will no longer be provided with a source of off-balance sheet financing for other than short-term leases. The standard is effective for public companies for annual reporting periods beginning after December 15, 2018, including interim periods within those fiscal years. The standard requires a modified retrospective transition approach. In July 2018, the FASB issued Accounting Standards Update, *Leases (Topic 842): Targeted Improvements*, which provides an option to apply the transition provisions of the new standard at adoption date instead of the earliest comparative period presented in the financial statements. The company will elect to use this optional transition method. On January 1, 2019, the Company adopted the new lease accounting guidance, resulting in an increase to right of use assets and lease liabilities of approximately \$43.8 million.

In May 2014, the FASB issued new guidance on the recognition of revenue under ASC 606. See Note 1 " – Revenue Recognition" above.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

2. PACIFIC ETHANOL PLANTS.

Illinois Corn Processing

On July 3, 2017, the Company purchased 100% of the equity interests of ICP from ICP's owners, Illinois Corn Processing Holdings Inc. ("ICPH") and MGPI Processing, Inc. (together with ICPH, the "Sellers"). At the closing, ICP became an indirect wholly-owned subsidiary of the Company.

Upon closing, the Company (i) paid to the Sellers \$30.0 million in cash, and (ii) issued to the Sellers secured promissory notes in the aggregate principal amount of approximately \$46.9 million (the "Seller Notes"). The Seller Notes were secured by a first priority lien on ICP's assets and a pledge of the membership interests of ICP.

ICP is a 90 million gallon per year fuel and industrial alcohol manufacturing, storage and distribution facility adjacent to the Company's facility in Pekin, Illinois and is located on the Illinois River. ICP produces fuel-grade ethanol, beverage and industrial-grade alcohol, dry distillers grain and corn oil. The facility has direct access to end-markets via barge, rail and truck, and expands the Company's domestic and international distribution channels. ICP is reflected in the results of the Company's production segment.

Upon closing, the Company recognized the following allocation of the purchase price at fair values. No intangible assets or liabilities were recognized. The Company's purchase price consideration allocation is as follows (in thousands):

Cash and equivalents	\$	426
Accounts receivable		11,636
Inventories		9,227
Other current assets		1,560
Total current assets		22,849
Property and equipment		61,128
Other assets		328
Total assets acquired	\$	84,305
Accounts payable, trade	\$	5,683
Other current liabilities		1,486
Total current liabilities		7,169
Other non-current liabilities		209
Total liabilities assumed	\$	7,378
Net assets acquired	\$	76,927
Estimated goodwill	\$	—
Total purchase price	\$	76,927

The contractual amount due on the accounts receivable acquired was \$11.6 million, all of which was expected to be collectible.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table presents unaudited pro forma combined financial information assuming the acquisition of ICP occurred on January 1, 2016 (in thousands, except per share data):

	Years Ended December 31,	
	2017	2016
Net sales – pro forma	\$ 1,710,317	\$ 1,802,159
Consolidated net income (loss) – pro forma	\$ (42,589)	\$ 8,329
Diluted net income (loss) per share – pro forma	\$ (0.95)	\$ 0.16
Diluted weighted-average shares – pro forma	42,745	42,251

For the years ended December 31, 2018 and 2017, ICP contributed \$163.1 million and \$75.9 million in net sales and \$6.5 million and \$3.7 million in pre-tax income, respectively.

Pacific Aurora

On December 15, 2016, PE Central closed on an agreement with ACEC under which (i) PE Central contributed to Pacific Aurora 100% of the equity interests of its wholly-owned subsidiaries, Pacific Ethanol Aurora East, LLC (“AE”) and Pacific Ethanol Aurora West, LLC (“AW”), which owned the Company’s Aurora East and Aurora West ethanol plants, respectively, in exchange for an 88.15% ownership interest in Pacific Aurora, and (ii) ACEC contributed to Pacific Aurora its grain elevator adjacent to the Aurora East and Aurora West properties and related grain handling assets, including the outer rail loop and the real property on which they are located, in exchange for an 11.85% ownership interest in Pacific Aurora. On December 15, 2016, concurrent with the closing of the contribution transaction, PE Central sold a 14.22% ownership interest in Pacific Aurora to ACEC for \$30.0 million in cash.

Following the closing of these transactions, PE Central owned 73.93% of Pacific Aurora and ACEC owned 26.07% of Pacific Aurora.

The Company has consolidated 100% of the results of Pacific Aurora and recorded the amount attributed to ACEC as noncontrolling interests under the voting rights model. Since the Company had control of AE and AW prior to forming Pacific Aurora, there was no gain or loss recorded on the contribution and ultimate sale of a portion of the Company’s interests in Pacific Aurora. ACEC contributed \$16.5 million in assets at fair market value and paid \$30.0 million in cash for its additional ownership interests. A noncontrolling interest was recognized to reflect ACEC’s proportional ownership interest multiplied by the book value of Pacific Aurora’s net assets. As a result, the Company recorded \$16.2 million as additional paid-in capital attributed to the difference between Pacific Aurora’s book value and the contribution and sale.

The carrying values and classification of assets and liabilities of Pacific Aurora as of December 31, 2016 were as follows (in thousands):

Cash and equivalents	\$ 1,453
Accounts receivable	16,804
Inventories	3,837
Other current assets	77
Total current assets	22,171
Property and equipment	115,759
Other assets	1,387
Total assets	\$ 139,317
Accounts payable and accrued liabilities	\$ 20,152
Other current liabilities	2,045
Long-term debt outstanding, net	621
Total liabilities	\$ 22,818

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

3. INTERCOMPANY AGREEMENTS.

The Company, directly or through one of its subsidiaries, has entered into the following management and marketing agreements:

Affiliate Management Agreement – Pacific Ethanol entered into an Affiliate Management Agreement (“AMA”) with its operating subsidiaries, namely Kinery, PAP, the Pacific Ethanol West Plants and the Pacific Ethanol Central Plants, effective July 1, 2015, with Pacific Aurora, effective December 15, 2016, and with ICP, effective July 1, 2017, under which Pacific Ethanol agreed to provide operational and administrative and staff support services. These services generally include, but are not limited to, administering the subsidiaries’ compliance with their credit agreements and performing billing, collection, record keeping and other administrative and ministerial tasks. Pacific Ethanol agreed to supply all labor and personnel required to perform its services under the AMA, including the labor and personnel required to operate and maintain the production facilities and marketing activities. These services are billed at a predetermined amount per subsidiary each month plus out of pocket costs such as employee wages and benefits.

The AMAs have an initial term of one year and automatic successive one year renewal periods. Pacific Ethanol may terminate the AMA, and any subsidiary may terminate the AMA, at any time by providing at least 90 days prior notice of such termination.

Pacific Ethanol recorded revenues of approximately \$12,048,000, \$11,904,000 and \$12,968,000 related to the AMAs in place for the years ended December 31, 2018, 2017 and 2016, respectively. These amounts have been eliminated upon consolidation.

Ethanol Marketing Agreements – Kinery entered into separate ethanol marketing agreements with each of the Company’s nine plants, which granted it the exclusive right to purchase, market and sell the ethanol produced at those facilities. Under the terms of the ethanol marketing agreements, within ten days after delivering ethanol to Kinery, an amount is paid to Kinery equal to (i) the estimated purchase price payable by the third-party purchaser of the ethanol, minus (ii) the estimated amount of transportation costs to be incurred, minus (iii) the estimated incentive fee payable to Kinery, which equals 1% of the aggregate third-party purchase price, provided that the marketing fee shall not be less than \$0.015 per gallon and not more than \$0.0225 per gallon. Each of the ethanol marketing agreements had an initial term of one year and successive one year renewal periods at the option of the individual plant.

Kinery recorded revenues of approximately \$8,773,000, \$8,464,000 and \$8,029,000 related to the ethanol marketing agreements for the years ended December 31, 2018, 2017 and 2016, respectively. These amounts have been eliminated upon consolidation.

Corn Procurement and Handling Agreements – PAP entered into separate corn procurement and handling agreements with each of the Company’s plants, with the exception of the Pacific Aurora facilities, which terminated its agreements with PAP on December 15, 2016. Under the terms of the corn procurement and handling agreements, each facility appointed PAP as its exclusive agent to solicit, negotiate, enter into and administer, on its behalf, corn supply arrangements to procure the corn necessary to operate its facility. PAP also provides grain handling services including, but not limited to, receiving, unloading and conveying corn into the facility’s storage and, in the case of whole corn delivered, processing and hammering the whole corn.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Under these agreements, PAP receives a fee of \$0.045 per bushel of corn delivered to each facility as consideration for its procurement and handling services, payable monthly. Effective December 15, 2016, this fee is \$0.03 per bushel of corn. Each corn procurement and handling agreement had an initial term of one year and successive one year renewal periods at the option of the individual plant. PAP recorded revenues of approximately \$4,531,000, \$4,245,000 and \$4,386,000 related to the corn procurement and handling agreements for the years ended December 31, 2018, 2017 and 2016, respectively. These amounts have been eliminated upon consolidation.

Effective December 15, 2016, each Pacific Aurora facility entered into a new grain procurement agreement with ACEC. Under this agreement, ACEC receives a fee of \$0.03 per bushel of corn delivered to each facility as consideration for its procurement and handling services, payable monthly. The grain procurement agreement has an initial term of one year and successive one year renewal periods at the option of the individual plant. Pacific Aurora recorded expenses of approximately \$1,381,000, \$1,488,000 and \$107,000 for the years ended December 31, 2018, 2017 and the period from December 15, 2016 to December 31, 2016, respectively. These amounts have not been eliminated upon consolidation as they are with a related but unconsolidated third-party.

Distillers Grains Marketing Agreements – PAP entered into separate distillers grains marketing agreements with each of the Company's plants, which grant PAP the exclusive right to market, purchase and sell the various co-products produced at each facility. Under the terms of the distillers grains marketing agreements, within ten days after a plant delivers co-products to PAP, the plant is paid an amount equal to (i) the estimated purchase price payable by the third-party purchaser of the co-products, minus (ii) the estimated amount of transportation costs to be incurred, minus (iii) the estimated amount of fees and taxes payable to governmental authorities in connection with the tonnage of the co-products produced or marketed, minus (iv) the estimated incentive fee payable to the Company, which equals (a) 5% of the aggregate third-party purchase price for wet corn gluten feed, wet distillers grains, corn condensed distillers solubles and distillers grains with solubles, or (b) 1% of the aggregate third-party purchase price for corn gluten meal, dry corn gluten feed, dry distillers grains, corn germ and corn oil. Each distillers grains marketing agreement had an initial term of one year and successive one year renewal periods at the option of the individual plant.

PAP recorded revenues of approximately \$6,572,000, \$6,020,000 and \$6,047,000 related to the distillers grains marketing agreements for the years ended December 31, 2018, 2017 and 2016, respectively. These amounts have been eliminated upon consolidation.

4. SEGMENTS.

The Company reports its financial and operating performance in two segments: (1) ethanol production, which includes the production and sale of ethanol, specialty alcohols and co-products, with all of the Company's production facilities aggregated, and (2) marketing and distribution, which includes marketing and merchant trading for Company-produced ethanol, specialty alcohols and co-products, and third-party ethanol.

Income before provision for income taxes includes management fees charged by Pacific Ethanol to the segment. The production segment incurred \$10,248,000, \$9,744,000 and \$9,968,000 in management fees for the years ended December 31, 2018, 2017 and 2016, respectively. The marketing and distribution segment incurred \$2,160,000, \$2,160,000 and \$3,000,000 in management fees for the years ended December 31, 2018, 2017 and 2016, respectively. Corporate activities include selling, general and administrative expenses, consisting primarily of corporate employee compensation, professional fees and overhead costs not directly related to a specific operating segment.

PACIFIC ETHANOL, INC.
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During the normal course of business, the segments do business with each other. The preponderance of this activity occurs when the Company's marketing segment markets ethanol produced by the production segment for a marketing fee, as discussed in Note 3. These intersegment activities are considered arms'-length transactions. Consequently, although these transactions impact segment performance, they do not impact the Company's consolidated results since all revenues and corresponding costs are eliminated in consolidation.

Capital expenditures are substantially all incurred at the Company's production segment.

The following tables set forth certain financial data for the Company's operating segments (in thousands):

	Years Ended December 31,		
	2018	2017	2016
<i>Net Sales</i>			
Production, recorded as gross:			
Ethanol/alcohol sales	\$ 859,815	\$ 845,692	\$ 797,363
Co-product sales	296,686	257,031	248,444
Intersegment sales	1,995	1,898	1,169
Total production sales	<u>1,158,496</u>	<u>1,104,621</u>	<u>1,046,976</u>
Marketing and distribution:			
Ethanol/alcohol sales, gross	\$ 357,011	\$ 527,869	\$ 577,347
Ethanol/alcohol sales, net	1,859	1,663	1,604
Intersegment sales	8,773	8,464	8,029
Total marketing and distribution sales	<u>367,643</u>	<u>537,996</u>	<u>586,980</u>
Intersegment eliminations	(10,768)	(10,362)	(9,198)
Net sales as reported	<u>\$ 1,515,371</u>	<u>\$ 1,632,255</u>	<u>\$ 1,624,758</u>
<i>Cost of goods sold:</i>			
Production	\$ 1,197,507	\$ 1,101,651	\$ 1,003,679
Marketing and distribution	343,991	535,033	575,920
Intersegment eliminations	(10,963)	(10,360)	(9,199)
Cost of goods sold as reported	<u>\$ 1,530,535</u>	<u>\$ 1,626,324</u>	<u>\$ 1,570,400</u>
<i>Income (loss) before benefit for income taxes</i>			
Production	\$ (77,833)	\$ (27,457)	\$ (6,879)
Marketing and distribution	18,191	(2,463)	4,517
Corporate activities	(8,856)	(8,475)	2,907
	<u>\$ (68,498)</u>	<u>\$ (38,395)</u>	<u>\$ 545</u>
<i>Depreciation:</i>			
Production	\$ 40,099	\$ 37,637	\$ 34,528
Corporate activities	750	1,014	913
	<u>\$ 40,849</u>	<u>\$ 38,651</u>	<u>\$ 35,441</u>
<i>Interest expense:</i>			
Production	\$ 7,116	\$ 5,887	\$ 20,794
Marketing and distribution	1,388	1,271	1,404
Corporate activities	8,628	5,780	208
	<u>\$ 17,132</u>	<u>\$ 12,938</u>	<u>\$ 22,406</u>

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table sets forth the Company's total assets by operating segment (in thousands):

	December 31, 2018	December 31, 2017
<i>Total assets:</i>		
Production	\$ 532,790	\$ 583,696
Marketing and distribution	112,984	127,242
Corporate assets	14,117	9,358
	\$ 659,891	\$ 720,296

5. PROPERTY AND EQUIPMENT.

Property and equipment consisted of the following (in thousands):

	December 31,	
	2018	2017
Facilities and plant equipment	\$ 621,909	\$ 601,156
Land	8,970	8,970
Other equipment, vehicles and furniture	11,812	10,189
Construction in progress	30,312	38,041
	673,003	658,356
Accumulated depreciation	(190,346)	(150,004)
	\$ 482,657	\$ 508,352

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Depreciation expense was \$40,849,000, \$38,651,000 and \$35,441,000 for the years ended December 31, 2018, 2017 and 2016, respectively.

For the year ended December 31, 2018, 2017 and 2016, the Company capitalized interest of \$1,170,000, \$822,000 and \$1,307,000, respectively, related to its capital investment activities.

6. INTANGIBLE ASSET.

The Company recorded a tradename valued at \$2,678,000 in 2006 as part of its acquisition of Kinergy. The Company determined that the Kinergy tradename has an indefinite life and, therefore, rather than being amortized, will be tested annually for impairment. The Company did not record any impairment of the Kinergy tradename for the years ended December 31, 2018, 2017 and 2016.

7. DERIVATIVES.

The business and activities of the Company expose it to a variety of market risks, including risks related to changes in commodity prices. The Company monitors and manages these financial exposures as an integral part of its risk management program. This program recognizes the unpredictability of financial markets and seeks to reduce the potentially adverse effects that market volatility could have on operating results.

Commodity Risk – Cash Flow Hedges – The Company uses derivative instruments to protect cash flows from fluctuations caused by volatility in commodity prices for periods of up to twelve months in order to protect gross profit margins from potentially adverse effects of market and price volatility on ethanol sale and purchase commitments where the prices are set at a future date and/or if the contracts specify a floating or index-based price for ethanol. In addition, the Company hedges anticipated sales of ethanol to minimize its exposure to the potentially adverse effects of price volatility. These derivatives may be designated and documented as cash flow hedges and effectiveness is evaluated by assessing the probability of the anticipated transactions and regressing commodity futures prices against the Company's purchase and sales prices. Ineffectiveness, which is defined as the degree to which the derivative does not offset the underlying exposure, is recognized immediately in cost of goods sold. For the years ended December 31, 2018, 2017 and 2016, the Company did not designate any of its derivatives as cash flow hedges.

Commodity Risk – Non-Designated Hedges – The Company uses derivative instruments to lock in prices for certain amounts of corn and ethanol by entering into exchange-traded forward contracts for those commodities. These derivatives are not designated for hedge accounting treatment. The changes in fair value of these contracts are recorded on the balance sheet and recognized immediately in cost of goods sold. The Company recognized net losses of \$6,714,000, \$2,077,000 and \$1,984,000 as the change in the fair value of these contracts for the years ended December 31, 2018, 2017 and 2016, respectively.

Non Designated Derivative Instruments – The classification and amounts of the Company's derivatives not designated as hedging instruments, and related cash collateral balances, are as follows (in thousands):

PACIFIC ETHANOL, INC.
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As of December 31, 2018				
Type of Instrument	Assets		Liabilities	
	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
	Cash collateral balance	Other current assets	\$ 8,479	
Commodity contracts	Derivative assets	\$ 1,765	Derivative liabilities	\$ 6,309

As of December 31, 2017				
Type of Instrument	Assets		Liabilities	
	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
	Cash collateral balance	Other current assets	\$ 3,813	
Commodity contracts	Derivative assets	\$ 998	Derivative liabilities	\$ 2,307

The above amounts represent the gross balances of the contracts, however, the Company does have a right of offset with each of its derivative brokers.

The classification and amounts of the Company's recognized gains (losses) for its derivatives not designated as hedging instruments are as follows (in thousands):

Type of Instrument	Statements of Operations Location	Realized Gains (Losses)		
		For the Years Ended December 31,		
		2018	2017	2016
Commodity contracts	Cost of goods sold	\$ (3,479)	\$ (4,165)	\$ 1,386
		\$ (3,479)	\$ (4,165)	\$ 1,386

Type of Instrument	Statements of Operations Location	Unrealized Gains (Losses)		
		For the Years Ended December 31,		
		2018	2017	2016
Commodity contracts	Cost of goods sold	\$ (3,235)	\$ 2,088	\$ (3,370)
		\$ (3,235)	\$ 2,088	\$ (3,370)

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

8. DEBT.

Long-term borrowings are summarized as follows (in thousands):

	December 31, 2018	December 31, 2017
Kinergy line of credit	\$ 57,057	\$ 49,477
Pekin term loan	43,000	53,500
Pekin revolving loan	32,000	32,000
ICP term loan	16,500	22,500
ICP revolving loan	18,000	18,000
Pacific Aurora line of credit	—	—
Parent notes payable	66,948	68,948
	<u>233,505</u>	<u>244,425</u>
Less unamortized debt discount	(690)	(1,409)
Less unamortized debt financing costs	(1,377)	(1,925)
Less short-term portion	(146,671)	(20,000)
Long-term debt	<u>\$ 84,767</u>	<u>\$ 221,091</u>

Kinergy Line of Credit – Kinergy has an operating line of credit for an aggregate amount of up to \$100,000,000. The line of credit matures on August 2, 2022. The credit facility is based on Kinergy’s eligible accounts receivable and inventory levels, subject to certain concentration reserves. The credit facility is subject to certain other sublimits, including inventory loan limits. Interest accrues under the line of credit at a rate equal to (i) the three-month London Interbank Offered Rate (“LIBOR”), plus (ii) a specified applicable margin ranging between 1.50% and 2.00%. The applicable margin was 1.50%, for a total rate of 4.31% at December 31, 2018. The credit facility’s monthly unused line fee is an annual rate equal to 0.25% to 0.375% depending on the average daily principal balance during the immediately preceding month. Payments that may be made by Kinergy to the Company as reimbursement for management and other services provided by the Company to Kinergy are limited under the terms of the credit facility to \$1,500,000 per fiscal quarter.

The credit facility also includes the accounts receivable of PAP as additional collateral. Payments that may be made by PAP to the Company as reimbursement for management and other services provided by the Company to PAP are limited under the terms of the credit facility to \$500,000 per fiscal quarter.

If Kinergy and PAP’s monthly excess borrowing availability falls below certain thresholds, they are collectively required to maintain a fixed-charge coverage ratio (calculated as a twelve-month rolling EBITDA divided by the sum of interest expense, capital expenditures, principal payments of indebtedness, indebtedness from capital leases and taxes paid during such twelve-month rolling period) of at least 2.0 and are prohibited from incurring certain additional indebtedness (other than specific intercompany indebtedness).

Kinergy and PAP’s obligations under the credit facility are secured by a first-priority security interest in all of their assets in favor of the lender. Pacific Ethanol has guaranteed all of Kinergy’s obligations under the line of credit. As of December 31, 2018, Kinergy had unused availability under the credit facility of \$10,200,000.

PACIFIC ETHANOL, INC.
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Pekin Credit Facilities – On December 15, 2016, the Company’s wholly-owned subsidiary, Pacific Ethanol Pekin, Inc. (“Pekin”), entered into a Credit Agreement (the “Pekin Credit Agreement”) with 1st Farm Credit Services, PCA and CoBank, ACB (“CoBank”). On December 15, 2016, under the terms of the Pekin Credit Agreement, Pekin borrowed from 1st Farm Credit Services \$64.0 million under a term loan facility that matures on August 20, 2021 (the “Pekin Term Loan”) and \$32.0 million under a revolving term loan facility that matures on February 1, 2022 (the “Pekin Revolving Loan” and, together with the Pekin Term Loan, the “Pekin Credit Facility”). The Pekin Credit Facility is secured by a first-priority security interest in all of Pekin’s assets under the terms of a Security Agreement, dated December 15, 2016, by and between Pekin and CoBank (the “Pekin Security Agreement”). Interest accrues under the Pekin Credit Facility at an annual rate equal to the 30-day LIBOR plus 3.75%, payable monthly. Pekin is required to make quarterly principal payments in the amount of \$3.5 million on the Pekin Term Loan beginning on May 20, 2017 and a principal payment of \$4.5 million at maturity on August 20, 2021. Pekin is required to pay a monthly fee on any unused portion of the Pekin Revolving Loan at a rate of 0.75% per annum. Prepayment of the Pekin Credit Facility is subject to a prepayment penalty. Under the terms of the Pekin Credit Agreement, Pekin is required to maintain not less than \$20.0 million in working capital and an annual debt coverage ratio of not less than 1.25 to 1.0. The Pekin Credit Agreement contains a variety of affirmative covenants, negative covenants and events of default.

On August 7, 2017, Pekin amended its term and revolving credit facilities by agreeing to increase the interest rate under the facilities by 25 basis points to an annual rate equal to the 30-day LIBOR plus 4.00%. Pekin and its lender also agreed that Pekin is required to maintain working capital of not less than \$17.5 million from August 31, 2017 through December 31, 2017 and working capital of not less than \$20.0 million from January 1, 2018 and continuing at all times thereafter. In addition, the required Debt Service Coverage Ratio was reduced to 0.15 to 1.00 for the fiscal year ending December 31, 2017. For the month ended January 31, 2018, Pekin was not in compliance with its working capital requirement due to larger than anticipated repair and maintenance related expenses to replace faulty equipment. Pekin has received a waiver from its lender for this noncompliance. Further, the lender decreased Pekin’s working capital covenant requirement to \$13.0 million for the month ended February 28, 2018, excluding the \$3.5 million principal payment due in May 2018 from the calculation.

On March 30, 2018, Pekin amended its term loan facility by reducing the amount of working capital it is required to maintain to not less than \$13.0 million from March 31, 2018 through November 30, 2018 and not less than \$16.0 million from December 1, 2018 and continuing at all times thereafter. In addition, a principal payment in the amount of \$3.5 million due for May 2018 was deferred until the maturity date of the term loan.

The Company experienced certain covenant violations under its Pekin term and revolving credit facilities at December 31, 2018. In February 2019, the Company reached an agreement with its lender to forbear until March 11, 2019 and to defer a \$3.5 million principal payment until that date. As of the filing of the Form 10-K, the forbearance and deferral have not been extended, the covenant violations have not been waived and the \$3.5 million principal payment is due and has not been paid; however, the Company continues to work with its lender in this regard.

PACIFIC ETHANOL, INC.
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ICP Credit Facilities — On September 15, 2017, ICP, Compeer Financial, PCA (“Compeer”), and CoBank as agent, entered into a Credit Agreement (“ICP Credit Agreement”). Under the ICP Credit Agreement, Compeer agreed to extend to ICP a term loan in the amount of \$24,000,000 and a revolving loan in an amount of up to \$18,000,000. ICP used the proceeds of the term loan to refinance the Seller Notes. ICP is to make amortizing principal payments in sixteen equal consecutive quarterly installments of \$1,500,000 each until September 20, 2021, at which time the entire remaining balance is due and payable. Interest on the unpaid principal amount of the term loan accrues at a rate equal to 3.75% plus the one-month LIBOR index rate. ICP used the proceeds of the revolving term facility to refinance the Seller Notes and for ICP’s working capital needs. The revolving loan matures on September 1, 2022. The revolving loan gives ICP the right, in ICP’s sole discretion, to permanently reduce from time to time the revolving term commitment in increments of \$500,000 by giving CoBank ten days prior written notice. The revolving loan requires ICP to pay CoBank a nonrefundable commitment fee equal to 0.75% per annum multiplied by the average daily positive difference between the amounts of (i) the revolving term commitment, minus (ii) the aggregate principal amount of all loans outstanding under the revolving loan. Interest on the unpaid principal amount of the loan accrues, pursuant to ICP’s election of the LIBOR Index Option, at a rate equal to 3.75% plus the one-month LIBOR index rate.

Under the terms of the credit facilities, ICP is required to maintain working capital of not less than \$8.0 million. In addition, ICP is required to maintain an annual debt service coverage ratio of not less than 1.50 to 1.00 beginning for the year ending December 31, 2018.

As of December 31, 2018 and the filing of this report, the Company believes ICP is in compliance with its working capital requirement.

Pacific Aurora Line of Credit – On March 30, 2018, Pacific Aurora, LLC, terminated its revolving credit facility, which was unused during the year ended December 31, 2018. As a result, the Company fully amortized its deferred financing fees of \$0.3 million for the year ended December 31, 2018 related to this credit facility.

Pacific Ethanol, Inc. Notes Payable – On December 12, 2016, Pacific Ethanol entered into a Note Purchase Agreement (the “Note Purchase Agreement”) with five accredited investors. On December 15, 2016, under the terms of the Note Purchase Agreement, Pacific Ethanol sold \$55.0 million in aggregate principal amount of its senior secured notes to the Investors in a private offering for aggregate gross proceeds of 97% of the principal amount of the Notes sold. On June 26, 2017, the Company entered into a second Note Purchase Agreement with five accredited investors. On June 30, 2017, under the terms of the second Note Purchase Agreement, the Company sold an additional \$13.9 million in aggregate principal amount of its senior secured notes to the investors in a private offering for aggregate gross proceeds of 97% of the principal amount of the notes sold (collectively with the notes sold on December 15, 2016, the “Notes”), for a total of \$68.9 million in aggregate principal amount of Notes.

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The Notes mature on December 15, 2019 (the “Maturity Date”). Interest on the Notes accrues at a rate equal to (i) the greater of 1% and the three-month LIBOR, plus 7.0% from the closing through December 14, 2017, (ii) the greater of 1% and LIBOR, plus 9% between December 15, 2017 and December 14, 2018, and (iii) the greater of 1% and LIBOR plus 11% between December 15, 2018 and the Maturity Date. The interest rate increases by an additional 2% per annum above the interest rate otherwise applicable upon the occurrence and during the continuance of an event of default until such event of default has been cured. Interest is payable in cash on the 15th calendar day of each March, June, September and December. Pacific Ethanol is required to pay all outstanding principal and any accrued and unpaid interest on the Notes on the Maturity Date. Pacific Ethanol may, at its option, prepay the outstanding principal amount of the Notes at any time without premium or penalty. The Notes contain a variety of events of default. The payments due under the Notes rank senior to all other indebtedness of Pacific Ethanol, other than permitted senior indebtedness. The Notes contain a variety of obligations on the part of Pacific Ethanol not to engage in certain activities, including that (i) Pacific Ethanol and certain of its subsidiaries will not incur other indebtedness, except for certain permitted indebtedness, (ii) Pacific Ethanol and certain of its subsidiaries will not redeem, repurchase or pay any dividend or distribution on their respective capital stock without the prior consent of the holders of the Notes holding 66-2/3% of the aggregate principal amount of the Notes, other than certain permitted distributions, (iii) Pacific Ethanol and certain of its subsidiaries will not sell, lease, assign, transfer or otherwise dispose of any assets of Pacific Ethanol or any such subsidiary, except for certain permitted dispositions (including the sales of inventory or receivables in the ordinary course of business), and (iv) Pacific Ethanol and certain of its subsidiaries will not issue any capital stock or membership interests for any purpose other than to pay down a portion of all of the amounts owed under the Notes and in connection with Pacific Ethanol’s stock incentive plans. The Notes are secured by a first-priority security interest in the equity interest held by Pacific Ethanol in its wholly-owned subsidiary, PE Op. Co., which indirectly owns the Company’s plants located on the West Coast.

During the year ended December 31, 2018, the Company made voluntary principal prepayments of \$2,000,000 from the proceeds of certain equity issuances.

Pacific Ethanol West Plants’ Term Debt— The Pacific Ethanol West Plants’ debt as of December 31, 2015 consisted of a \$17,003,000 tranche A-1 term loan which was to mature in June 2016. On February 26, 2016, the Company retired the \$17,003,000 outstanding balance by purchasing the lender’s position for cash at par without any prepayment penalty. The purchase increased the amount of the term debt held by Pacific Ethanol from \$41,763,000 at December 31, 2015 to \$58,766,000 at December 31, 2016 and 2017, which is eliminated upon consolidation, as the Company has no continuing obligations to any third-party lender under the credit agreements associated with this term debt.

Maturities of Long-term Debt— The Company’s long-term debt matures as follows (in thousands):

December 31:	
2019	\$ 86,260
2020	20,000
2021	19,500
2022	107,745
2023	—
	\$ 233,505

9. PENSION PLANS.

Retirement Plan - The Company sponsors a defined benefit pension plan (the “Retirement Plan”) that is noncontributory, and covers only “grandfathered” unionized employees at its Pekin, Illinois, facility. The Company assumed the Retirement Plan as part of its acquisition of PE Central on July 1, 2015. Benefits are based on a prescribed formula based upon the employee’s years of service. Employees hired after November 1, 2010, are not eligible to participate in the Retirement Plan. The Company uses a December 31 measurement date for its Retirement Plan. The Company’s funding policy is to make the minimum annual contribution required by applicable regulations.

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Information related to the Retirement Plan as of and for the years ended December 31, 2018, 2017 and 2016 is presented below (dollars in thousands):

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Changes in plan assets:			
Fair value of plan assets, beginning	\$ 13,958	\$ 12,423	\$ 12,567
Actual gains (losses)	(946)	1,722	523
Benefits paid	(667)	(665)	(667)
Company contributions	912	478	—
Participant contributions	—	—	—
Fair value of plan assets, ending	\$ 13,257	\$ 13,958	\$ 12,423
Less: projected accumulated benefit obligation	\$ 18,690	\$ 19,658	\$ 18,455
Funded status, (underfunded)/overfunded	\$ (5,433)	\$ (5,700)	\$ (6,032)
Amounts recognized in the consolidated balance sheets:			
Other liabilities	\$ (5,433)	\$ (5,700)	\$ (6,032)
Accumulated other comprehensive loss (income)	\$ 1,069	\$ 726	\$ 1,047
Components of net periodic benefit costs are as follows:			
Service cost	\$ 424	\$ 391	\$ 223
Interest cost	694	750	686
Expected return on plan assets	(816)	(674)	(794)
Net periodic benefit cost	\$ 302	\$ 467	\$ 115
Loss (gain) recognized in other comprehensive income (expense)	\$ 343	\$ (321)	\$ 1,932
Assumptions used in computation benefit obligations:			
Discount rate	4.15%	3.60%	4.15%
Expected long-term return on plan assets	6.25%	6.00%	6.75%
Rate of compensation increase	—	—	—

The Company expects to make contributions in the year ending December 31, 2019 of approximately \$0.6 million. Net periodic benefit cost for 2019 is estimated at approximately \$0.4 million.

The following table summarizes the expected benefit payments for the Company's Retirement Plan for each of the next five fiscal years and in the aggregate for the five fiscal years thereafter (in thousands):

December 31:		
2019		\$ 760
2020		790
2021		800
2022		840
2023		890
2024-28		5,100
		<u>\$ 9,180</u>

See Note 15 for discussion of the Retirement Plan's fair value disclosures.

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Historical and future expected returns of multiple asset classes were analyzed to develop a risk-free real rate of return and risk premiums for each asset class. The overall rate for each asset class was developed by combining a long-term inflation component, the risk-free real rate of return, and the associated risk premium. A weighted average rate was developed based on those overall rates and the target asset allocation of the plan.

The Company's pension committee is responsible for overseeing the investment of pension plan assets. The pension committee is responsible for determining and monitoring the appropriate asset allocations and for selecting or replacing investment managers, trustees, and custodians. The pension plan's current investment target allocations are 50% equities and 50% debt. The pension committee reviews the actual asset allocation in light of these targets periodically and rebalances investments as necessary. The pension committee also evaluates the performance of investment managers as compared to the performance of specified benchmarks and peers and monitors the investment managers to ensure adherence to their stated investment style and to the plan's investment guidelines.

Postretirement Plan - The Company also sponsors a health care plan and life insurance plan (the "Postretirement Plan") that provides postretirement medical benefits and life insurance to certain "grandfathered" unionized employees. The Company assumed the Postretirement Plan as part of its acquisition of PE Central on July 1, 2015. Employees hired after December 31, 2000, are not eligible to participate in the Postretirement Plan. The plan is contributory, with contributions required at the same rate as active employees. Benefit eligibility under the plan reduces at age 65 from a defined benefit to a defined dollar cap based upon years of service.

Information related to the Postretirement Plan as of December 31, 2018 and 2017 is presented below (dollars in thousands):

	<u>2018</u>	<u>2017</u>
Amounts at the end of the year:		
Accumulated/projected benefit obligation	\$ 5,711	\$ 5,565
Fair value of plan assets	—	—
Funded status, (underfunded)/overfunded	<u>\$ (5,711)</u>	<u>\$ (5,565)</u>
Amounts recognized in the consolidated balance sheets:		
Accrued liabilities	\$ (320)	\$ (240)
Other liabilities	\$ (5,392)	\$ (5,325)
Accumulated other comprehensive loss	\$ 1,390	\$ 1,508

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Information related to the Postretirement Plan for the years ended December 31, 2018, 2017 and 2016 is presented below (dollars in thousands):

	Years Ended December 31,		
	2018	2017	2016
Amounts recognized in the plan for the year:			
Company contributions	\$ 137	\$ 157	\$ 163
Participant contributions	\$ 14	\$ 22	\$ 22
Benefits paid	\$ (152)	\$ (179)	\$ (184)
Components of net periodic benefit costs are as follows:			
Service cost	\$ 84	\$ 84	\$ 48
Interest cost	182	198	139
Amortization of prior service costs	131	134	—
Net periodic benefit cost	<u>\$ 397</u>	<u>\$ 416</u>	<u>\$ 187</u>
Loss (gain) recognized in other comprehensive income	<u>\$ (118)</u>	<u>\$ (65)</u>	<u>\$ 1,728</u>
Discount rate used in computation of benefit obligations	<u>3.35%</u>	<u>3.80%</u>	<u>3.95%</u>

The Company does not expect to recognize any amortization of net actuarial loss during the year ended December 31, 2019.

The following table summarizes the expected benefit payments for the Company's Post-Retirement Plan for each of the next five fiscal years and in the aggregate for the five fiscal years thereafter (in thousands):

December 31:	
2019	\$ 320
2020	320
2021	370
2022	360
2023	390
2024-28	2,350
	<u>\$ 4,110</u>

For purposes of determining the cost and obligation for pre-Medicare postretirement medical benefits, 6.75% and 7.00% annual rates of increases in the per capita cost of covered benefits (i.e., health care trend rate) was assumed for the plan in 2018 and 2017, respectively, adjusting to a rate of 4.50% in 2026. Assumed health care cost trend rates have a significant effect on the amounts reported for health care plans.

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10. INCOME TAXES.

The Company recorded a provision (benefit) for income taxes as follows (in thousands):

	Years Ended December 31,		
	2018	2017	2016
Current provision (benefit)	\$ (589)	\$ (490)	\$ 141
Deferred provision (benefit)	27	169	(1,122)
Total	\$ (562)	\$ (321)	\$ (981)

A reconciliation of the differences between the United States statutory federal income tax rate and the effective tax rate as provided in the consolidated statements of operations is as follows:

	Years Ended December 31,		
	2018	2017	2016
Statutory rate	21.0%	35.0%	35.0%
State income taxes, net of federal benefit	5.4	4.0	6.4
Change in valuation allowance	(20.3)	(34.5)	(298.8)
Impact of Federal tax rate change on deferred taxes	—	(28.4)	—
Impact of Federal tax rate change on valuation allowance	—	29.4	—
Fair value adjustments and warrant inducements	—	0.4	37.2
Noncontrolling interest	(3.0)	(3.2)	—
Stock compensation	—	(0.1)	58.8
Non-deductible items	(0.7)	(0.2)	8.9
Other	(1.6)	(1.6)	(27.5)
Effective rate	0.8%	0.8%	(180.0)%

Deferred income taxes are provided using the asset and liability method to reflect temporary differences between the financial statement carrying amounts and the tax bases of assets and liabilities using presently enacted tax rates and laws. The components of deferred income taxes included in the consolidated balance sheets were as follows (in thousands):

	December 31,	
	2018	2017
Deferred tax assets:		
Net operating loss carryforwards	\$ 48,082	\$ 40,989
R&D, energy and AMT credits	4,247	1,797
Disallowed interest	3,769	—
Railcar contracts	650	1,415
Stock-based compensation	782	738
Allowance for doubtful accounts and other assets	643	637
Derivatives	1,214	267
Pension liability	2,941	2,939
Other	2,134	2,097
Total deferred tax assets	64,462	50,879
Deferred tax liabilities:		
Property and equipment	(23,013)	(25,194)
Intangibles	(749)	(749)
Other	(363)	(521)
Total deferred tax liabilities	(24,125)	(26,464)
Valuation allowance	(40,588)	(24,639)
Net deferred tax liabilities, included in other liabilities	\$ (251)	\$ (224)

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A portion of the Company's net operating loss carryforwards will be subject to provisions of the tax law that limit the use of losses incurred by a company prior to the date certain ownership changes occur. Due to the limitation, a significant portion of these net operating loss carryforwards will expire regardless of whether the Company generates future taxable income. After reducing these net operating loss carryforwards for the amount which will expire due to this limitation, the Company had remaining federal net operating loss carryforwards of approximately \$183,212,000 and state net operating loss carryforwards of approximately \$166,032,000 at December 31, 2018. These net operating loss carryforwards expire as follows (in thousands):

Tax Years	Federal	State
2019–2023	\$ —	\$ —
2024–2028	12,256	20,217
2029–2033	98,360	49,947
2034 and after	40,955	95,868
Non-expiring NOLs	31,641	—
Total NOLs	<u>\$ 183,212</u>	<u>\$ 166,032</u>

Certain of these net operating losses are not immediately available, but become available to be utilized in each of the years ended December 31, as follows (in thousands):

Year	Federal	State
2019	\$ 94,739	\$ 108,956
2020	6,374	5,345
2021	6,308	5,318
2022	6,308	5,318
2023	6,308	5,318

To the extent amounts are not utilized in any year, they may be carried forward to the next year until expiration. These amounts may change if there are future additional limitations on their utilization.

In assessing whether the deferred tax assets are realizable, a more likely than not standard is applied. If it is determined that it is more likely than not that deferred tax assets will not be realized, a valuation allowance must be established against the deferred tax assets. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which the associated temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in making this assessment.

A valuation allowance was established in the amount of \$40,588,000, \$24,639,000 and \$12,683,000 at December 31, 2018, 2017 and 2016, respectively, based on the Company's assessment of the future realizability of certain deferred tax assets. The valuation allowance on deferred tax assets is related to future deductible temporary differences and net operating loss carryforwards for which the Company has concluded it is more likely than not that these items will not be realized in the ordinary course of operations.

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For the year ended December 31, 2018, the Company recorded an increase in the valuation allowance of \$15,949,000. This increase was primarily the offsetting impact of an increase in deferred tax assets associated with additional net operating losses in 2018. For the year ended December 31, 2017, the Company recorded an increase in the valuation allowance of \$11,956,000. This increase was primarily the offsetting impact of a decrease in deferred tax liabilities associated with property and equipment, as a result of the finalization of the deferred tax attributes of Pacific Aurora, which was subject to the sale of a noncontrolling interest in 2016. For the year ended December 31, 2016, the Company recorded a decrease in the valuation allowance of \$27,155,000, including approximately \$13,500,000 related to finalizing certain aspects of the deferred tax attributes of the Company's acquisition of PE Central in 2015, and approximately \$11,500,000 related to the sale of the noncontrolling interest in Pacific Aurora.

At December 31, 2018 and 2017, the Company accrued \$235,000 in tax uncertainties related to a refund claim. There was no accrued interest or penalties relating to tax uncertainties at December 31, 2016.

The Tax Cuts and Jobs Act ("TCJA") was enacted on December 22, 2017. The Company recognized the income tax effects of the TCJA in its 2017 financial statements in accordance with Staff Accounting Bulletin No. 118, which provides SEC staff guidance for the application of ASC Topic 740, *Income Taxes*, in the reporting period in which the TCJA was signed into law. The Company did not identify items for which the income tax effects of the TCJA was not completed as of December 31, 2017.

Amounts recorded where accounting was complete principally related to the reduction in the U.S. corporate income tax rate to 21%. This resulted in the Company reporting an income tax benefit of \$321,000 as the deferred tax liabilities associated with indefinite lived intangible assets were remeasured at the new 21% rate. This rate reduction decreased gross deferred assets by approximately \$10,170,000 and valuation allowance by \$10,545,000. Absent this deferred tax liability, the Company is in a net deferred tax asset position that is offset by a full valuation allowance, resulting in a net tax effect of zero.

For the year ended December 31, 2018, provisions of Internal Revenue Code Section 163(j), as amended by the TCJA, became effective which now limit the deductibility of interest expense to 30% of adjusted taxable income. The Company recorded a related deferred asset of \$3,749,000 at December 31, 2018 which has been fully offset by a valuation allowance. Another significant provision of the TCJA is a limitation of net operating losses generated after fiscal year 2017 with no ability to carryback.

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The Company is subject to income tax in the United States federal jurisdiction and various state jurisdictions and has identified its federal tax return and tax returns in state jurisdictions below as “major” tax filings. These jurisdictions, along with the years still open to audit under the applicable statutes of limitation, are as follows:

Jurisdiction	Tax Years
Federal	2015 – 2017
Arizona	2015 – 2017
California	2014 – 2017
Colorado	2014 – 2017
Idaho	2015 – 2017
Illinois	2014 – 2017
Indiana	2015 – 2017
Iowa	2015 – 2017
Kansas	2015 – 2017
Minnesota	2015 – 2017
Missouri	2015 – 2017
Nebraska	2015 – 2017
Oklahoma	2015 – 2017
Oregon	2015 – 2017
Texas	2014 – 2017

However, because the Company had net operating losses and credits carried forward in several of the jurisdictions, including the United States federal and California jurisdictions, certain items attributable to closed tax years are still subject to adjustment by applicable taxing authorities through an adjustment to tax attributes carried forward to open years.

11. PREFERRED STOCK.

The Company has 6,734,835 undesignated shares of authorized and unissued preferred stock, which may be designated and issued in the future on the authority of the Company’s Board of Directors. As of December 31, 2018, the Company had the following designated preferred stock:

Series A Preferred Stock– The Company has authorized 1,684,375 shares of Series A Cumulative Redeemable Convertible Preferred Stock (“Series A Preferred Stock”), with none outstanding at December 31, 2018 and 2017. Shares of Series A Preferred Stock that are converted into shares of the Company’s common stock revert to undesignated shares of authorized and unissued preferred stock.

Upon any issuance, the Series A Preferred Stock would rank senior in liquidation and dividend preferences to the Company’s common stock. Holders of Series A Preferred Stock would be entitled to quarterly cumulative dividends payable in arrears in cash in an amount equal to 5% per annum of the purchase price per share of the Series A Preferred Stock. The holders of the Series A Preferred Stock would have conversion rights initially equivalent to two shares of common stock for each share of Series A Preferred Stock, subject to customary antidilution adjustments. Certain specified issuances will not result in antidilution adjustments. The shares of Series A Preferred Stock would also be subject to forced conversion upon the occurrence of a transaction that would result in an internal rate of return to the holders of the Series A Preferred Stock of 25% or more. Accrued but unpaid dividends on the Series A Preferred Stock are to be paid in cash upon any conversion of the Series A Preferred Stock.

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The holders of Series A Preferred Stock would have a liquidation preference over the holders of the Company's common stock equivalent to the purchase price per share of the Series A Preferred Stock plus any accrued and unpaid dividends on the Series A Preferred Stock. A liquidation would be deemed to occur upon the happening of customary events, including transfer of all or substantially all of the Company's capital stock or assets or a merger, consolidation, share exchange, reorganization or other transaction or series of related transactions, unless holders of 66 2/3% of the Series A Preferred Stock vote affirmatively in favor of or otherwise consent to such transaction.

Series B Preferred Stock— The Company has authorized 1,580,790 shares of Series B Cumulative Convertible Preferred Stock ("Series B Preferred Stock"), with 926,942 shares outstanding at December 31, 2018 and 2017. Shares of Series B Preferred Stock that are converted into shares of the Company's common stock revert to undesignated shares of authorized and unissued preferred stock.

The Series B Preferred Stock ranks senior in liquidation and dividend preferences to the Company's common stock. Holders of Series B Preferred Stock are entitled to quarterly cumulative dividends payable in arrears in cash in an amount equal to 7.00% per annum of the purchase price per share of the Series B Preferred Stock; however, subject to the provisions of the Letter Agreement described below, such dividends may, at the option of the Company, be paid in additional shares of Series B Preferred Stock based initially on the liquidation value of the Series B Preferred Stock. In addition to the quarterly cumulative dividends, holders of the Series B Preferred Stock are entitled to participate in any common stock dividends declared by the Company to its common stockholders. The holders of Series B Preferred Stock have a liquidation preference over the holders of the Company's common stock initially equivalent to \$19.50 per share of the Series B Preferred Stock plus any accrued and unpaid dividends on the Series B Preferred Stock. A liquidation will be deemed to occur upon the happening of customary events, including the transfer of all or substantially all of the capital stock or assets of the Company or a merger, consolidation, share exchange, reorganization or other transaction or series of related transaction, unless holders of 66 2/3% of the Series B Preferred Stock vote affirmatively in favor of or otherwise consent that such transaction shall not be treated as a liquidation. The Company believes that such liquidation events are within its control and therefore has classified the Series B Preferred Stock in stockholders' equity.

As of December 31, 2018, the Series B Preferred Stock was convertible into 634,641 shares of the Company's common stock. The conversion ratio is subject to customary antidilution adjustments. In addition, antidilution adjustments are to occur in the event that the Company issues equity securities, including derivative securities convertible into equity securities (on an as-converted or as-exercised basis), at a price less than the conversion price then in effect. The shares of Series B Preferred Stock are also subject to forced conversion upon the occurrence of a transaction that would result in an internal rate of return to the holders of the Series B Preferred Stock of 25% or more. The forced conversion is to be based upon the conversion ratio as last adjusted. Accrued but unpaid dividends on the Series B Preferred Stock are to be paid in cash upon any conversion of the Series B Preferred Stock.

The holders of Series B Preferred Stock vote together as a single class with the holders of the Company's common stock on all actions to be taken by the Company's stockholders. Each share of Series B Preferred Stock entitles the holder to approximately 0.03 votes per share on all matters to be voted on by the stockholders of the Company. Notwithstanding the foregoing, the holders of Series B Preferred Stock are afforded numerous customary protective provisions with respect to certain actions that may only be approved by holders of a majority of the shares of Series B Preferred Stock.

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In 2008, the Company entered into Letter Agreements with Lyles United LLC (“Lyles United”) and other purchasers under which the Company expressly waived its rights under the Certificate of Designations relating to the Series B Preferred Stock to make dividend payments in additional shares of Series B Preferred Stock in lieu of cash dividend payments without the prior written consent of Lyles United and the other purchasers.

Registration Rights Agreement – In connection with the sale of its Series B Preferred Stock, the Company entered into a registration rights agreement with Lyles United. The registration rights agreement is to be effective until the holders of the Series B Preferred Stock, and their affiliates, as a group, own less than 10% for each of the series issued, including common stock into which such Series B Preferred Stock has been converted. The registration rights agreement provides that holders of a majority of the Series B Preferred Stock, including common stock into which such Series B Preferred Stock has been converted, may demand and cause the Company to register on their behalf the shares of common stock issued, issuable or that may be issuable upon conversion of the Preferred Stock and as payment of dividends thereon, and upon exercise of the related warrants (collectively, the “Registrable Securities”). The Company is required to keep such registration statement effective until such time as all of the Registrable Securities are sold or until such holders may avail themselves of Rule 144 for sales of Registrable Securities without registration under the Securities Act of 1933, as amended. The holders are entitled to two demand registrations on Form S-1 and unlimited demand registrations on Form S-3; provided, however, that the Company is not obligated to effect more than one demand registration on Form S-3 in any calendar year. In addition to the demand registration rights afforded the holders under the registration rights agreement, the holders are entitled to unlimited “piggyback” registration rights. These rights entitle the holders who so elect to be included in registration statements to be filed by the Company with respect to other registrations of equity securities. The Company is responsible for all costs of registration, plus reasonable fees of one legal counsel for the holders, which fees are not to exceed \$25,000 per registration. The registration rights agreement includes customary representations and warranties on the part of both the Company and the holders and other customary terms and conditions.

The Company accrued and paid in cash preferred stock dividends of \$1,265,000, \$1,265,000 and \$1,269,000 for the years ended December 31, 2018, 2017 and 2016, respectively.

12. COMMON STOCK AND WARRANTS.

The following table summarizes warrant activity for the years ended December 31, 2018, 2017 and 2016 (number of shares in thousands):

	Number of Shares	Price per Share	Weighted Average Exercise Price
Balance at December 31, 2015	382	\$6.09 – \$735.00	\$ 70.87
Warrants exercised	(138)	\$8.43	\$ 8.43
Balance at December 31, 2016	244	\$6.09 – \$735.00	\$ 106.72
Warrants exercised	(191)	\$6.09	\$ 6.09
Warrants expired	(49)	\$6.09 – \$735.00	\$ 444.00
Balance at December 31, 2017	4	\$735.00	\$ 735.00
Warrants expired	(4)	\$735.00	\$ 735.00
Balance at December 31, 2018	—	\$—	\$ —

July 2012 Public Offering – On July 3, 2012, in connection with a public offering, the Company issued warrants to purchase an aggregate of 1,867,000 shares of the Company’s common stock. The warrants were issued at an initial exercise price of \$9.45 per share, which was subject to certain “weighted-average” anti-dilution adjustments. As a result of anti-dilution adjustments, the exercise price was reduced to \$6.09 per share. The balance of these warrants expired unexercised in 2017.

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Accounting for Warrants – The Company determined that certain warrants issued in 2011 and 2012 did not meet the conditions for classification in stockholders' equity and, as such, the Company recorded them as a liability at fair value. The Company revalued them at each reporting period. Accordingly, the Company recorded fair value adjustments quarterly, with total fair value adjustments of \$473,000 of income and \$557,000 of expense for the years ended December 31, 2017 and 2016, respectively, which was largely attributed to adjustments to their exercise prices, term shortening and changes in the market value of the Company's common stock. See Note 15 for the Company's fair value assumptions. As of December 31, 2018 and 2017, there were no warrants outstanding for which the Company accounts using fair value methodologies.

Nonvoting Common Stock – In connection with the Company's PE Central acquisition, the Company issued nonvoting common shares exercisable at the holders' election. During the year ended December 31, 2017, 3,539,236 shares of nonvoting common stock were exchanged for an equal number of shares of the Company's common stock upon the holders' request. As of December 31, 2018, 896 shares of nonvoting common stock were outstanding.

At-the-Market Program – The Company has established an "at-the-market" equity distribution program under which we may offer and sell shares of common stock to, or through, sales agents by means of ordinary brokers' transactions on the NASDAQ, in block transactions, or as otherwise agreed to between us and the sales agent at prices we deem appropriate. We are under no obligation to offer and sell shares of common stock under the program. For the year ended December 31, 2018, the Company sold 838,213 shares of common stock through its "at-the-market" equity program that resulted in net proceeds of \$2,056,966 and fees paid to our sales agent of \$36,951. The net proceeds from these issuances were used to prepay a portion of our senior secured notes maturing December 15, 2019.

13. STOCK-BASED COMPENSATION.

The Company has two equity incentive compensation plans: a 2006 Stock Incentive Plan and a 2016 Stock Incentive Plan.

2006 Stock Incentive Plan – The 2006 Stock Incentive Plan authorized the issuance of incentive stock options ("ISOs") and non-qualified stock options ("NQOs"), restricted stock, restricted stock units, stock appreciation rights, direct stock issuances and other stock-based awards to the Company's officers, directors or key employees or to consultants that do business with the Company for up to an aggregate of 1,715,000 shares of common stock. In June 2016, this plan was terminated, except to the extent of issued and outstanding unvested stock awards and options.

2016 Stock Incentive Plan – On June 16, 2016, the Company's shareholders approved the 2016 Stock Incentive Plan, which authorizes the issuance of ISOs, NQOs, restricted stock, restricted stock units, stock appreciation rights, direct stock issuances and other stock-based awards to the Company's officers, directors or key employees or to consultants that do business with the Company initially for up to an aggregate of 1,150,000 shares of common stock. On June 14, 2018, the Company's shareholders approved an increase to the aggregate number of shares authorized under the 2016 Stock Incentive Plan to 3,650,000.

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Stock Options – Summaries of the status of Company’s stock option plans as of December 31, 2018 and 2017 and of changes in options outstanding under the Company’s plans during those years are as follows (number of shares in thousands):

	Years Ended December 31,			
	2018		2017	
	Number of Shares	Weighted Average Exercise Price	Number of Shares	Weighted Average Exercise Price
Outstanding at beginning of year	230	\$ 4.18	240	\$ 4.18
Exercised/cancelled	(1)	12.90	(10)	3.74
Outstanding at end of year	229	\$ 4.15	230	\$ 4.18
Options exercisable at end of year	229	\$ 4.15	230	\$ 4.18

Stock options outstanding as of December 31, 2018 were as follows (number of shares in thousands):

Range of Exercise Prices	Options Outstanding			Options Exercisable		
	Number Outstanding	Weighted Average Remaining Contractual Life (yrs.)	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price	
\$ 3.74	219	4.47	\$ 3.74	219	\$ 3.74	
\$ 12.90	10	2.59	\$ 12.90	10	\$ 12.90	

The intrinsic value of options outstanding were none and \$84,000 at December 31, 2018 and 2017, respectively. The intrinsic value of options exercised in 2017 was approximately \$30,000.

Restricted Stock – The Company granted to certain employees and directors shares of restricted stock under its 2006 and 2016 Stock Incentive Plans. A summary of unvested restricted stock activity is as follows (shares in thousands):

	Number of Shares	Weighted Average Grant Date Fair Value Per Share
Unvested at December 31, 2015	463	\$ 10.00
Issued	742	\$ 5.24
Vested	(250)	\$ 9.01
Canceled	(25)	\$ 6.24
Unvested at December 31, 2016	930	\$ 6.57
Issued	664	\$ 6.65
Vested	(480)	\$ 7.30
Canceled	(37)	\$ 6.08
Unvested at December 31, 2017	1,077	\$ 6.31
Issued	1,175	\$ 3.07
Vested	(540)	\$ 7.69
Canceled	(77)	\$ 7.14
Unvested at December 31, 2018	1,635	\$ 3.49

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The fair value of the common stock at vesting aggregated \$1,629,000, \$3,210,000 and \$1,142,000 for the years ended December 31, 2018, 2017 and 2016, respectively. Stock-based compensation expense related to employee and non-employee restricted stock and option grants recognized in selling, general and administrative expenses, were as follows (in thousands):

	Years Ended December 31,		
	2018	2017	2016
Employees	\$ 2,905	\$ 3,303	\$ 2,173
Non-employees	533	525	443
Total stock-based compensation expense	<u>\$ 3,438</u>	<u>\$ 3,828</u>	<u>\$ 2,616</u>

Employee grants typically have a three year vesting schedule, while the non-employee grants have a one year vesting schedule. At December 31, 2018, the total compensation expense related to unvested awards which had not been recognized was \$3,648,000 and the associated weighted-average period over which the compensation expense attributable to those unvested awards will be recognized was approximately 1.63 years.

14. COMMITMENTS AND CONTINGENCIES.

Commitments – The following is a description of significant commitments at December 31, 2018:

Leases – Future minimum lease payments required by non-cancelable leases in effect at December 31, 2018 were as follows (in thousands):

Years Ended December 31,	Capital Leases	Operating Leases
2019	\$ 45	\$ 10,207
2020	45	8,423
2021	33	5,441
2022	—	5,233
2023	—	4,511
Thereafter	—	8,413
Total minimum payments	123	\$ 42,228
Obligations due within one year	<u>(45)</u>	
Long-term obligations under capital leases	<u>\$ 78</u>	

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Total rent expense during the years ended December 31, 2018, 2017 and 2016 was \$12,436,000, \$16,572,000 and \$16,253,000, respectively.

Sales Commitments – The Company had open ethanol indexed-price contracts for 258,200,000 gallons of ethanol as of December 31, 2018 and open fixed-price ethanol sales contracts totaling \$92,900,000 as of December 31, 2018. The Company had open fixed-price co-product sales contracts totaling \$44,800,000 as of December 31, 2018 and open indexed-price co-product sales contracts for 801,000 tons as of December 31, 2018. These sales contracts are scheduled to be completed throughout 2019.

Purchase Commitments – At December 31, 2018, the Company had indexed-price purchase contracts to purchase 30,800,000 gallons of ethanol and fixed-price purchase contracts to purchase \$6,605,000 of ethanol from its suppliers. The Company had fixed-price purchase contracts to purchase \$28,294,000 of corn from its suppliers. These purchase commitments are scheduled to be satisfied throughout 2019.

Assessment Financing – In September 2016, the Company signed an agreement to finance and construct a 5 megawatt solar project at its Madera facility. The amount financed is for up to \$10.0 million, to be amortized over twenty years as part of the facility's property tax assessments. As of December 31, 2018 and 2017, the Company had outstanding \$9,342,000 and \$7,714,000, respectively in the accompanying consolidated balance sheets attributable to this financing. The Company expects to pay an additional \$0.9 million per year in connection with its property tax payments, which includes an interest component based upon a 5.6% interest rate on the outstanding balance of the assessment.

Contingencies – The following is a description of significant contingencies at December 31, 2018:

Litigation – The Company is subject to various claims and contingencies in the ordinary course of its business, including those related to litigation, business transactions, employee-related matters, and others. When the Company is aware of a claim or potential claim, it assesses the likelihood of any loss or exposure. If it is probable that a loss will result and the amount of the loss can be reasonably estimated, the Company will record a liability for the loss. If the loss is not probable or the amount of the loss cannot be reasonably estimated, the Company discloses the claim if the likelihood of a potential loss is reasonably possible and the amount involved could be material. While there can be no assurances, the Company does not expect that any of its pending legal proceedings will have a material financial impact on the Company's operating results.

The Company assumed certain legal matters which were ongoing at July 1, 2015, the date of the Company's acquisition of PE Central. Among them were lawsuits between Aventine Renewable Energy, Inc. (now known as Pacific Ethanol Pekin, LLC, or "PE Pekin") and Glacial Lakes Energy, Aberdeen Energy and Redfield Energy, together, the "Defendants," in which PE Pekin sought damages for breach of termination agreements that wound down ethanol marketing arrangements between PE Pekin and each of the Defendants. In February and March 2017, the Company and the Defendants entered into settlement agreements and the Defendants paid in cash to the Company \$3.9 million in final resolution of these matters. The Company did not assign any value to the claims against the Defendants in its accounting for the PE Central acquisition as of July 1, 2015. The Company recorded a gain, net of legal fees, of \$3.6 million upon receipt of the cash settlement and recognized the gain as a reduction to selling, general and administrative expenses in the consolidated statements of operations for the year ended December 31, 2017.

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Pacific Ethanol, Inc., through a subsidiary acquired in its acquisition of PE Central, became involved in a pending lawsuit with Western Sugar Cooperative (“Western Sugar”) that pre-dated the acquisition. On February 27, 2015, Western Sugar filed a complaint in the United States District Court for the District of Colorado (Case No. 1:15-CV-00415) naming PE Central’s subsidiary as defendant. The PE Central subsidiary purchased surplus sugar through a United States Department of Agriculture program. Western Sugar was one of the entities that warehoused this sugar for the PE Central subsidiary. The suit alleged that the PE Central subsidiary breached its contract with Western Sugar by failing to pay certain penalty rates for the storage of its sugar or alternatively failing to pay a premium rate for storage. Western Sugar alleged that the penalty rates applied because the PE Central subsidiary failed to take timely delivery or otherwise cause timely shipment of the sugar. Western Sugar claimed “expectation damages” in the amount of approximately \$8.6 million. On December 29, 2016, Western Sugar and the PE Central subsidiary entered into a settlement pursuant to which the PE Central subsidiary paid \$1.7 million and Western Sugar filed a Stipulation of Dismissal with prejudice. As a result, the Company reduced its litigation reserve of \$2.8 million and recognized the recovery of \$1.1 million as a reduction to selling, general and administrative expenses for the year ended December 31, 2016.

On May 24, 2013, GS CleanTech Corporation (“GS CleanTech”), filed a suit in the United States District Court for the Eastern District of California, Sacramento Division (Case No.: 2:13-CV-01042-JAM-AC), naming Pacific Ethanol, Inc. as a defendant. On August 29, 2013, the case was transferred to the United States District Court for the Southern District of Indiana and made part of the pre-existing multi-district litigation involving GS CleanTech and multiple defendants. The suit alleged infringement of a patent assigned to GS CleanTech by virtue of certain corn oil separation technology in use at one or more of the ethanol production facilities in which the Company has an interest, including Pacific Ethanol Stockton LLC (“PE Stockton”), located in Stockton, California. The complaint sought preliminary and permanent injunctions against the Company, prohibiting future infringement on the patent owned by GS CleanTech and damages in an unspecified amount adequate to compensate GS CleanTech for the alleged patent infringement, but in any event no less than a reasonable royalty for the use made of the inventions of the patent, plus attorneys’ fees. The Company answered the complaint, counterclaimed that the patent claims at issue, as well as the claims in several related patents, are invalid and unenforceable and that the Company is not infringing. Pacific Ethanol, Inc. does not itself use any corn oil separation technology and may seek a dismissal on those grounds.

On March 17 and March 18, 2014, GS CleanTech filed suit naming as defendants two Company subsidiaries: PE Stockton and Pacific Ethanol Magic Valley, LLC (“PE Magic Valley”). The claims were similar to those filed against Pacific Ethanol, Inc. in May 2013. These two cases were transferred to the multi-district litigation division in United States District Court for the Southern District of Indiana, where the case against Pacific Ethanol, Inc. was pending. Although PE Stockton and PE Magic Valley do separate and market corn oil, Pacific Ethanol, Inc., PE Stockton and PE Magic Valley strongly disagree that either of the subsidiaries use corn oil separation technology that infringes the patent owned by GS CleanTech. In a January 16, 2015 decision, the District Court for the Southern District of Indiana ruled in favor of a stipulated motion for partial summary judgment for Pacific Ethanol, Inc., PE Stockton and PE Magic Valley finding that all of the GS CleanTech patents in the suit were invalid and, therefore, not infringed.

A trial in the District Court for the Southern District of Indiana was conducted in October 2015 on the inequitable conduct issue as well as whether GS CleanTech’s behavior during prosecution of the patents rendered this an “exceptional case” which would allow the District Court to award the Defendants reimbursement of their attorneys’ fees expended for defense of the case.

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On September 15, 2016, the District Court issued an Order finding that GS CleanTech, the inventors and GS CleanTech's counsel committed inequitable conduct in the prosecution of the GS CleanTech patents before the United States Patent and Trademark Office. As a result, the District Court issued a Final Judgment on September 15, 2016 dismissing with prejudice all of GS CleanTech's cases against the Defendants, including Pacific Ethanol, Inc., PE Stockton and PE Magic Valley. The District Court's ruling of inequitable conduct results in the unenforceability of the GS CleanTech patents against third parties, and also enables the Defendants to pursue reimbursement of their costs and attorneys' fees from GS CleanTech and its counsel. GS CleanTech subsequently appealed the District Court's finding that all of the GS CleanTech patents were invalid and its finding that the inventors and GS CleanTech's counsel committed inequitable conduct. The appeal is still pending before the Court of Appeals for the Federal Circuit.

The Company has evaluated the above cases as well as other pending cases. The Company currently has not recorded a litigation contingency liability with respect to these cases.

15. FAIR VALUE MEASUREMENTS.

The fair value hierarchy prioritizes the inputs used in valuation techniques into three levels, as follows:

- Level 1 – Observable inputs – unadjusted quoted prices in active markets for identical assets and liabilities;
- Level 2 – Observable inputs other than quoted prices included in Level 1 that are observable for the asset or liability through corroboration with market data; and
- Level 3 – Unobservable inputs – includes amounts derived from valuation models where one or more significant inputs are unobservable. For fair value measurements using significant unobservable inputs, a description of the inputs and the information used to develop the inputs is required along with a reconciliation of Level 3 values from the prior reporting period.

Pooled separate accounts – Pooled separate accounts invest primarily in domestic and international stocks, commercial paper or single mutual funds. The net asset value is used as a practical expedient to determine fair value for these accounts. Each pooled separate account provides for redemptions by the Retirement Plan at reported net asset values per share, with little to no advance notice requirement, therefore these funds are classified within Level 2 of the valuation hierarchy.

Other Derivative Instruments – The Company's other derivative instruments consist of commodity positions. The fair values of the commodity positions are based on quoted prices on the commodity exchanges and are designated as Level 1 inputs.

The following table summarizes recurring fair value measurements by level at December 31, 2018 (in thousands):

	<u>Fair Value</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Benefit Plan Percentage Allocation</u>
Assets:					
Derivative financial instruments	\$ 1,765	\$ 1,765	\$ —	\$ —	
Defined benefit plan assets(1) (pooled separate accounts):					
Large U.S. Equity(2)	3,621	—	3,621	—	27%
Small/Mid U.S. Equity(3)	1,844	—	1,844	—	14%
International Equity(4)	2,106	—	2,106	—	16%
Fixed Income(5)	5,686	—	5,686	—	43%
	<u>\$ 15,022</u>	<u>\$ 1,765</u>	<u>\$ 13,257</u>	<u>\$ —</u>	
Liabilities:					
Derivative financial instruments	\$ (6,309)	\$ (6,309)	\$ —	\$ —	

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The following table summarizes recurring fair value measurements by level at December 31, 2017 (in thousands):

	<u>Fair Value</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Benefit Plan Percentage Allocation</u>
Assets:					
Derivative financial instruments	\$ 998	\$ 998	\$ —	\$ —	
Defined benefit plan assets(1) (pooled separate accounts):					
Large U.S. Equity(2)	3,748	—	3,748	—	27%
Small/Mid U.S. Equity(3)	2,018	—	2,018	—	14%
International Equity(4)	2,528	—	2,528	—	18%
Fixed Income(5)	5,664	—	5,664	—	41%
	<u>\$ 14,956</u>	<u>\$ 998</u>	<u>\$ 13,958</u>	<u>\$ —</u>	
Liabilities:					
Derivative financial instruments	<u>\$ (2,307)</u>	<u>\$ (2,307)</u>	<u>\$ —</u>	<u>\$ —</u>	

(1) See Note 9 for accounting discussion.

(2) This category includes investments in funds comprised of equity securities of large U.S. companies. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund.

(3) This category includes investments in funds comprised of equity securities of small- and medium-sized U.S. companies. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund.

(4) This category includes investments in funds comprised of equity securities of foreign companies including emerging markets. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund.

(5) This category includes investments in funds comprised of U.S. and foreign investment-grade fixed income securities, high-yield fixed income securities that are rated below investment-grade, U.S. treasury securities, mortgage-backed securities, and other asset-backed securities. The funds are valued using the net asset value method in which an average of the market prices for the underlying investments is used to value the fund.

16. PARENT COMPANY FINANCIALS.

Restricted Net Assets – At December 31, 2018, the Company had approximately \$190,200,000 of net assets at its subsidiaries that were not available to be transferred to Pacific Ethanol in the form of dividends, distributions, loans or advances due to restrictions contained in the credit facilities of these subsidiaries.

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Parent company financial statements for the periods covered in this report are set forth below.

<u>ASSETS</u>	December 31,	
	2018	2017
Current Assets:		
Cash and cash equivalents	\$ 6,759	\$ 5,314
Receivables from subsidiaries	17,156	3,138
Other current assets	1,659	1,631
Total current assets	25,574	10,083
Property and equipment, net	522	1,071
Other Assets:		
Investments in subsidiaries	286,666	359,680
Pacific Ethanol West plant receivable	58,766	58,766
Other assets	1,437	1,565
Total other assets	346,869	420,011
Total Assets	\$ 372,965	\$ 431,165
Current Liabilities:		
Accounts payable and accrued liabilities	\$ 2,469	\$ 2,218
Payable to subsidiaries	—	625
Accrued PE Op Co. purchase	3,829	3,828
Current portion of long-term debt	66,255	—
Other current liabilities	385	245
Total current liabilities	72,938	6,916
Long-term debt, net	—	67,530
Deferred tax liabilities	251	224
Other liabilities	9	56
Total Liabilities	73,198	74,726
Stockholders' Equity:		
Preferred stock	1	1
Common and non-voting common stock	46	44
Additional paid-in capital	932,179	927,090
Accumulated other comprehensive loss	(2,459)	(2,234)
Accumulated deficit	(630,000)	(568,462)
Total Pacific Ethanol, Inc. stockholders' equity	299,767	356,439
Total Liabilities and Stockholders' Equity	\$ 372,965	\$ 431,165

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

	Years Ended December 31,		
	2018	2017	2016
Management fees from subsidiaries	\$ 12,408	\$ 11,904	\$ 12,968
Selling, general and administrative expenses	16,795	18,185	14,491
Loss from operations	(4,387)	(6,281)	(1,523)
Fair value adjustments	—	473	(557)
Interest income	4,703	4,793	5,964
Interest expense	(8,678)	(5,829)	(240)
Other income (expense), net	(74)	(95)	1,931
Income (loss) before provision (benefit) for income taxes	(8,436)	(6,939)	5,575
Provision (benefit) for income taxes	(562)	(321)	(981)
Income (loss) before equity in earnings of subsidiaries	(7,874)	(6,618)	6,556
Equity in losses of subsidiaries	(52,399)	(28,346)	(5,137)
Consolidated net income (loss)	<u>\$ (60,273)</u>	<u>\$ (34,964)</u>	<u>\$ 1,419</u>

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

	For the Years Ended December 31,		
	2018	2017	2016
Operating Activities:			
Net income (loss)	\$ (60,273)	\$ (34,964)	\$ 1,419
Adjustments to reconcile net income (loss) to cash provided by operating activities:			
Equity in losses of subsidiaries	52,399	28,346	5,137
Dividends from subsidiaries	25,000	3,500	—
Depreciation	567	830	727
Fair value adjustments	—	(473)	557
Deferred income taxes	27	169	(1,122)
Amortization of debt discounts	720	636	10
Changes in operating assets and liabilities:			
Accounts receivables	(9,018)	4,065	7,302
Other assets	100	4,356	4,647
Accounts payable and accrued expenses	740	3,859	(3,741)
Accounts payable with subsidiaries	2,409	(943)	(9,385)
Net cash provided by operating activities	<u>\$ 12,671</u>	<u>\$ 9,381</u>	<u>\$ 5,551</u>
Investing Activities:			
Additions to property and equipment	\$ (18)	\$ (468)	\$ (465)
Investments in subsidiaries	(10,000)	(28,126)	(50,886)
Purchase of PE OP Co. debt	—	—	(17,003)
Net cash used in investing activities	<u>\$ (10,018)</u>	<u>\$ (28,594)</u>	<u>\$ (68,354)</u>
Financing Activities:			
Proceeds from issuances of senior notes	\$ —	\$ 13,530	\$ 53,350
Proceeds from issuance of common stock	2,057	—	—
Proceeds from warrant stock option exercises	—	1,202	1,164
Payments on senior notes	(2,000)	—	—
Preferred stock dividend payments	(1,265)	(1,265)	(1,269)
Net cash provided by (used in) financing activities	<u>\$ (1,208)</u>	<u>\$ 13,467</u>	<u>\$ 53,245</u>
Net increase (decrease) in cash and cash equivalents	1,445	(5,746)	(9,558)
Cash and cash equivalents at beginning of period	5,314	11,060	20,618
Cash and cash equivalents at end of period	<u>\$ 6,759</u>	<u>\$ 5,314</u>	<u>\$ 11,060</u>

PACIFIC ETHANOL, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

17. QUARTERLY FINANCIAL DATA (UNAUDITED).

The Company's quarterly results of operations for the years ended December 31, 2018 and 2017 are as follows (in thousands).

	<u>First Quarter</u>	<u>Second Quarter</u>	<u>Third Quarter</u>	<u>Fourth Quarter</u>
December 31, 2018:				
Net sales	\$ 400,027	\$ 410,522	\$ 370,407	\$ 334,415
Gross profit (loss)	\$ 3,362	\$ (1,273)	\$ 3,768	\$ (21,021)
Loss from operations	\$ (5,953)	\$ (10,171)	\$ (5,202)	\$ (30,211)
Net loss attributed to Pacific Ethanol, Inc.	\$ (7,841)	\$ (12,908)	\$ (7,514)	\$ (32,010)
Preferred stock dividends	\$ (312)	\$ (315)	\$ (319)	\$ (319)
Net loss available to common stockholders	\$ (8,153)	\$ (13,223)	\$ (7,833)	\$ (32,329)
Basic and diluted loss per common share	\$ (0.19)	\$ (0.31)	\$ (0.18)	\$ (0.74)
December 31, 2017:				
Net sales	\$ 386,340	\$ 405,202	\$ 445,442	\$ 395,271
Gross profit (loss)	\$ (5,773)	\$ 1,653	\$ 12,065	\$ (2,014)
Income (loss) from operations	\$ (11,223)	\$ (7,109)	\$ 3,345	\$ (10,598)
Net loss attributed to Pacific Ethanol, Inc.	\$ (12,636)	\$ (8,841)	\$ (202)	\$ (13,285)
Preferred stock dividends	\$ (312)	\$ (315)	\$ (319)	\$ (319)
Net loss available to common stockholders	\$ (12,948)	\$ (9,156)	\$ (521)	\$ (13,604)
Basic and diluted loss per common share	\$ (0.31)	\$ (0.22)	\$ (0.01)	\$ (0.32)

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth all expenses to be paid by us in connection with this offering. All amounts shown are estimates except for the SEC registration fee.

SEC Registration Fee	\$ 1,060.22
FINRA Fees	—
Accounting Fees and Expenses	10,000
Legal Fees and Expenses	50,000
Blue Sky Fees and Expenses	—
Placement Agent Fees and Expenses	—
Printing Costs	—
Miscellaneous Expenses	5,000
Total	\$ 66,060.22

Item 14. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law (“DGCL”) permits a corporation to indemnify its directors and officers against expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with a pending or completed action, suit or proceeding if the officer or director acted in good faith and in a manner the officer or director reasonably believed to be in the best interests of the corporation.

Our certificate of incorporation provides that, except in some specified instances, our directors shall not be personally liable to us or our stockholders for monetary damages for breach of their fiduciary duty as directors, except liability for the following:

- any breach of their duty of loyalty to Pacific Ethanol or our stockholders;
- acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the DGCL; and
- any transaction from which the director derived an improper personal benefit.

In addition, our certificate of incorporation and bylaws obligate us to indemnify our directors and officers against expenses and other amounts reasonably incurred in connection with any proceeding arising from the fact that such person is or was an agent of ours. Our bylaws also authorize us to purchase and maintain insurance on behalf of any of our directors or officers against any liability asserted against that person in that capacity, whether or not we would have the power to indemnify that person under the provisions of the DGCL. We have entered and expect to continue to enter into agreements to indemnify our directors and officers as determined by our Board. These agreements provide for indemnification of related expenses including attorneys’ fees and settlement amounts incurred by any of these individuals in any action or proceeding. We believe that these bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers. We also maintain directors’ and officers’ liability insurance.

The limitation of liability and indemnification provisions in our certificate of incorporation and bylaws may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and other stockholders. Furthermore, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and officers as required by these indemnification provisions.

Insofar as the provisions of our certificate of incorporation or bylaws provide for indemnification of directors or officers for liabilities arising under the Securities Act, we have been informed that in the opinion of the SEC this indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Reference is made to the following documents filed as exhibits to this registration statement regarding relevant indemnification provisions described above and elsewhere in this registration statement.

Document	Exhibit Number
Certificate of Incorporation	3.1
Amended and Restated Bylaws	3.8
Registration Rights Agreement, dated December 22, 2019, among Pacific Ethanol, Inc. and the investors signatory thereto	4.4
Form of Indemnity Agreement between Pacific Ethanol, Inc. and each of its executive officers and directors	10.17
Registration Rights Agreement, dated March 27, 2008, between Pacific Ethanol, Inc. and Lyles United, LLC	10.20

Item 15. Recent Sales of Unregistered Securities.

On December 22, 2019, we and certain of the selling security holders entered into the Note Amendment Agreement, amending and restating certain of our senior secured notes in the form of the Notes. We paid an aggregate amendment fee of \$1,264,000 to certain of the selling security holders, allocated among them on a pro rata basis and paid in kind through an increase in the principal amount of the Notes.

As additional consideration for entering into the Note Amendment Agreement, we also issued to certain of the selling security holders an aggregate of 5,530,718 shares of our common stock and Warrants to acquire up to an aggregate of 5,500,000 shares of our common stock. The common stock and Warrants were allocated pro rata among certain of the selling security holders. The common stock is subject to anti-dilution rights in favor of certain of the selling security holders for certain dilutive issuances through March 31, 2020 based on a weighted-average anti-dilution formula. On December 23, 2019, CWD Summit, LLC - acting for and on behalf of Candlewood Renewable Energy Series I, an original signatory to the Note Amendment Agreement, transferred 2,872,350 shares of common stock and Warrants to purchase an aggregate 2,856,397 shares of common stock to eight of its accredited investor members, which accredited investors have executed a Joinder Agreement with us with respect to the Registration Rights Agreement.

The shares of common stock and Warrants were issued in reliance upon the exemption from registration provided by Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D as promulgated by the Securities and Exchange Commission under the Securities Act.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits.

The exhibits listed below are filed as part of or incorporated by reference into this registration statement on Form S-1. Where certain exhibits are incorporated by reference from a previous filing, the exhibit numbers and previous filings are identified.

EXHIBIT INDEX

Exhibit Number	Description*	Filed Herewith	Form	File Number	Exhibit Number	Filing Date
2.1	Agreement and Plan of Merger dated June 26, 2017 among Pacific Ethanol Central, LLC, ICP Merger Sub, LLC, Illinois Corn Processing, LLC, Illinois Corn Processing Holdings Inc. and MGPI Processing, Inc.		8-K	000-21467	2.1	06/27/2017
3.1	Certificate of Incorporation		10-Q	000-21467	3.1	11/06/2015
3.2	Certificate of Designations, Powers, Preferences and Rights of the Series A Cumulative Redeemable Convertible Preferred Stock		10-Q	000-21467	3.2	11/06/2015
3.3	Certificate of Designations, Powers, Preferences and Rights of the Series B Cumulative Convertible Preferred Stock		10-Q	000-21467	3.3	11/06/2015
3.4	Certificate of Amendment to Certificate of Incorporation dated June 3, 2010		10-Q	000-21467	3.4	11/06/2015
3.5	Certificate of Amendment to Certificate of Incorporation effective June 8, 2011		10-Q	000-21467	3.5	11/06/2015
3.6	Certificate of Amendment to Certificate of Incorporation effective May 14, 2013		10-Q	000-21467	3.6	11/06/2015
3.7	Certificate of Amendment to Certificate of Incorporation effective July 1, 2015		10-Q	000-21467	3.7	11/06/2015
3.8	Amended and Restated Bylaws		10-Q	000-21467	3.1	11/12/2014
3.9	Specimen Common Stock Certificate		S-3	333-217323	4.9	04/14/2017
4.1	Senior Secured Note Amendment Agreement dated as of December 22, 2019 among the Registrant and the noteholders named therein		8-K	000-21467	10.1	12/26/2019
4.2	Form of Amended and Restated Senior Secured Note for an aggregate principal amount of \$65,649,177.91 issued on December 22, 2019 pursuant to the Senior Secured Note Amendment Agreement dated December 22, 2019 among the Registrant and the noteholders named therein		8-K	000-21467	10.2	12/26/2019

Exhibit Number	Description*	Filed Herewith	Form	File Number	Exhibit Number	Filing Date
4.3	Form of Warrant to Purchase Common Stock for an aggregate of up to 5,500,000 shares issued on December 22, 2019 pursuant to the Senior Secured Note Amendment Agreement dated December 22, 2019 among the Registrant and the noteholders named therein		8-K	000-21467	10.3	12/26/2019
4.4	Registration Rights Agreement dated as of December 22, 2019 among the Registrant and the holders named therein		8-K	000-21467	10.4	12/26/2019
5.1	Opinion of Troutman Sanders LLP	X				
10.1	2006 Stock Incentive Plan, as amended#		S-8	333-196876	4.1	06/18/2014
10.2	Form of Employee Restricted Stock Agreement under 2006 Stock Incentive Plan#		8-K	000-21467	10.2	10/10/2006
10.3	Form of Non-Employee Director Restricted Stock Agreement under 2006 Stock Incentive Plan#		8-K	000-21467	10.3	10/10/2006
10.4	2016 Stock Incentive Plan, as amended#		10-Q	000-21467	10.2	05/10/2018
	2016 Stock incentive Plan, as amended through November 7, 2019#		S-8	333-234613	4.10	11/08/2019
10.5	Form of Employee Restricted Stock Agreement under 2016 Stock Incentive Plan#		10-K	000-21467	10.5	03/15/2018
10.6	Form of Non-Employee Director Restricted Stock Agreement under 2016 Stock Incentive Plan#		10-K	000-21467	10.6	03/15/2018
10.7	Amended and Restated Executive Employment Agreement dated November 7, 2016 between the Registrant and Neil M. Koehler#		10-K	000-21467	10.7	03/15/2017
10.8	Amended and Restated Executive Employment Agreement dated November 7, 2016 between the Registrant and Christopher W. Wright#		10-K	000-21467	10.8	03/15/2017
10.9	Amended and Restated Executive Employment Agreement dated November 7, 2016 between the Registrant and Bryon T. McGregor#		10-K	000-21467	10.9	03/15/2017
10.10	Amended and Restated Executive Employment Agreement dated November 7, 2016 between the Registrant and Michael D. Kandris#		10-K	000-21467	10.10	03/15/2017

Exhibit Number	Description*	Filed Herewith	Form	File Number	Exhibit Number	Filing Date
10.11	Amended and Restated Executive Employment Agreement dated November 7, 2016 between the Registrant and Paul P. Kohler#		10-K	000-21467	10.11	03/15/2017
10.12	Amended and Restated Executive Employment Agreement dated November 7, 2016 between the Registrant and James R. Sneed#		10-K	000-21467	10.12	03/15/2017
10.13	Pacific Ethanol, Inc. 2016 Short-Term Incentive Plan Description#		10-K	000-21467	10.13	03/15/2017
10.14	Pacific Ethanol, Inc. 2017 Short-Term Incentive Plan Description#		10-Q	000-21467	10.1	05/10/2017
10.15	Pacific Ethanol, Inc. 2018 Short-Term Incentive Plan Description#		10-Q	000-21467	10.1	05/10/2018
10.16	Pacific Ethanol, Inc. 2019 Short-Term Incentive Plan Description#		10-Q	000-21467	10.8	05/03/2019
10.17	Form of Indemnity Agreement between the Registrant and each of its Executive Officers and Directors#		10-K	000-21467	10.46	03/31/2010
10.18	Pacific Ethanol, Inc. Policy for Recoupment of Incentive Compensation dated March 29, 2018#		10-K	000-21467	10.17	03/18/2019
10.19	Form of Clawback Policy Acknowledgement and Agreement#		10-K	000-21467	10.18	03/18/2019
10.20	Registration Rights Agreement dated March 27, 2008 between the Registrant and Lyles United, LLC		8-K	000-21467	10.4	03/27/2008
10.21	Letter Agreement dated March 27, 2008 between the Registrant and Lyles United, LLC		8-K	000-21467	10.5	03/27/2008
10.22	Letter Agreement dated May 22, 2008 among the Registrant, Neil M. Koehler, Bill Jones, Paul P. Koehler and Thomas D. Koehler		8-K	000-21467	10.3	05/23/2008
10.23	Security Agreement dated December 15, 2016 among the Registrant, Cortland Capital Market Services LLC and the holders of the Registrant's Senior Secured Notes		8-K	000-21467	10.4	12/20/2016
10.24	First Amendment to Security Agreement dated June 30, 2017 among the Registrant, Cortland Capital Market Services LLC and the holders of Pacific Ethanol, Inc.'s Senior Secured Notes		8-K	000-21467	10.5	07/05/2017

Exhibit Number	Description*	Filed Herewith	Form	File Number	Exhibit Number	Filing Date
10.25	Second Amendment to Security Agreement dated as of December 22, 2019 among the Registrant, the holders named therein and Cortland Capital Market Services LLC		8-K	000-21467	10.5	12/26/2019
10.26	Senior Secured Note Amendment Agreement No. 1 to the Notes dated as of December 16, 2019 by and among the Registrant and the noteholders named therein		8-K	000-21467	10.2	12/26/2019
10.27	Credit Agreement dated December 15, 2016 among Pacific Ethanol Pekin, Inc., 1st Farm Credit Services, PCA and CoBank, ACB		8-K	000-21467	10.5	12/20/2016
10.28	Amendment No. 1 to Credit Agreement dated March 1, 2017 among Pacific Ethanol Pekin, LLC, 1st Farm Credit Services, PCA and CoBank, ACB		10-K	000-21467	10.31	03/15/2018
10.29	Amendment No. 2 to Credit Agreement dated August 7, 2017 among Pacific Ethanol Pekin, LLC, 1st Farm Credit Services, PCA and CoBank, ACB		8-K	000-21467	10.1	08/11/2017
10.30	Amendment No. 3 to Credit Agreement dated March 30, 2018 among Pacific Ethanol Pekin, LLC, Compeer Financial, PCA, as successor by merger to 1st Farm Credit Services, PCA, and CoBank, ACB		8-K	000-21467	10.1	04/05/2018
10.31	Amendment No. 4 to Credit Agreement dated March 20, 2019 among Pacific Ethanol Pekin, LLC, Compeer Financial, PCA, as successor by merger to 1st Farm Credit Services, PCA, and CoBank, ACB		10-Q	000-21467	10.1	05/03/2019
10.32	Amendment No. 5 to Credit Agreement dated July 15, 2019 among Pacific Ethanol Pekin, LLC, Compeer Financial, PCA, as successor by merger to 1st Farm Credit Services, PCA, and CoBank, ACB		8-K	000-21467	10.1	07/19/2019
10.33	Amendment No. 6 to Credit Agreement dated November 15, 2019 by and among Pacific Ethanol Pekin, LLC, Compeer Financial, PCA and CoBank, ACB		8-K	000-21467	10.1	11/19/2019
10.34	First Amendment to Amendment No. 6 to Credit Agreement and Other Loan Documents dated as of December 15, 2019 by and among Pacific Ethanol Pekin, LLC, Compeer Financial, PCA, and CoBank, ACB		8-K	000-21467	10.1	12/26/2019

Exhibit Number	Description*	Filed Herewith	Form	File Number	Exhibit Number	Filing Date
10.35	Security Agreement dated December 15, 2016 between Pacific Ethanol Pekin, Inc. and CoBank, ACB		8-K	000-21467	10.6	12/20/2016
10.36	Security Agreement dated March 20, 2019 by and among Pacific Ethanol Pekin, LLC, Compeer Financial PCA and CoBank ACB		10-Q	000-21467	10.4	05/03/2019
10.37	Working Capital Maintenance Agreement dated December 15, 2016 between the Registrant and CoBank, ACB		8-K	000-21467	10.9	12/20/2016
10.38	Pledge Agreement dated March 20, 2019 by and among Pacific Ethanol Central, LLC, Pacific Aurora, LLC and CoBank, ACB		10-Q	000-21467	10.6	05/03/2019
10.39	Second Amended and Restated Credit Agreement dated August 2, 2017 among Kinergy Marketing LLC, Pacific Ag. Products, LLC, Wells Fargo Bank, National Association, and the parties thereto from time to time as lenders		8-K	000-21467	10.1	08/08/2017
10.40	Amendment No. 1 to Second Amended and Restated Credit Agreement dated March 27, 2019 by and among Kinergy Marketing LLC, Pacific Ag. Products, LLC and Wells Fargo Bank, National Association		10-Q	000-21467	10.7	05/03/2019
10.41	Amendment No. 2 to Second Amended and Restated Credit Agreement dated July 31, 2019 by and among Kinergy Marketing LLC, Pacific Ag. Products, LLC, the parties thereto from time to time as lenders and Wells Fargo Bank, National Association		8-K	000-21467	10.1	08/06/2019
10.42	Second Amended and Restated Guarantee dated August 2, 2017 by the Registrant in favor of Wells Fargo Bank, National Association, for and on behalf of the lenders		8-K	000-21467	10.2	08/08/2017
10.43	Credit Agreement dated September 15, 2017 between Illinois Corn Processing, LLC, Compeer Financial, PCA and CoBank, ACB		8-K	000-21467	10.1	09/21/2017
10.44	Term Note dated September 15, 2017 by Illinois Corn Processing, LLC in favor of Compeer Financial, PCA		8-K	000-21467	10.2	09/21/2017

Exhibit Number	Description*	Filed Herewith	Form	File Number	Exhibit Number	Filing Date
10.45	<u>Revolving Term Note dated September 15, 2017 by Illinois Corn Processing, LLC in favor of Compeer Financial, PCA</u>		8-K	000-21467	10.3	09/21/2017
10.46	<u>Illinois Future Advance Real Estate Mortgage dated September 15, 2017 by Illinois Corn Processing, LLC in favor of CoBank, ACB</u>		8-K	000-21467	10.4	09/21/2017
10.47	<u>Security Agreement dated September 15, 2017 by Illinois Corn Processing, LLC in favor of CoBank, ACB</u>		8-K	000-21467	10.5	09/21/2017
10.48	<u>At Market Issuance Sales Agreement dated as of September 19, 2019, by and between the Company and H.C. Wainwright & Co., LLC</u>		8-K	000-21467	10.1	09/19/2019
10.49	<u>Amendment No. 1 to Credit Agreement and Waiver dated December 20, 2019 among Illinois Corn Processing, LLC, Compeer Financial, PCA and CoBank, ACB</u>	X				
10.50	<u>Amendment No. 7 to Credit Agreement and Waiver dated December 20, 2019 among Pacific Ethanol Pekin, LLC, Compeer Financial, PCA and CoBank, ACB</u>	X				
10.51	<u>First Amendment to Security Agreement dated December 20, 2019 by and between Illinois Corn Processing, LLC and CoBank, ACB for the benefit of Compeer Financial, PCA</u>	X				
10.52	<u>First Amendment to Security Agreement dated December 20, 2019 by and between Pacific Ethanol Central, LLC and CoBank, ACB for the benefit of Compeer Financial, PCA</u>	X				
10.53	<u>Second Amendment to Security Agreement dated December 20, 2019 by and between Pacific Ethanol Pekin, LLC and CoBank, ACB for the benefit of Compeer Financial, PCA</u>	X				
10.54	<u>Guaranty by Illinois Corn Processing, LLC dated December 20, 2019 in favor of Compeer Financial, PCA and CoBank, ACB</u>	X				

Exhibit Number	Description*	Filed Herewith	Form	File Number	Exhibit Number	Filing Date
10.55	<u>Amended and Restated Guaranty and Contribution Agreement dated December 20, 2019 by Pacific Ethanol Central, LLC for the benefit of Compeer Financial, PCA and CoBank, ACB</u>	X				
10.56	<u>Guaranty by Pacific Ethanol Pekin, LLC dated December 20, 2019 in favor of Compeer Financial, PCA and CoBank, ACB</u>	X				
10.57	<u>Pledge Agreement dated December 20, 2019 by and among Pacific Ethanol Central, LLC, Pacific Ethanol Pekin, LLC and CoBank, ACB</u>	X				
10.58	<u>Pledge Agreement dated December 20, 2019 by and among Pacific Ethanol Central, LLC, Illinois Corn Processing, LLC and CoBank, ACB</u>	X				
10.59	<u>First Amendment to Pledge Agreement dated December 20, 2019 by and among Pacific Ethanol Central, LLC, Pacific Aurora, LLC and CoBank, ACB</u>	X				
10.60	<u>Amendment to Illinois Future Advance Real Estate Mortgage dated December 20, 2019 by and between Illinois Corn Processing, LLC and Compeer Financial, PCA</u>	X				
10.61	<u>Third Amendment to Illinois Future Advance Real Estate Mortgage dated December 20, 2019 by and between Pacific Ethanol Pekin, LLC and Compeer Financial, PCA</u>	X				
10.62	<u>Amended and Restated Term Note dated December 20, 2019 by Illinois Corn Processing, LLC in favor of Compeer Financial, PCA</u>	X				
10.63	<u>Amended and Restated Revolving Term Note dated December 20, 2019 by Illinois Corn Processing, LLC in favor of Compeer Financial, PCA</u>	X				
10.64	<u>Third Amended and Restated Revolving Term Note dated December 20, 2019 by Pacific Ethanol Pekin, LLC in favor of Compeer Financial, PCA</u>	X				
10.65	<u>Fourth Amended and Restated Term Note dated December 20, 2019 by Pacific Ethanol Pekin, LLC in favor of Compeer Financial, PCA</u>	X				

Exhibit Number	Description*	Filed Herewith	Form	File Number	Exhibit Number	Filing Date
21.1	Subsidiaries of the Registrant					
23.1	Consent of Troutman Sanders LLP (contained in Exhibit 5.1)	X	10-K	000-21467	21.1	03/15/2018
23.2	Consent of Independent Registered Public Accounting Firm	X				
24.1	Power of Attorney (included on the signature page to this Registration Statement)	X				
101.INS	XBRL Instance Document	X				
101.SCH	XBRL Taxonomy Extension Schema Document	X				
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	X				
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	X				
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	X				
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	X				

(#) A contract, compensatory plan or arrangement to which a director or executive officer is a party or in which one or more directors or executive officers are eligible to participate.

(*) Certain of the agreements filed as exhibits contain representations and warranties made by the parties thereto. The assertions embodied in such representations and warranties are not necessarily assertions of fact, but a mechanism for the parties to allocate risk. Accordingly, investors should not rely on the representations and warranties as characterizations of the actual state of facts or for any other purpose at the time they were made or otherwise.

(b) Financial Statement Schedules.

No financial statement schedules are provided because the information called for is not required or is shown either in the financial statements or notes.

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

The undersigned Registrant hereby undertakes that for the purpose of determining liability under the Securities Act to any purchaser, if the Registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness.

Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Sacramento, State of California, on this 21st day of January, 2020.

Pacific Ethanol, Inc.,
a Delaware corporation

By: /s/ NEIL M. KOEHLER
Neil M. Koehler
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Neil M. Koehler his attorney-in-fact and agent, with the power of substitution and resubstitution, for him and in his name, place or stead, in any and all capacities, to sign any amendment to this registration statement on Form S-1, and to file such amendments, together with exhibits and other documents in connection therewith, with the SEC, granting to such attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully as he might or could do in person, and ratifying and confirming all that the attorney-in-fact and agent, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ WILLIAM L. JONES</u> William L. Jones	Chairman of the Board and Director	January 21, 2020
<u>/s/ NEIL M. KOEHLER</u> Neil M. Koehler	President, Chief Executive Officer (principal executive officer) and Director	January 21, 2020
<u>/s/ BRYON T. MCGREGOR</u> Bryon T. McGregor	Chief Financial Officer (principal financial and accounting officer)	January 21, 2020
<u>/s/ MICHAEL D. KANDRIS</u> Michael D. Kandris	Chief Operating Officer and Director	January 21, 2020
<u>/s/ TERRY L. STONE</u> Terry L. Stone	Director	January 21, 2020
<u>/s/ JOHN L. PRINCE</u> John L. Prince	Director	January 21, 2020
<u>/s/ DOUGLAS L. KEITA</u> Douglas L. Kieta	Director	January 21, 2020
<u>/s/ LARRY D. LAYNE</u> Larry D. Layne	Director	January 21, 2020
<u>/s/ GILBERT E. NATHAN</u> Gilbert E. Nathan	Director	January 21, 2020
<u>/s/ DIANNE S. NURY</u> Dianne S. Nury	Director	January 21, 2020

[TROUTMAN SANDERS LLP LETTERHEAD]

January 21, 2020

Pacific Ethanol, Inc.
400 Capital Mall, Suite 2060
Sacramento, CA 95814

Re: Registration Statement on Form S-1
Registering 12,136,862 Shares of Common Stock

Ladies and Gentlemen:

We have acted as counsel to Pacific Ethanol, Inc., a Delaware corporation (the "Company"), in connection with the registration statement on Form S-1 to which this opinion is an exhibit (the "Registration Statement") with respect to the offer and sale by the persons and entities named in the Registration Statement (the "Selling Security Holders") of up to an aggregate of 12,136,862 shares of the Company's common stock, \$0.001 par value per share ("Common Stock"), comprising the following (collectively, the "Shares"):

- (i) 5,530,718 shares of Common Stock;
- (ii) 1,106,144 shares of Common Stock (the "Additional Common Shares") issuable in connection with certain anti-dilution rights in favor of the selling security holders for certain dilutive issuances through March 31, 2020 based on a weighted-average anti-dilution formula; and
- (iii) 5,500,000 shares of Common Stock (the "Warrant Shares") issuable upon exercise of warrants to purchase common stock (the "Warrants") issued on December 22, 2019.

This opinion is being furnished in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act of 1933, as amended (the "Securities Act"), and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or prospectus forming a part of the Registration Statement, other than as to the validity of the Shares.

We are familiar with the corporate actions taken and proposed to be taken by the Company in connection with the authorization, issuance and sale of the Shares and have made such other legal and factual inquiries as we deem necessary for purposes of rendering this opinion. We have relied upon certificates and other assurances of officers of the Company and others as to factual matters; we have not independently verified such matters. We have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies and the authenticity of the originals of such copied documents. We have also assumed that the Shares are and will be evidenced by appropriate certificates that have been properly executed and delivered.

Based on the foregoing and in reliance thereon, and subject to the qualifications and limitations set forth below, we are of the opinion that (i) the Shares have been duly authorized by all necessary corporate action of the Company and are validly issued, fully paid and non-assessable, (ii) the Additional Common Shares have been duly authorized by all necessary corporate action of the Company and if and when issued upon the occurrence of a dilutive event pursuant to the Note Amendment Agreement dated December 22, 2019 by and among the Company and the Selling Security Holders, will be validly issued, fully paid and non-assessable (iii) the Warrant Shares, when issued upon exercise of each of the Warrants in accordance with their respective terms, will be validly issued, fully paid and non-assessable.

You have informed us that the Selling Security Holders may sell the Shares from time to time on a delayed or continuous basis. This opinion is limited to the Delaware General Corporation Law ("DGCL"), including the statutory provisions of the DGCL, all applicable provisions of the Constitution of the State of Delaware and all reported judicial decisions interpreting these laws, and federal law, exclusive of state securities and blue sky laws, rules and regulations.

We hereby consent to the use of our name under the caption "Legal Matters" in the prospectus forming a part of the Registration Statement and to the filing of this opinion as Exhibit 5.1 to the Registration Statement. In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act, or the General Rules and Regulations of the SEC.

Respectfully submitted,

/s/ Troutman Sanders LLP

AMENDMENT NO. 1 TO CREDIT AGREEMENT AND WAIVER

THIS AMENDMENT NO. 1 TO CREDIT AGREEMENT AND WAIVER, dated as of December 20, 2019 (this “**Agreement**”), is entered into by and between ILLINOIS CORN PROCESSING, LLC, a limited liability company organized and existing under the laws of Delaware (“**Company**”), COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA (“**Lender**”), and COBANK, ACB, a federally-chartered instrumentality of the United States (“**Agent**”). Capitalized terms not defined herein shall have the meanings set forth in the Credit Agreement.

BACKGROUND:

WHEREAS, the Company, Lender and Agent have entered into that certain Credit Agreement dated as of September 15, 2017 (as amended, restated, modified or otherwise supplemented from time to time, collectively the “**Credit Agreement**”) and the other Loan Documents;

WHEREAS, the Company failed to be in compliance with the financial covenant set forth in Section 8.1 of the Credit Agreement for the months of September and October 2019 (the “**Specified Defaults**”);

WHEREAS, the Company has requested that, as of the Effective Date, the Credit Agreement and certain other Loan Documents be amended as herein provided; and

WHEREAS, Agent and Lender are willing, subject to the terms and conditions hereinafter set forth, to make such amendments;

NOW, THEREFORE, in consideration of the agreements herein contained, the parties hereby agree as follows:

ARTICLE 1 Amendments.

Effective on (and subject to the occurrence of) the Effective Date, the Credit Agreement is amended as follows:

1.1 **New Section 2.8 of the Credit Agreement** The following new 2.8 is hereby added to the Credit Agreement:

2.8 Payment and Allocation of Paydown Amount.

(a) On or before September 30, 2020, the Pekin Lenders and the ICP Lenders shall receive payment of \$40,000,000 (the “**Paydown Amount**”) to reduce the outstanding balances of the Term Loan and the “Term Loan” under Pekin Credit Agreement, as such amount shall be allocated between the Pekin Lenders and the ICP Lenders; pursuant to the CoBank Intercreditor Agreement, and of any other amounts received pursuant to Section 2.8(c) below.

(b) The Paydown Amount will be paid from one or more of the following sources; provided that amounts arising from each such payment source will each be distributed (x) 80% to the Pekin Lenders and the ICP Lender, collectively, and (y) 20% to PEI:

(i) one or more of the following sources:

(A) net cash sale proceeds received from the sale of any assets of PEC, whether arising pursuant to an ownership sale or an asset sale by any of its Subsidiaries, including ICP, Pekin and Aurora, and including any cash proceeds from any seller financing promissory note in connection with any such sale (any such sale, being, a “**PEC Asset Sale**”); provided that, with respect to any such promissory note:

(I) any such seller financing promissory shall be assigned in writing by such Seller to the Agent for the benefit of the Lender as additional collateral,

(I) such assignment shall be acknowledged in writing by the beneficiary of such seller financing promissory note, and

(III) the payments under such seller financing promissory shall be directed by the seller to the Agent for the benefit of the Lender provided that at such time the Paydown Amount has been paid in full, the security interests in such note shall be terminated, such note will be delivered to the Company and all payments will be directed to the Company, for distribution in accordance with the splits identified below in Section 2.8(c);

(B) any net cash proceeds from the payment of any award, judgment or settlement with respect to the Indeck Litigation (the “**Indeck Proceeds**”); provided, however, that the lesser of (I) 20% of the Indeck Proceeds or (II) \$1,500,000 of the Indeck Proceeds shall first be contributed to the Pekin Contingency Amount.

With regard to any proceeds to be allocated for distribution to PEI set forth in this clause 2.8(b)(i), such amount shall be reduced on a dollar-for-dollar basis equal to 50% of the amount of the Allocated Affiliate Fees (as defined below) incurred and paid in cash to PEI by PEC or ICP after January 1, 2020 pursuant to that certain Affiliated Company Agreement (collectively, the “**PEI Reduced Amount**”). The PEI Reduced Amount shall be reallocated to the Pekin Lenders and the ICP Lenders and applied to the amounts outstanding under the respective loan facilities pursuant to the terms of the CoBank Intercreditor Agreement. As used herein, the “**Allocated Affiliate Fees**” means the direct and indirect fees and expenses incurred and paid in cash to PEI by PEC or ICP for the benefit of PEC, PEI or any of their respective Affiliates (and excluding any fees and expenses paid to PEC which are for the benefit of and paid to any unrelated third parties, including without limitation, any insurance premiums.)

(ii) with respect to net cash sales proceeds of any sale of the facilities owned directly or indirectly by PE Op Co. and/or Pacific Ethanol West, LLC (the “**Western Assets**”) (including any ownership interests therein of PEI, each a “**Western Asset Sale**”), after payment to the holders of the Senior Note Documents of the first \$20,000,000 from any such sale(s), then a 33/34/33% split among (x) the Pekin Lenders and the ICP Lenders collectively, (y) the holders of the Senior Note Documents and (z) PEI; and

(iii) at the election of PEI, from funds contributed to Pekin and/or ICP from PEI or PEC for payment to the Pekin Lenders and the ICP Lenders.

(c) Following the receipt by the Pekin Lenders and the ICP Lenders of the Paydown Amount in full, any additional proceeds arising from the payments sources listed in paragraphs 2.8(b)(i)(A) or 2.8(b)(i)(B) above shall be allocated pursuant to a 33/34/33% split among (x) Pekin Lenders and the ICP Lenders collectively, (y) the holders of the Senior Note Documents and (z) PEI.

The foregoing payment obligations shall be made in connection with the CoBank Intercreditor Agreement. The intention of the foregoing payment scenario is to effectuate the repayment of the amounts outstanding under the respective loan facilities of the Pekin Lenders and the ICP Lenders.

1.2 **Amendment to Section 6.1(e) of the Credit Agreement.** Section 6.1(e) of the Credit Agreement is hereby amended by adding a new clauses (ix), (x) and (xi) as follows:

(ix) **Notices of Material Events.** Until the Pekin Lenders and the ICP Lenders have received the Paydown Amount in full, the Company shall promptly notify Agent and the Agent under the Pekin Credit Agreement within three (3) Business Days of the occurrence of any of the following:

- (1) Any outage at the operating facilities of the Company and Pekin (collectively, the “**Pekin Campus**”) (including any process island therein, e.g., grain section, boilers, fermentation, dryers and distillation, dehydration and evaporation) for a period of greater than 24 hours;
- (2) Any suspension of barge shipments from the Pekin Campus for a period of greater than 24 hours;
- (3) Any unbudgeted capital expenditure at the Pekin Campus in an amount of greater than \$100,000; or
- (4) Prepayment or Cash-on-Delivery credit terms from (x) any utility or (y) greater than 10% by volume of the Company’s corn suppliers.

(x) **Notices of Offer of PAL Equity.** On or before December 31, 2019, the Company shall cause PEC to deliver a right of first offer notice to Aurora Cooperative Elevator Company (“**ACEC**”) pursuant to Section 3.6 of the Limited Liability Agreement of PAL, which notice shall offer PEC’s equity interest in PAL to ACEC in an all-cash transaction in an amount not less than the “Purchase Price” (as such term is defined in that certain letter of intent between PEC and ACEC dated December 19, 2019 (the “**Aurora LOI**”)) and applied under terms substantially the same as reflected in the Aurora LOI.

1.3 **New to Sections 6.1(f) and 6.1(g) of the Credit Agreement** Section 6.1(f) of the Credit Agreement is hereby amended by adding new clauses (f) and (g) as follows:

(f) **Rolling 13-Week Cash Flow Forecasts** Until the Pekin Lenders and the ICP Lenders have received the Paydown Amount in full, by no later than 9:00 p.m. Mountain time on the third Business Day of each week, a rolling 13-week cash flow forecast prepared by the Company covering the 13-week period commencing with the immediately preceding week and detailing (i) projected cash receipts, (ii) projected disbursements, (iii) net cash flow, and (iv) such other items set forth therein and other information reasonably requested by Agent for such 13-week period, together with a comparison to the immediately preceding forecast and accompanied by a management narrative explaining results of operations and variances to the immediately preceding forecast and a reconciliation to cash balances held in the Company’s accounts (all in form and substance reasonably acceptable to Agent).

(g) **Financial Accommodation Agreements.** Until the Pekin Lenders and the ICP Lenders have received the Paydown Amount in full, by no later than 9:00 p.m. Mountain time on the third Business Day of each week, an operations report for the Pekin Campus, which reports shall include, at a minimum.

- (i) Production volume of product meeting minimum product specifications based on industry standards of either the Company or Pekin volumes;
- (ii) Shipment volumes;
- (iii) Product yields;
- (iv) Energy consumption per gallon (based on monthly reporting); and
- (v) Material health, safety and environmental matters.

1.4 **Amendment to Section 6.3 of the Credit Agreement** Section 6.3 of the Credit Agreement is hereby amended and restated in its entirety to read as follows:

6.3 Collateral Security. Payment and performance of the Obligations shall be secured by first priority perfected Liens on:

- (i) all personal property of the Company;
- (ii) until the Pekin Lenders and the ICP Lenders have received the Paydown Amount in full, all personal property of Pekin (the **“Pekin Personal Property Collateral”**);
- (iii) all personal property of PEC pursuant to the PEC Pledge Agreement and the PEC Security Agreement (collectively, the assets referenced in clauses (i), (ii) and (iii) of this Section 6.3 are referred to herein as the **“Personal Property Collateral”**);
- (iv) all real property and improvements of the Company;
- (v) until the Pekin Lenders and the ICP Lenders have received the Paydown Amount in full, all real property and improvements of Pekin (the **“Pekin Real Property Collateral”**) and together with the Pekin Personal Property Collateral, the **“Pekin Collateral”** and collectively, the assets referenced in clauses (iv) and (v) of this Section 6.3 are referred to herein as the **“Real Property Collateral”**).

In each case, whether now owned or hereafter acquired (the Personal Property Collateral and the Real Property Collateral are collectively referred to as the **“Collateral”**), subject only to Permitted Liens or other exceptions approved in writing by Agent. Prior to or substantially contemporaneously with the date of this Agreement and at such other times as Agent may request (including each time the Company, Pekin or PEC acquires any real property or any personal property not already subject to the Liens required herein), the Company shall execute and deliver (or shall cause to be delivered) to Agent such security agreements, pledge agreements, assignments, mortgages, deeds of trust, and other documents and agreements requested by Agent for the purpose of creating, perfecting, and maintaining a perfected Lien on the Collateral, subject only to Permitted Liens or other exceptions approved in writing by Agent. The Company hereby authorizes Agent to file such Uniform Commercial Code financing statements to record such mortgages, deeds of trust, and other documents in the applicable real property records as Agent reasonably determines are necessary or advisable to perfect the security interests in and Liens on the Collateral. Payment and performance of the Obligations shall also be guaranteed by PEC pursuant to the PEC Guaranty. Upon receipt of the Paydown Amount, Agent shall immediately release its security interests in and to the Pekin Collateral.

1.5 **New Section 6.12(e) of the Credit Agreement** Section 6.12 of the Credit Agreement is hereby amended by adding new Sections 6.12(e) as follows:

(e) Until the Pekin Lenders and the ICP Lenders have received the Paydown Amount in full, the Company and/or its financial advisors shall provide to the Pekin Lenders and the ICP Lenders each of the following in form reasonably acceptable to the Pekin Lenders and the ICP Lenders (the **“Strategic Alternatives Process”**):

- (i) Robust list of parties to be contacted as part of the Strategic Alternatives Process;
- (ii) Marketing materials utilized for the Strategic Alternatives Process;
- (iii) Weekly updates on outbound calls completed, inbound calls received, feedback received from prospects, any indications of interest or letters of intent received, and required diligence and steps to consummation of Strategic Alternatives Process.

1.6 **New Sections 7.2(j) and 7.2(k) of the Credit Agreement.** Section 7.2 of the Credit Agreement is hereby amended by adding new Sections 7.2(j) and 7.2(k) as follows:

(j) Liens granted in favor of the Pekin Lenders to secure the obligations of Pekin under the Pekin Credit Agreement.

(k) Subordinated liens granted in favor of the holders of the Senior Note Documents to secure the obligations of the Pacific Ethanol, Inc. under the Senior Note Documents.

1.7 **Amendment to Section 7.6 of the Credit Agreement** Section 7.6 of the Credit Agreement is hereby amended in its entirety to read as follows:

7.6 Dispositions of Assets or Subsidiaries. PEC, Pekin and the Company shall not, and shall not permit any Subsidiary to, sell, convey, assign, lease, abandon or otherwise transfer or dispose of, voluntarily or involuntarily, any of their properties or assets, tangible or intangible assignment, (including sale assignment discount or other disposition of accounts, contract rights, chattel paper, equipment or general intangibles with or without recourse or of capital stock, shares of beneficial interest, partnership interests or limited liability company interests of a Subsidiary), except for transactions in the ordinary course of business. PEC and PEI shall not, and shall not permit any of their subsidiaries to, sell, convey, assign, lease, abandon or otherwise transfer or dispose of, voluntarily or involuntarily, any of its capital stock, shares of beneficial interest, partnership interests or limited liability company interests as part of any transaction that contains a “put right” in favor of the purchaser of such transaction that enables the purchaser to require a repurchase of such interests, unless (i) the Term Loan has been repaid in full or (ii) payment in full of the Term Loan is a condition to the effectiveness of such transaction (collectively, the “**Put Restriction**”). Notwithstanding anything to the contrary set forth herein or in any other Loan Document, but subject to the Put Restriction:

(a) PEI and its applicable Subsidiaries shall be entitled to litigate, settle and otherwise resolve the Indeck Litigation without the prior written consent of Agent, the ICP Lenders or the Pekin Lender so long as any proceeds thereof to be paid to PEI or such Subsidiaries shall be distributed in accordance with Section 2.8 of this Agreement and the CoBank Intercreditor Agreement;

(b) Until such time as the Paydown Amount has been paid in full, any PEC Asset Sale shall be subject to the consent of each of the Pekin Lenders and the ICP Lenders, in each case not to be unreasonably withheld, conditioned or delayed; and

(c) Any Western Asset Sale shall not require the consent of the ICP Lenders or the Pekin Lenders so long as such sale is to an unrelated purchaser, is entered into in good faith and is for reasonable market value, and the net proceeds of such sale are distributed in accordance with Section 2.8 and in the Senior Intercreditor Agreement and, as between the ICP Lenders and the Pekin Lenders, pursuant to the CoBank Intercreditor Agreement.

To the extent the consent of the ICP Lenders the Pekin Lenders is required pursuant to Section 7.6(b) above, so long as no Event of Default then exists, the Pekin Lenders and the ICP Lenders hereby agree to reasonably cooperate with PEC and the proposed purchaser with respect to any PEC Asset Sale involving PEC's membership interests in ICP to an unrelated third party, including further amendment to the respective Loan Documents of the ICP Lenders to eliminate any cross-defaults to any Affiliates of ICP.

1.8 Amendment to Sections 8.1 and 8.2 of the Credit Agreement Sections 8.1 and 8.2 of the Credit Agreement are hereby amended and restated in their entirety to read as follows:

8.1 Adjusted EBITDA. Adjusted EBITDA negative variance of either the Company or Pekin shall be no greater than 20% (tested against agreed upon budget; calculated based on trailing 3-month Adjusted EBITDA as of the end of each calendar month); provided that, notwithstanding anything to the contrary set forth elsewhere herein, including Section 9.1(c), the failure of this covenant shall not constitute an Event of Default unless such failure continues for two (2) consecutive calendar months.

8.2 Weekly Production Volume. Negative variance in weekly production volume of product meeting minimum product specifications based on industry standards of either the Company or Pekin shall be no greater than 20% (tested against agreed upon budget; updated weekly); provided that, notwithstanding anything to the contrary set forth elsewhere herein, including Section 9.1(c), the failure of this covenant shall not constitute an Event of Default unless such failure continues for two (2) consecutive calendar weeks.

1.9 Amendment to Section 9.1 of the Credit Agreement Section 9.1 of the Credit Agreement is hereby amended by adding the following new Section 9.1(o) as follows:

(o) Defaults under the Pekin Credit Agreement. A default or event of default shall occur at any time under the terms of the Pekin Credit Agreement or related document, and such breach, default, or event of default consists of the failure to pay (beyond any period of grace permitted with respect thereto, whether waived or not), any Indebtedness when due (whether at stated maturity, by acceleration, or otherwise) or if such breach or default permits or causes the acceleration of any Indebtedness (whether or not such right shall have been exercised or waived).

1.10 Replacement of Compliance Certificate. Exhibit C (Compliance Certificate) to the Credit Agreement is hereby replaced with Exhibit C attached hereto.

1.11 Amendments to Annex A to Credit Agreement.

(a) Annex A to the Credit Agreement is hereby amended by adding the following definitions as new definitions in the correct alphabetical order:

“80/20 Minimum Allocation Requirement” means, with respect to any payments made to the Pekin Lenders and/or the ICP Lenders with respect to the Paydown Amount and any other amounts received on account of any Western Asset Sales or any PEC Asset Sales, the requirement that the Pekin Lenders shall receive not less than 80% thereof for application to the principal paydown of the “Term Loan” under Pekin Credit Agreement until paid in full and then to the “Revolving Term Loan” under Pekin Credit Agreement.

“CoBank Intercreditor Agreement” an intercreditor agreement by and between (x) the Pekin Lenders, and (y) the ICP Lenders on one hand, on the other hand, to be executed on or before January 7, 2019, but subject to the 80/20 Minimum Allocation Requirement. The Company will be provided with a copy of the CoBank Intercreditor Agreement immediately upon execution thereof.

“ICP Lenders” means those entities party to this Agreement as Lenders from time to time.

“Indeck Litigation” means the legal proceeding styled Case No. 2015-L-006405 in the Circuit Court of Cook County, Illinois, Law Division.

“**First Amendment**” means Amendment No. 1 to Credit Agreement dated December 20, 2019, executed by the Company, Agent, and Lender.

“**Loan Parties**” means, collectively, the Company and PEC.

“**PAL**” means Pacific Aurora, LLC, a Delaware limited liability company.

“**PEC Guaranty**” means the guaranty executed by PEC dated as of March 20, 2019, as amended.

“**PEC Pledge Agreement**” means the pledge agreement executed by PEC dated as of March 20, 2019, as amended.

“**PEC Security Agreement**” means the pledge agreement executed by PEC dated as of March 20, 2019, as amended.

“**Pekin**” means Pacific Ethanol Pekin, LLC, a Delaware limited liability company

“**Pekin Amendment**” means that certain Amendment No. 7 to Credit Agreement and Waiver dated December 20, 2019 by and among Pekin, the Pekin Lenders and the Agent thereto.

“**Pekin Contingency Account**” means a deposit account controlled by the Pekin Lenders established for the purpose of satisfying the Obligations of the Company under this Agreement or of Pekin under the Peking Credit Agreement as the Pekin Lenders and the ICP Lenders may jointly determine from time to time.

“**Pekin Credit Agreement**” means that certain Credit Agreement by and among Pacific Ethanol Pekin, LLC, a Delaware limited liability company as Borrower, Compeer Financial, PCA, a federally-chartered instrumentality of the United States as a Lender, and CoBank, ACB, as Agent, dated as of December 15, 2016, as amended, restated, supplemented or otherwise modified from time to time.

“**Pekin Lenders**” means those entities party to the Pekin Credit Agreement as Lenders from time to time.

“**Senior Lender Intercreditor Agreement**” an intercreditor agreement by and between (x) the Pekin Lenders, and the ICP Lenders on one hand, (y) the holders of the Senior Note Documents, on the other hand, and (z) ICP, PEC and Pekin, to be executed on or before January 17, 2020 as such date may be extended by agreement between the foregoing parties.

ARTICLE 2 Waiver of Specified Defaults. Agent and Lender hereby agree that effective upon the effectiveness of this Agreement, each of the Specified Defaults shall be deemed to have been waived by Agent and Lender, provided, however, that such waiver pertains only to Specified Defaults set forth above for periods specified, and not to any other Default or Event of Default which may exist under, or any other matters arising in connection with, the Credit Agreement, any other agreements existing between the Company and the Lender or the Agent, or to any rights which the Lender or the Agent may have arising by virtue of any other actions or matters. The effectiveness of such waiver is subject satisfaction of the conditions set forth in Section 4 hereof.

ARTICLE 3 Representations and Warranties; Acknowledgments.

3.1 In order to induce Agent and Lender make the amendments provided for in Article 1, the Company hereby represents and warrants to Agent and the Lender as of the Effective Date that:

- (a) The recitals set forth above are true, complete, accurate, and correct in all material respects (unless qualified by materiality, in which case they shall be true and correct in all respects) and are part of this Agreement, and such recitals are incorporated herein by this reference;
- (b) All representations and warranties made and given by the Loan Parties in the Loan Documents are true, complete, accurate, and correct in all material respects (unless qualified by materiality, in which case they shall be true and correct in all respects), as if given on the Effective Date (or, as to representations and warranties that specifically refer to an earlier date, as of such earlier date) after giving effect to this Agreement;
- (c) The Loan Parties have no claims, offsets, rights of recoupment, counterclaims, or defenses (other than payment) with respect to: (a) the payment of any amount due under the Loans and the Loan Documents; (b) the performance of the Loan Parties' obligations under the Loan Documents; or (c) the liability of the Loan Parties under the Loan Documents;
- (d) Agent and the Lending Parties: (i) have not breached any duty to the Loan Parties in connection with the Loans or the Loan Documents; and (ii) have fully performed all obligations they may have had or now have to the Loan Parties;
- (e) The Loan Parties have had the assistance of independent counsel of their own choice, or have had the opportunity to retain such independent counsel, in reviewing, discussing, and considering all the terms of this Agreement. Before execution of this Agreement, the Loan Parties have had adequate opportunity to make whatever investigation or inquiry it may deem necessary or desirable in connection with the subject matter of this Agreement;
- (f) The Loan Parties are not acting in reliance on any representation, understanding, or agreement from or with Agent or the Lending Parties not expressly set forth herein. The Loan Parties acknowledge that none of Agent or the Lending Parties has made any representation with respect to the subject of this Agreement except as expressly set forth herein. The Company has executed this Agreement as its free and voluntary act, without any duress, coercion, or undue influence exerted by or on behalf of any Person;
- (g) All interest or other fees or charges which have been imposed, accrued or collected by Agent under the Loan Documents or in connection with the Loans through the date of this Agreement, and the method of computing the same, were and are proper and agreed to by the Loan Parties, and were properly computed and collected;
- (h) This Agreement is not intended by the parties to be a novation of the Loan Documents and, except as expressly waived, deferred or otherwise modified herein, all terms, conditions, rights, and obligations as set out in the Loan Documents are hereby reaffirmed and shall otherwise remain in full force and effect as originally written and agreed;
- (i) Notwithstanding anything to the contrary in this Agreement, except as waived, deferred or modified herein, the Loan Documents are in full force and effect in accordance with their respective terms, remain legal, valid and binding obligations of the Loan Parties that are enforceable in accordance with their respective terms, have not been modified or amended (except in written amendments executed by the parties), and are hereby reaffirmed and ratified by the Loan Parties;
- (j) All information provided by the Loan Parties (or any of its agents or representatives) to Agent or the Lending Parties prior to the Effective Date is true, correct and complete in all material respects as of the date provided and does not contain any untrue statements of fact or omit to state a fact necessary to make the statements made not misleading in any material respect;

(k) All financial statements delivered by the Loan Parties (or any of its agents or representatives) to Agent or the Lending Parties prior to the Effective Date are true and correct in all material respects and fairly present the financial condition of the Loan Parties;

(l) As of the Effective Date, the Company has delivered to Agent all statements, notices, certificates, projections, updates, and other information required under Article 6 of the Credit Agreement;

(m) The execution and delivery of this Agreement and the performance by the Company of its obligations hereunder are within the corporate or company powers and authority of the Company, have been duly authorized by all necessary corporate action, and do not and will not contravene or conflict with the charter or by-laws of the Company;

(n) This Agreement has been duly executed and delivered by the Company and constitutes the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, covenants, and conditions; and

(o) After giving effect to this Agreement, no Default or Event of Default (other than related to any Excluded Event) has occurred and is continuing.

3.2 In order to induce Agent and Lender make the amendments provided for in Article 1, the Company hereby ratifies and confirms all of the terms, covenants and conditions set forth in the Loan Documents as modified herein and hereby agrees, acknowledges and reaffirms that (a) the Loan Documents as modified herein constitute legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their respective terms, covenants, and conditions, (b) the Company remains unconditionally liable to Agent and the Lending Parties in accordance with the respective terms, covenants, and conditions set forth in the Loan Documents as modified herein, (c) Agent and Lender have valid, duly perfected, fully enforceable Liens on the Collateral, (d) all Liens heretofore granted to Agent and Lender in the Collateral continue in full force and effect and secure the Obligations, (e) the Company shall execute and deliver to Agent and the Lending Parties any and all agreements and other documentation and to take any and all actions reasonably requested by Agent and the Lending Parties at any time to assure the perfection, protection, priority, and enforcement of Agent's and Lender's rights under the Loan Documents (including this Agreement) with respect to all such Liens (but without any increase to the obligations or liabilities of the Company under the Loan Documents), and (f) as of December 20, 2019, the amount of the Obligations owing under the Loan Documents (exclusive of attorneys' fees and other fees, expenses, advances, and costs) \$30,086,575.00, consisting of (i) unpaid principal of \$12,000,000.00 and accrued, unpaid interest of \$34,630.00 on the Term Loan, and (ii) unpaid principal of \$18,000,000.00 and accrued, unpaid interest of \$51,945 00 on the Revolving Term Loan, together with (iii) third party costs and expenses, including attorney and advisor fees and costs.

3.3 The ICP Lenders agree that, upon the payment of the Paydown Amount, the ICP Lenders will re-evaluate the existing interest rates set forth in the Notes and consider in good faith any request by ICP to a reduction thereto.

ARTICLE 4 Conditions to Effectiveness.

This Agreement shall become effective on such date (the "**Effective Date**") when each of the following conditions has been satisfied:

4.1 **Representations and Warranties.** All covenants, representations and warranties made by the Company pursuant to Article 3 shall be true and correct.

4.2 **Delivery of Closing Documents.** Agent shall have received each of the documents set forth on Schedule I hereto in form and content acceptable to the Agent.

4.3 **Updated Schedules.** Agent shall have received updated schedules to the Credit Agreement in accordance with Section 6.11 of the Credit Agreement.

4.4 **Reimbursement of Fees/Expenses.** The Company shall have paid all out-of-pocket fees and expenses of Agent and the Lending Parties (including legal, advisory, and audit fees) that accrued in relation to the Loan Documents, including, without limitation, all out-of-pocket fees and expenses incurred in connection with the preparation, drafting, negotiation, implementation of this Agreement.

4.5 **Amendment Fee.** The Company and Pekin shall pay to Agent upon the closing of the first Asset Sale an agent fee of \$50,000 and an amendment fee of \$200,000 for a total fee in the amount of \$250,000 in cash (for both the Pekin Amendment and this Amendment).

4.6 **Required Consents, etc.** The Company shall have delivered to Agent all consents, authorizations and amendments determined by Agent to be necessary to ensure the enforceability of the Loan Documents, including a certificate of the secretary or other appropriate officer of each Loan Party certifying (i) that the execution, delivery and performance of this Agreement, the Credit Agreement as amended hereby and the other Loan Documents have been duly approved by all necessary action of the governing board of such Loan Party, and attaching true and correct copies of the applicable resolutions granting such approval; (ii) that the organizational document of such Loan Party, which were certified and delivered to the Agent pursuant to the most recent certificate of secretary or other appropriate officer of such Loan Party, continue in full force and effect and have not been amended or otherwise modified except as set forth in the certificate to be delivered as of the date hereof; and (iii) that the officers and agents of such Loan Party who have been certified to the Agent, pursuant to the most recent certificate of secretary or other appropriate officer given by such Loan Party, as being authorized to sign and to act on behalf of such Loan Party continue to be so authorized or setting forth the sample signatures of each of the officers and agents of such Loan Party authorized as of the date hereof to execute and deliver this Agreement, the other Loan Documents and all other documents, agreements and certificates on behalf of such Loan Party.

Upon the delivery by Agent of a fully executed copy of this Agreement to the Company, the conditions set forth above shall be deemed satisfied and the Effective Date shall be deemed to have occurred as of the date so delivered.

4.7 **Post-closing Deliveries.** The Company shall cause each of the documents listed below (collectively, the “**Post-Closing Deliveries**”) to be delivered to the Agent on or before (i) December 29, 2019, each of the documents set forth on Schedule II hereto, with the additional Loan Documents listed thereon being prepared by the ICP Lenders and the Pekin Lenders, subject only to revision thereto reasonably acceptable to the ICP Lenders and the Pekin Lenders and (ii) January 17, 2019, including the Senior Intercreditor Agreement and each of the documents necessary to effect the cross collateralization liens to be addressed in the Senior Intercreditor Agreement; provided that with respect to the date set forth in (ii) above only, such date may be extended up to an additional fifteen (15) days so long as the parties are diligently working toward finalization and execution of same. The Post-Closing Deliveries that constitute additional Loan Documents will be in form and content consistent in all material terms with this Amendment and the Pekin Amendment, including all consent, termination and release provisions. The ICP Lenders and the Pekin Lenders agree to reasonably cooperate with respect to the negotiation and finalization of the Senior Intercreditor Agreement and related documents. The Company acknowledges and agrees that failure to deliver the Post-Closing Deliveries as required under this Agreement shall constitute an automatic Event of Default under this Agreement and the Pekin Credit Agreement, without notice to the Company or any further action required on the part of the Lender or the Agent.

ARTICLE 5 Release.

As a material part of the consideration for Agent and Lender entering into this Agreement, the Company agrees as follows (the “**Release Provision**”)

5.1 The Company hereby releases and forever discharges Agent and the Lending Parties and each such parties’ respective predecessors, successors, assigns, participants, officers, managers, directors, shareholders, employees, agents, advisors, attorneys, representatives, parent corporations, subsidiaries, and affiliates (hereinafter all of the above collectively referred to as “**Released Group**”), jointly and severally, from any and all claims, counterclaims, demands, damages, debts, agreements, covenants, suits, contracts, obligations, liabilities, accounts, offsets, rights, actions, and causes of action of any nature whatsoever, including, without limitation, all claims, demands, and causes of action for contribution and indemnity, whether arising at law or in equity, whether presently possessed or possessed in the future, whether known or unknown, whether liability be direct or indirect, liquidated or unliquidated, whether presently accrued or to accrue hereafter, whether absolute or contingent, foreseen or unforeseen, and whether or not heretofore asserted, and including whether arising from the negligence (but not the gross negligence or willful misconduct) of any of the Released Group, which the Company may have or claim to have against any of the Released Group, in each case only to the extent arising or accruing prior to and including the Effective Date.

5.2 The Company agrees not to sue any of the Released Group or in any way assist any other person or entity in suing any of the Released Group with respect to any claim released herein. This Release Provision may be pleaded as a full and complete defense to, and may be used as the basis for an injunction against, any action, suit, or other proceeding which may be instituted, prosecuted, or attempted in breach of the release contained herein.

5.3 The Company is the sole owner of the claims released by the Release Provision, and the Company has not heretofore conveyed or assigned any interest in any such claims to any other person or entity. The Company understands that the Release Provision was a material consideration in the agreement of Agent and Lender to enter into this Agreement.

5.4 It is the express intent of the Company that the release and discharge set forth in the Release Provision be construed as broadly as possible in favor of the Released Group so as to foreclose forever the assertion by the Company of any claims released hereby against any of the Released Group. If any term, provision, covenant, or condition of the Release Provision is held by a court of competent jurisdiction to be invalid, illegal, or unenforceable, the remainder of the provisions shall remain in full force and effect.

ARTICLE 6 Miscellaneous.

6.1 Loan Document Pursuant to Credit Agreement. This Agreement is a Loan Document executed pursuant to the Credit Agreement. Except as expressly amended hereby, all of the representations, warranties, terms, covenants and conditions contained in the Credit Agreement and each other Loan Document shall remain unamended and otherwise unmodified and in full force and effect.

6.2 Limitation of Amendments. The temporary waivers and deferrals granted in Article 2 and the amendments provided in Article 3 shall be limited precisely as provided for therein and shall not be deemed to be a waiver of, amendment of, consent to or modification of any other term or provision of the Credit Agreement or any term or provision of any other Loan Document or of any transaction or further or future action on the part of the Loan Parties which would require the consent of Agent or the Lending Parties under the Credit Agreement or any other Loan Document.

6.3 Collateral. To the extent any Collateral is personal property, the Loan Parties hereby renounce and waive all rights that are waivable under Article 9 of the Uniform Commercial Code (the "UCC") of any jurisdiction in which any Collateral may now or hereafter be located. The Loan Parties also hereby acknowledge and agree that a public sale shall constitute a commercially reasonable manner for the disposition of the Collateral.

6.4 Counterparts; Effectiveness. This Agreement may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. This Agreement shall become effective when it shall have been executed by Agent and when Agent shall have received counterparts hereof that, when taken together, bear the signatures of each of the other parties hereto. Delivery of an executed counterpart of a signature page of this Agreement by telecopy or email shall be as effective as delivery of a manually executed counterpart of this Agreement.

6.5 Incorporation of Credit Agreement Provisions. The provisions of Article 11 of the Credit Agreement shall apply to this Agreement, mutatis mutandis.

[Signature Pages Follow]

[SIGNATURE PAGE TO AMENDMENT NO. 1]

IN WITNESS WHEREOF, the parties hereto, by their Authorized Officers, have executed this Agreement as of the date first set forth above.

COMPANY:

ILLINOIS CORN PROCESSING, LLC

By: /s/ Bryon T. McGregor

Name: Bryon T. McGregor

Title: Chief Financial Officer

[SIGNATURE PAGE TO AMENDMENT NO. 1]

IN WITNESS WHEREOF, the parties hereto, by their Authorized Officers, have executed this Agreement as of the date first set forth above.

LENDER:

COMPEER FINANCIAL, PCA

By: /s/ Kevin Buente

Name: Kevin Buente

Title: Principal Credit Officer

[SIGNATURE PAGE TO AMENDMENT NO. 7]

IN WITNESS WHEREOF, the parties hereto, by their Authorized Officers, have executed this Agreement as of the date first set forth above.

COBANK, ACB

By: /s/ Janet Downs

Name: Janet Downs

Title: Vice President

Schedule I

Closing Deliveries

1. This Agreement
 2. Updated schedules to the Credit Agreement
 3. Amended and Restated Revolving Note executed by the Company
 4. Amended and Restated Term Note executed by the Company
 5. Amendment to Pekin Credit Agreement executed by Pekin
 6. Updated schedules to Pekin Credit Agreement
 7. Amended and Restated Revolving Note executed by Pekin
 8. Amended and Restated Term Note executed by Pekin
-

Schedule II

Post-Closing Deliveries

1. Guaranty executed by the Company in favor of the Pekin Lenders
 2. First Amendment to Security Agreement executed by the Company
 3. First Amendment to Mortgage executed by the Company
 4. Guaranty of Pekin executed by Pekin in favor of the ICP Lenders
 5. First Amendment to Security Agreement executed by Pekin
 6. Third Amendment to Mortgage executed by Pekin
 7. Amended and Restated Guaranty and Contribution Agreement executed by PEC
 8. First Amendment to Security Agreement executed by PEC
 9. Pledge Agreement executed by PEC pledging its interest in the Company and an Acknowledgment from the Company
 10. Pledge Agreement executed by PEC pledging its interest in Pekin with an Acknowledgment from Pekin
 11. Executed certificates of secretary for each Loan Party certifying that no changes have been made to the organizational documents since last delivered to the Agent
 12. Approved resolutions authorizing this Agreement and the actions contemplated herein
 13. Legal opinion of counsel to the Company, Pekin and PEC
-

SCHEDULE 5.2

Subsidiaries

This is Schedule 5.2 to that certain Credit Agreement dated as of September 15, 2017 by and between Illinois Com Processing, LLC, Compeer Financial, PCA and CoBank, ACB (as amended, restated, modified or supplemented from time to time, the "**Credit Agreement**"). Capitalized terms defined in the Credit Agreement and not defined in this Schedule 5.2 shall have the respective meanings ascribed to them by the Credit Agreement.

Legal Name of the Company	Jurisdiction of organization and type of entity [for example, Delaware limited liability company, Colorado corporation, etc.]
Illinois Com Processing, LLC	Delaware limited liability company

Legal Name of Subsidiary	Is the Subsidiary a Guarantor? [Yes or No]	Jurisdiction of organization and type of entity

Schedules updated as of December 20, 2019

SCHEDULE 5.12

Environmental Matters

On March 14, 2018, IEPA issued a Violation Notice regarding air emissions violations at Illinois Corn Processing, LLC (“ICP”). A Compliance Commitment Agreement was agreed on July 19, 2018. The CCA calls for the plant to develop certain compliance programs and certify compliance. ICP is working with an environmental consultant to prepare certifications of compliance.

On March 13, 2018, the manager of environmental compliance at the Pekin facility discovered irregularities in the record keeping and reporting at the ICP facility. ICP subsequently engaged an independent expert to investigate the history of record keeping and environmental compliance at ICP. Based upon the expert’s findings, there appears to have been a pattern of inaccurate and untruthful reporting which could lead to the imposition of civil penalties, and, if the conduct is found to have been intentional, criminal sanctions. ICP reported what was known to the EPA on April 2, 2018 pursuant to EPA Audit Policy (April 2000) 65 FR 19,618 (04/11/00), formally titled “Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violation.” On July 26, ICP submitted letters stating that corrective measures have been complete regarding all violations reported on April 2. ICP also reported that an expert assessment had been completed and that further violations had been identified. On July 27, ICP self-reported additional violations, including 2 categories of potential criminal violations. On January 23, 2019, ICP submitted its final report on these matters and certified final remediation of the self-reported water permit violations. In the meanwhile, counsel for ICP met with the EPA investigators looking into the potential criminal matters, and were apprised of EPA’s plans for further investigation. After interviewing the former ICP employees who were implicated in the falsification of reports, EPA notified ICP on December 16, 2019, that EPA had closed the criminal investigation with no further action. The decision does not affect any review by EPA Region V’s civil enforcement program.

On October 1 and 4, 2018, the ICP and Pekin plants respectively received Findings of Violations from US EPA citing the plants for a number of Clean Air Act violations. These were not unexpected as EPA had previously made Section 114 information requests of both plants. EPA’s principal finding in the citations is that the plants “failed to demonstrate compliance with the [Miscellaneous Organic NESHAP (MON) at the Facility’s [Fiber, Germ, and Gluten Dryers], in violation of 40 C.F.R. § 63.2450(a).” The legal and technical experts the PE Pekin and ICP disagree with this finding. EPA, PE Pekin and ICP have entered into tolling agreements to allow for technical analysis and continued discussion of the interpretive questions. The tolling agreements now expire on June 30, 2020.

Schedules updated as of December 20, 2019

SCHEDULE 6.12(b)

Collateral Assignments of Material Agreements

Com Procurement and Supply Agreement between the Company and Pacific Ag. Products, LLC dated July 3, 2017

Co-Product Marketing Agreement between the Company and Pacific Ag. Products, LLC dated July 3, 2017

Alcohol Product Marketing Agreement between the Company and Kinergy Marketing LLC dated July 3, 2017

Affiliated Company Agreement between Pacific Ethanol, Inc. and the Subsidiaries from time to time party thereto, including the Company, dated July 1, 2015, as amended by Amendment No. 1 to Affiliated Company Agreement dated January 1, 2017 and Amendment No. 2 to Affiliated Company Agreement dated July 3, 2017.

Schedules updated as of December 20, 2019

AMENDMENT NO. 7 TO CREDIT AGREEMENT AND WAIVER

THIS AMENDMENT NO. 7 TO CREDIT AGREEMENT AND WAIVER, dated as of December 20, 2019 (this “**Agreement**”), is entered into by and between PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized and existing under the laws of Delaware (“**Company**”), COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA (“**Lender**”), and COBANK, ACB, a federally-chartered instrumentality of the United States (“**Agent**”). Capitalized terms not defined herein shall have the meanings set forth in the Credit Agreement.

BACKGROUND:

WHEREAS, the Company, Lender and Agent have entered into that certain Credit Agreement dated as of December 15, 2016 (as amended, restated, modified or otherwise supplemented from time to time, collectively the “**Credit Agreement**”) and the other Loan Documents;

WHEREAS, the Company has requested that, as of the Effective Date, the Credit Agreement and certain other Loan Documents be amended as herein provided; and

WHEREAS, Agent and Lender are willing, subject to the terms and conditions hereinafter set forth, to make such amendments;

NOW, THEREFORE, in consideration of the agreements herein contained, the parties hereby agree as follows:

ARTICLE 1 Waivers

1.1 The Company acknowledges and agrees that it has failed to comply with:

- (i) the covenants contained in Section 8.1 of the Credit Agreement for the periods ending December 31, 2018 and January 31, 2019,
- (ii) the covenant contained in Section 8.2 of the Credit Agreement for the period ending December 31, 2018,
- (iii) the covenants contained in Section 6.1(a) of the Credit Agreement for period ending October 31, 2019,
- (iv) the covenants contained in Section 6.1(f) of the Credit Agreement for periods ending June 30, 2019, July 31, 2019, August 31, 2019, September 30, 2019 and October 31, 2019,
- (v) the covenants contained in Section 6.1(g) of the Credit Agreement for the weeks of October 11, 2019, October 18, 2019 and November 15, 2019; and
- (vi) the covenants contained in Section 6.1(h)(ii) of the Credit Agreement for the June 30, 2019 reporting periods and October 31, 2019; and
- (vii) the failure of the Company to collect accounts receivable from Affiliate of the Company within ten (10) Business Days after such account receivable arises (collectively, clauses (i) through (vi), the “**Specified Defaults**”).

1.2 The Company further acknowledges and agrees each of the Specified Defaults constitutes an Event of Default under the Credit Agreement.

1.3 Notwithstanding the foregoing, Agent and Lender hereby agree that effective upon the effectiveness of this Agreement, each of the Specified Defaults shall be deemed to have been waived by the Lender, provided, however, that such waiver pertains only to Specified Defaults set forth above for periods specified, and not to any other Default or Event of Default which may exist under, or any other matters arising in connection with, the Credit Agreement, any other agreements existing between the Company and the Lender or the Agent, or to any rights which the Lender or the Agent may have arising by virtue of any other actions or matters. The effectiveness of such waiver is subject satisfaction of the conditions set forth in Section 4 hereof.

ARTICLE 2 Amendments.

Effective on (and subject to the occurrence of) the Effective Date, the Credit Agreement is amended as follows:

2.1 Amendment to Section 2.1(c) of the Credit Agreement Section 2.1(c) of the Credit Agreement is hereby amended in its entirety to read as follows:

(c) **Deferred Principal Payments.** Payment of the principal installments payable under the Term Note on (i) February 20, 2019, (ii) May 20, 2019, and (iii) November 20, 2019 shall be deferred to (and shall be immediately due and payable upon) the Maturity Date set forth in the Term Note. All other principal installments payable under the Term Note shall remain due and payable upon their respective payment dates as set forth in the Term Note.

2.2 New Section 2.8 of the Credit Agreement The following new 2.8 is hereby added to the Credit Agreement:

Payment and Allocation of Paydown Amount.

(a) On or before September 30, 2020, the Pekin Lenders and the ICP Lenders shall receive payment of \$40,000,000 (the **'Paydown Amount'**) to reduce the outstanding balances of the Term Loan and the "Term Loan" under ICP Credit Agreement, as such amount shall be allocated between the Pekin Lenders and the ICP Lenders; pursuant to the CoBank Intercreditor Agreement, and of any other amounts received pursuant to Section 2.8(c) below.

(b) The Paydown Amount will be paid from one or more of the following sources; provided that amounts arising from each such payment source will each be distributed (x) 80% to the Pekin Lenders and the ICP Lender, collectively, and (y) 20% to PEI:

(i) one or more of the following sources:

(A) net cash sale proceeds received from the sale of any assets of PEC, whether arising pursuant to an ownership sale or an asset sale by any of its Subsidiaries, including ICP, Pekin and Aurora, and including any cash proceeds from any seller financing promissory note in connection with any such sale (any such sale being, a **"PEC Asset Sale"**); provided that, with respect to any such promissory note:

(I) any such seller financing promissory shall be assigned in writing by such Seller to the Agent for the benefit of the Lender as additional collateral,

(II) such assignment shall be acknowledged in writing by the beneficiary of such seller financing promissory note, and

(III) the payments under such seller financing promissory shall be directed by the seller to the Agent for the benefit of the Lender; provided that at such time the Paydown Amount has been paid in full, the security interests in such note shall be terminated, such note will be delivered to the Company and all payments will be directed to the Company, for distribution in accordance with the splits identified below in Section 2.8(c);

(B) any net cash proceeds from the payment of any award, judgment or settlement with respect to the Indeck Litigation (the **Indeck Proceeds**); provided, however, that the lesser of (I) 20% of the Indeck Proceeds or (II) \$1,500,000 of the Indeck Proceeds shall first be contributed to the Pekin Contingency Amount.

With regard to any proceeds to be allocated for distribution to PEI set forth in this clause 2.8(b)(i), such amount shall be reduced on a dollar-for-dollar basis equal to 50% of the amount of the Allocated Affiliate Fees (as defined below) incurred and paid in cash to PEI by PEC or ICP after January 1, 2020 pursuant to that certain Affiliated Company Agreement (collectively, the "**PEI Reduced Amount**"). The PEI Reduced Amount shall be reallocated to the Pekin Lenders and the ICP Lenders and applied to the amounts outstanding under the respective loan facilities pursuant to the terms of the CoBank Intercreditor Agreement. As used herein, the "**Allocated Affiliate Fees**" means the direct and indirect fees and expenses incurred and paid in cash to PEI by PEC or ICP for the benefit of PEC, PEI or any of their respective Affiliates (and excluding any fees and expenses paid to PEC which are for the benefit of and paid to any unrelated third parties, including without limitation, any insurance premiums.)

(ii) with respect to net cash sales proceeds of any sale of the facilities owned directly or indirectly by PE Op Co. and/or Pacific Ethanol West, LLC (the "**Western Assets**") (including any ownership interests therein of PEI, each a "**Western Asset Sale**"), after payment to the holders of the Senior Note Documents of the first \$20,000,000 from any such sale(s), then a 33/34/33% split among (x) the Pekin Lenders and the ICP Lenders collectively, (y) the holders of the Senior Note Documents and (z) PEI; and

(iii) at the election of PEI, from funds contributed to Pekin and/or ICP from PEI or PEC for payment to the Pekin Lenders and the ICP Lenders.

(c) Following the receipt by the Pekin Lenders and the ICP Lenders of the Paydown Amount in full, any additional proceeds arising from the payments sources listed in paragraphs 2.8(b)(i)(A) or 2.8(b)(i)(B) above shall be allocated pursuant to a 33/34/33% split among (x) Pekin Lenders and the ICP Lenders collectively, (y) the holders of the Senior Note Documents and (z) PEI.

The foregoing payment obligations shall be made in connection with the CoBank Intercreditor Agreement. The intention of the forgoing payment scenario is to effectuate the repayment of the amounts outstanding under the respective loan facilities of the Pekin Lenders and the ICP Lenders.

2.3 Amendment to Section 6.1(e) of the Credit Agreement. Section 6.1(e) of the Credit Agreement is hereby amended by adding a new clauses (ix), (x) and (xi) as follows:

(ix) **Notices of Material Events.** Until the Pekin Lenders and the ICP Lenders have received the Paydown Amount in full, the Company shall promptly notify Agent and the Agent under the ICP Credit Agreement within three (3) Business Days of the occurrence of any of the following:

(1) Any outage at the operating facilities of the Company and ICP (collectively, the "**Pekin Campus**") (including any process island therein, e.g., grain section, boilers, fermentation, dryers and distillation, dehydration and evaporation) for a period of greater than 24 hours;

(2) Any suspension of barge shipments from the Pekin Campus for a period of greater than 24 hours;

(3) Any unbudgeted capital expenditure at the Pekin Campus in an amount of greater than \$100,000; or

(4) Prepayment or Cash-on-Delivery credit terms from (x) any utility or (y) greater than 10% by volume of the Company's corn suppliers.

(x) **Notices of Offer of PAL Equity.** On or before December 31, 2019, the Company shall cause PEC to deliver a right of first offer notice to Aurora Cooperative Elevator Company ("ACEC") pursuant to Section 3.6 of the Limited Liability Agreement of PAL, which notice shall offer PEC's equity interest in PAL to ACEC in an all-cash transaction in an amount not less than the "Purchase Price" (as such term is defined in that certain letter of intent between PEC and ACEC dated December 19, 2019 (the "Aurora LOI")) and applied under terms substantially the same as reflected in the Aurora LOI.

(xi) **Notices of Increase of Accounts Receivable Amount.** The Company shall promptly notify the Agent if, at any time, the Accounts Receivable Amount exceeds \$18,000,000.

2.4 Amendment to Section 6.1(g) of the Credit Agreement Section 6.1(g) of the Credit Agreement is hereby amended in its entirety to read as follows:

(g) **Rolling 13-Week Cash Flow Forecasts.** Until the Pekin Lenders and the ICP Lenders have received the Paydown Amount in full, by no later than 9:00 p.m. Mountain time on the third Business Day of each week, a rolling 13-week cash flow forecast prepared by the Company covering the 13-week period commencing with the immediately preceding week and detailing (i) projected cash receipts, (ii) projected disbursements, (iii) net cash flow, and (iv) such other items set forth therein and other information reasonably requested by Agent for such 13-week period, together with a comparison to the immediately preceding forecast and accompanied by a management narrative explaining results of operations and variances to the immediately preceding forecast and a reconciliation to cash balances held in the Company's accounts (all in form and substance reasonably acceptable to Agent).

2.5 New Section 6.1(k) of the Credit Agreement Section 6.1 of the Credit Agreement is hereby amended by adding new Section 6.1(k) as follows:

(k) **Financial Accommodation Agreements.** Until the Pekin Lenders and the ICP Lenders have received the Paydown Amount in full, by no later than 9:00 p.m. Mountain time on the third Business Day of each week, an operations report for the Pekin Campus, which reports shall include, at a minimum.

- (i) Production volume of product meeting minimum product specifications based on industry standards of either the Company or Pekin volumes;
- (ii) Shipment volumes;
- (iii) Product yields;
- (iv) Energy consumption per gallon (based on monthly reporting); and
- (v) Material health, safety and environmental matters.

2.6 Amendment to Section 6.3 of the Credit Agreement Section 6.3 of the Credit Agreement is hereby amended and restated in its entirety to read as follows:

6.3 Collateral Security. Payment and performance of the Obligations shall be secured by first priority perfected Liens on:

- (i) all personal property of the Company;
- (ii) until the Pekin Lenders and the ICP Lenders have received the Paydown Amount in full, all personal property of ICP (the "ICP Personal Property Collateral");

- (iii) all personal property of PEC pursuant to the PEC Pledge Agreement and the PEC Security Agreement (collectively, the assets referenced in clauses (i), (ii) and (iii) of this Section 6.3 are referred to herein as the “**Personal Property Collateral**”);
- (iv) all real property and improvements of the Company;
- (v) until the Pekin Lenders and the ICP Lenders have received the Paydown Amount in full, all real property and improvements of ICP (the “**ICP Real Property Collateral**” and together with the ICP Personal Property Collateral, the “**ICP Collateral**” and collectively, the assets referenced in clauses (iv) and (v) of this Section 6.3 are referred to herein as the “**Real Property Collateral**”).

In each case, whether now owned or hereafter acquired (the Personal Property Collateral and the Real Property Collateral are collectively referred to as the “**Collateral**”), subject only to Permitted Liens or other exceptions approved in writing by Agent. Prior to or substantially contemporaneously with the date of this Agreement and at such other times as Agent may request (including each time the Company, Pekin or PEC acquires any real property or any personal property not already subject to the Liens required herein), the Company shall execute and deliver to (or shall cause to be delivered) Agent such security agreements, pledge agreements, assignments, mortgages, deeds of trust, and other documents and agreements requested by Agent for the purpose of creating, perfecting, and maintaining a perfected Lien on the Collateral, subject only to Permitted Liens or other exceptions approved in writing by Agent. The Company hereby authorizes Agent to file such Uniform Commercial Code financing statements to record such mortgages, deeds of trust, and other documents in the applicable real property records as Agent reasonably determines are necessary or advisable to perfect the security interests in and Liens on the Collateral. Payment and performance of the Obligations shall also be guaranteed by PEC pursuant to the PEC Guaranty. Upon receipt of the Paydown Amount, Agent shall immediately release its security interests in and to the ICP Collateral.

2.7 New Section 6.12(h) of the Credit Agreement. Section 6.12 of the Credit Agreement is hereby amended by adding new Sections 6.12(h) as follows:

(h) Until the Pekin Lenders and the ICP Lenders have received the Paydown Amount in full, the Company and/or its financial advisors shall provide to the Pekin Lenders and the ICP Lenders each of the following in form reasonably acceptable to the Pekin Lenders and the ICP Lenders (the “**Strategic Alternatives Process**”)

- (i) Robust list of parties to be contacted as part of the Strategic Alternatives Process;
- (ii) Marketing materials utilized for the Strategic Alternatives Process;
- (iii) Weekly updates on outbound calls completed, inbound calls received, feedback received from prospects, any indications of interest or letters of intent received, and required diligence and steps to consummation of Strategic Alternatives Process.

2.8 New Sections 7.2(j) and 7.2(k) of the Credit Agreement. Section 7.2 of the Credit Agreement is hereby amended by adding new Sections 7.2(j) and 7.2(k) as follows:

(j) Liens granted in favor of the ICP Lenders to secure the obligations of ICP under the ICP Credit Agreement.

(k) Subordinated liens granted in favor of the holders of the Senior Note Documents to secure the obligations of the Pacific Ethanol, Inc. under the Senior Note Documents.

2.9 Amendment to Section 7.6 of the Credit Agreement Section 7.6 of the Credit Agreement is hereby amended in its entirety to read as follows:

7.6 Dispositions of Assets or Subsidiaries. PEC, Pekin and the Company shall not, and shall not permit any Subsidiary to, sell, convey, assign, lease, abandon or otherwise transfer or dispose of, voluntarily or involuntarily, any of their properties or assets, tangible or intangible assignment, (including sale assignment discount or other disposition of accounts, contract rights, chattel paper, equipment or general intangibles with or without recourse or of capital stock, shares of beneficial interest, partnership interests or limited liability company interests of a Subsidiary), except for transactions in the ordinary course of business. PEC and PEI shall not, and shall not permit any of their subsidiaries to, sell, convey, assign, lease, abandon or otherwise transfer or dispose of, voluntarily or involuntarily, any of its capital stock, shares of beneficial interest, partnership interests or limited liability company interests as part of any transaction that contains a “put right” in favor of the purchaser of such transaction that enables the purchaser to require a repurchase of such interests, unless (i) the Term Loan has been repaid in full or (ii) payment in full of the Term Loan is a condition to the effectiveness of such transaction (collectively, the “**Put Restriction**”). Notwithstanding anything to the contrary set forth herein or in any other Loan Document, but subject to the Put Restriction:

(a) PEI and its applicable Subsidiaries shall be entitled to litigate, settle and otherwise resolve the Indeck Litigation without the prior written consent of Agent, the ICP Lenders or the Pekin Lender so long as any proceeds thereof to be paid to PEI or such Subsidiaries shall be distributed in accordance with Section 2.8 of this Agreement and the CoBank Intercreditor Agreement;

(b) Until such time as the Paydown Amount has been paid in full, any PEC Asset Sale shall be subject to the consent of each of the Pekin Lenders and the ICP Lenders, in each case not to be unreasonably withheld, conditioned or delayed; and

(c) Any Western Asset Sale shall not require the consent of the ICP Lenders or the Pekin Lenders so long as such sale is to an unrelated purchaser, is entered into in good faith and is for reasonable market value, and the net proceeds of such sale are distributed in accordance with Section 2.8 and in the Senior Intercreditor Agreement and, as between the ICP Lenders and the Pekin Lenders, pursuant to the CoBank Intercreditor Agreement.

To the extent the consent of the ICP Lenders the Pekin Lenders is required pursuant to Section 7.6(b) above, so long as no Event of Default then exists, the Pekin Lenders and the ICP Lenders hereby agree to reasonably cooperate with PEC and the proposed purchaser with respect to any PEC Asset Sale involving PEC’s membership interests in ICP to an unrelated third party, including further amendment to the respective Loan Documents of the ICP Lenders to eliminate any cross-defaults to any Affiliates of ICP.

2.10 Amendment to Sections 8.1 and 8.2 of the Credit Agreement Sections 8.1 and 8.2 of the Credit Agreement are hereby amended and restated in their entirety to read as follows:

8.1 Adjusted EBITDA. Adjusted EBITDA negative variance of either the Company or Pekin shall be no greater than 20% (tested against agreed upon budget; calculated based on trailing 3-month Adjusted EBITDA as of the end of each calendar month); provided that, notwithstanding anything to the contrary set forth elsewhere herein, including Section 9.1(c), the failure of this covenant shall not constitute an Event of Default unless such failure continues for two (2) consecutive calendar months.

8.2 Weekly Production Volume. Negative variance in weekly production volume of product meeting minimum product specifications based on industry standards of either the Company or ICP shall be no greater than 20% (tested against agreed upon budget; updated weekly); provided that, notwithstanding anything to the contrary set forth elsewhere herein, including Section 9.1(c), the failure of this covenant shall not constitute an Event of Default unless such failure continues for two (2) consecutive calendar weeks.

2.11 Amendment to Section 9.1 of the Credit Agreement. Section 9.1 of the Credit Agreement is hereby amended by adding the following new Section 9.1(o) as follows:

(o) **Defaults under the Pekin Credit Agreement.** A default or event of default shall occur at any time under the terms of the ICP Credit Agreement or related document, and such breach, default, or event of default consists of the failure to pay (beyond any period of grace permitted with respect thereto, whether waived or not), any Indebtedness when due (whether at stated maturity, by acceleration, or otherwise) or if such breach or default permits or causes the acceleration of any Indebtedness (whether or not such right shall have been exercised or waived).

2.12 Replacement of Compliance Certificate. Exhibit C (Compliance Certificate) to the Credit Agreement is hereby replaced with Exhibit C attached hereto.

2.13 Amendments to Annex A to Credit Agreement.

(a) Annex A to the Credit Agreement is hereby amended by adding the following definitions as new definitions in the correct alphabetical order:

“80/20 Minimum Allocation Requirement” means, with respect to any payments made to the Pekin Lenders and/or the ICP Lenders with respect to the Paydown Amount and any other amounts received on account of any Western Asset Sales or any PEC Asset Sales, the requirement that the Pekin Lenders shall receive not less than 80% thereof for application to the principal paydown of the “Term Loan” under Pekin Credit Agreement until paid in full and then to the “Revolving Term Loan” under Pekin Credit Agreement.

“CoBank Intercreditor Agreement” an intercreditor agreement by and between (x) the Pekin Lenders, and (y) the ICP Lenders on one hand, on the other hand, to be executed on or before January 7, 2019, but subject to the 80/20 Minimum Allocation Requirement. The Company will be provided with a copy of the CoBank Intercreditor Agreement immediately upon execution thereof.

“ICP Amendment” means that certain Amendment No. 1 to Credit Agreement and Waiver dated December 20, 2019 by and among ICP, the ICP Lenders and the Agent thereto.

“ICP Credit Agreement” means that certain Credit Agreement by and among Illinois Corn Processing, LLC, a Delaware limited liability company as Borrower, Compeer Financial, PCA, a federally-chartered instrumentality of the United States as a Lender, and CoBank, ACB, as Cash Management Provider and as Agent, dated as of September 15, 2017, as amended, restated, supplemented or otherwise modified from time to time.

“ICP Lenders” means those entities party to the ICP Credit Agreement as Lenders from time to time.

“First Amendment” means Amendment No. 1 to Credit Agreement dated December 20, 2019, executed by the Company, Agent, and Lender.

“Indeck Litigation” means the legal proceeding styled Case No. 2015-L-006405 in the Circuit Court of Cook County, Illinois, Law Division.

“Loan Parties” means, collectively, the Company and PEC.

“**PEC Guaranty**” means the guaranty executed by PEC dated as of March 20, 2019, as amended.

“**PEC Pledge Agreement**” means the pledge agreement executed by PEC dated as of March 20, 2019, as amended.

“**PEC Security Agreement**” means the pledge agreement executed by PEC dated as of March 20, 2019, as amended.

“**Pekin Lenders**” means those entities party to this Agreement as Lenders from time to time.

“**Pekin Contingency Account**” means a deposit account controlled by the Pekin Lenders established for the purpose of satisfying the Obligations of the Company under this Agreement or of ICP under the ICP Credit Agreement as the ICP Lenders and the Pekin Lenders may determine from time to time.

“**Senior Lender Intercreditor Agreement**” an intercreditor agreement by and between (x) the Pekin Lenders, and the ICP Lenders on one hand, (y) the holders of the Senior Note Documents, on the other hand, and (z) ICP, PEC and Pekin, to be executed on or before January 17, 2020 as such date may be extended by agreement between the foregoing parties.

“**Seventh Amendment**” means Amendment No. 7 to Credit Agreement and Waiver dated December 20, 2019, executed by the Company, Agent, and Lender.

ARTICLE 3 Representations and Warranties; Acknowledgments.

3.1 In order to induce Agent and Lender to grant the waivers provided for in Article 1 and make the amendments provided for in Article 2, the Company hereby represents and warrants to Agent and the Lender as of the Effective Date that:

(a) The recitals set forth above are true, complete, accurate, and correct in all material respects (unless qualified by materiality, in which case they shall be true and correct in all respects) and are part of this Agreement, and such recitals are incorporated herein by this reference;

(b) All representations and warranties made and given by the Loan Parties in the Loan Documents are true, complete, accurate, and correct in all material respects (unless qualified by materiality, in which case they shall be true and correct in all respects), as if given on the Effective Date (or, as to representations and warranties that specifically refer to an earlier date, as of such earlier date) after giving effect to this Agreement;

(c) The Loan Parties have no claims, offsets, rights of recoupment, counterclaims, or defenses (other than payment) with respect to: (a) the payment of any amount due under the Loans and the Loan Documents; (b) the performance of the Loan Parties’ obligations under the Loan Documents; or (c) the liability of the Loan Parties under the Loan Documents;

(d) Agent and the Lending Parties: (i) have not breached any duty to the Loan Parties in connection with the Loans or the Loan Documents; and (ii) have fully performed all obligations they may have had or now have to the Loan Parties;

(e) The Loan Parties have had the assistance of independent counsel of their own choice, or have had the opportunity to retain such independent counsel, in reviewing, discussing, and considering all the terms of this Agreement. Before execution of this Agreement, the Loan Parties have had adequate opportunity to make whatever investigation or inquiry it may deem necessary or desirable in connection with the subject matter of this Agreement;

(f) The Loan Parties are not acting in reliance on any representation, understanding, or agreement from or with Agent or the Lending Parties not expressly set forth herein. The Loan Parties acknowledge that none of Agent or the Lending Parties has made any representation with respect to the subject of this Agreement except as expressly set forth herein. The Company has executed this Agreement as its free and voluntary act, without any duress, coercion, or undue influence exerted by or on behalf of any Person;

(g) All interest or other fees or charges which have been imposed, accrued or collected by Agent under the Loan Documents or in connection with the Loans through the date of this Agreement, and the method of computing the same, were and are proper and agreed to by the Loan Parties, and were properly computed and collected;

(h) This Agreement is not intended by the parties to be a novation of the Loan Documents and, except as expressly waived, deferred or otherwise modified herein, all terms, conditions, rights, and obligations as set out in the Loan Documents are hereby reaffirmed and shall otherwise remain in full force and effect as originally written and agreed;

(i) Notwithstanding anything to the contrary in this Agreement, except as waived, deferred or modified herein, the Loan Documents are in full force and effect in accordance with their respective terms, remain legal, valid and binding obligations of the Loan Parties that are enforceable in accordance with their respective terms, have not been modified or amended (except in written amendments executed by the parties), and are hereby reaffirmed and ratified by the Loan Parties;

(j) All information provided by the Loan Parties (or any of its agents or representatives) to Agent or the Lending Parties prior to the Effective Date is true, correct and complete in all material respects as of the date provided and does not contain any untrue statements of fact or omit to state a fact necessary to make the statements made not misleading in any material respect;

(k) All financial statements delivered by the Loan Parties (or any of its agents or representatives) to Agent or the Lending Parties prior to the Effective Date are true and correct in all material respects and fairly present the financial condition of the Loan Parties;

(l) As of the Effective Date, the Company has delivered to Agent all statements, notices, certificates, projections, updates, and other information required under Article 6 of the Credit Agreement;

(m) The execution and delivery of this Agreement and the performance by the Company of its obligations hereunder are within the corporate or company powers and authority of the Company, have been duly authorized by all necessary corporate action, and do not and will not contravene or conflict with the charter or by-laws of the Company;

(n) This Agreement has been duly executed and delivered by the Company and constitutes the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, covenants, and conditions; and

(o) After giving effect to this Agreement, no Default or Event of Default (other than related to any Excluded Event) has occurred and is continuing.

3.2 In order to induce Agent and Lender to grant the deferrals provided for in Article 1 and make the amendments provided for in Article 2, the Company hereby represents and warrants to Agent and the Lending Parties that (a) as of the Effective Date, the Accounts Receivable Amount is not greater than \$18,000,000, and (b) at no time shall the Company permit the Accounts Receivable Amount to exceed \$18,000,000.

3.3 In order to induce Agent and Lender to grant the deferrals provided for in Article 1 and make the amendments provided for in Article 2, the Company hereby ratifies and confirms all of the terms, covenants and conditions set forth in the Loan Documents as modified herein and hereby agrees, acknowledges and reaffirms that (a) the Loan Documents as modified herein constitute legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their respective terms, covenants, and conditions, (b) the Company remains unconditionally liable to Agent and the Lending Parties in accordance with the respective terms, covenants, and conditions set forth in the Loan Documents as modified herein, (c) Agent and Lender have valid, duly perfected, fully enforceable Liens on the Collateral, (d) all Liens heretofore granted to Agent and Lender in the Collateral continue in full force and effect and secure the Obligations, (e) the Company shall execute and deliver to Agent and the Lending Parties any and all agreements and other documentation and to take any and all actions reasonably requested by Agent and the Lending Parties at any time to assure the perfection, protection, priority, and enforcement of Agent's and Lender's rights under the Loan Documents (including this Agreement) with respect to all such Liens (but without any increase to the obligations or liabilities of the Company under the Loan Documents), and (f) as of December 20, 2019, the amount of the Obligations owing under the Loan Documents (exclusive of attorneys' fees and other fees, expenses, advances, and costs) totaled \$71,753,507.21, consisting of (i) unpaid principal of \$39,500,000.00 and accrued, unpaid interest of \$140,049.44 on the Term Loan, and (ii) unpaid principal of \$32,000,000.00 and accrued, unpaid interest of \$113,457.77 on the Revolving Term Loan together with (iii) third party costs and expenses, including attorney and advisor fees and costs.

3.4 The Pekin Lenders agree that, upon the payment of the Paydown Amount, the Pekin Lenders will re-evaluate the existing interest rates set forth in the Notes and consider in good faith any request by ICP to a reduction thereto.

ARTICLE 4 Conditions to Effectiveness.

This Agreement shall become effective on such date (the "**Effective Date**") when each of the following conditions has been satisfied:

4.1 **Representations and Warranties.** All covenants, representations and warranties made by the Company pursuant to Article 3 shall be true and correct.

4.2 **Delivery of Closing Documents.** Agent shall have received each of the documents set forth on Schedule I hereto in form and content acceptable to the Agent

4.3 **Updated Schedules.** Agent shall have received updated schedules to the Credit Agreement in accordance with Section 6.11 of the Credit Agreement.

4.4 **Reimbursement of Fees/Expenses.** The Company shall have paid all out-of-pocket fees and expenses of Agent and the Lending Parties (including legal, advisory, and audit fees) that accrued in relation to the Loan Documents, including, without limitation, all out-of-pocket fees and expenses incurred in connection with the preparation, drafting, negotiation, implementation of this Agreement.

4.5 **Amendment Fee.** The Company and Pekin shall pay to Agent upon the closing of the first Asset Sale an agent fee of \$50,000 and an amendment fee of \$200,000 for a total fee in the amount of \$250,000 in cash (for both the Pekin Amendment and this Amendment).

4.6 **Required Consents, etc.** The Company shall have delivered to Agent all consents, authorizations and amendments determined by Agent to be necessary to ensure the enforceability of the Loan Documents, including a certificate of the secretary or other appropriate officer of each Loan Party certifying (i) that the execution, delivery and performance of this Agreement, the Credit Agreement as amended hereby and the other Loan Documents have been duly approved by all necessary action of the governing board of such Loan Party, and attaching true and correct copies of the applicable resolutions granting such approval; (ii) that the organizational document of such Loan Party, which were certified and delivered to the Agent pursuant to the most recent certificate of secretary or other appropriate officer of such Loan Party, continue in full force and effect and have not been amended or otherwise modified except as set forth in the certificate to be delivered as of the date hereof; and (iii) that the officers and agents of such Loan Party who have been certified to the Agent, pursuant to the most recent certificate of secretary or other appropriate officer given by such Loan Party, as being authorized to sign and to act on behalf of such Loan Party continue to be so authorized or setting forth the sample signatures of each of the officers and agents of such Loan Party authorized as of the date hereof to execute and deliver this Agreement, the other Loan Documents and all other documents, agreements and certificates on behalf of such Loan Party.

Upon the delivery by Agent of a fully executed copy of this Agreement to the Company, the conditions set forth above shall be deemed satisfied and the Effective Date shall be deemed to have occurred as of the date so delivered.

4.7 **Post-closing Deliveries.** The Company shall cause each of the documents listed below (collectively, the “**Post-Closing Deliveries**”) to be delivered to the Agent on or before (i) December 29, 2019, each of the documents set forth on Schedule II hereto, with the additional Loan Documents listed thereon being prepared by the ICP Lenders and the Pekin Lenders, subject only to revision thereto reasonably acceptable to the ICP Lenders and the Pekin Lenders and (ii) January 17, 2019, including the Senior Intercreditor Agreement and each of the documents necessary to effect the cross collateralization liens to be addressed in the Senior Intercreditor Agreement; provided that with respect to the date set forth in (ii) above only, such date may be extended up to an additional fifteen (15) days so long as the parties are diligently working toward finalization and execution of same. The Post-Closing Deliveries that constitute additional Loan Documents will be in form and content consistent in all material terms with this Amendment and the Pekin Amendment, including all consent, termination and release provisions. The ICP Lenders and the Pekin Lenders agree to reasonably cooperate with respect to the negotiation and finalization of the Senior Intercreditor Agreement and related documents. The Company acknowledges and agrees that failure to deliver the Post-Closing Deliveries as required under this Agreement shall constitute an automatic Event of Default under this Agreement and the ICP Credit Agreement, without notice to the Company or any further action required on the part of the Lender or the Agent.

ARTICLE 5 Release.

As a material part of the consideration for Agent and Lender entering into this Agreement, the Company agrees as follows (the “**Release Provision**”)

5.1 The Company hereby releases and forever discharges Agent and the Lending Parties and each such parties’ respective predecessors, successors, assigns, participants, officers, managers, directors, shareholders, employees, agents, advisors, attorneys, representatives, parent corporations, subsidiaries, and affiliates (hereinafter all of the above collectively referred to as “**Released Group**”), jointly and severally, from any and all claims, counterclaims, demands, damages, debts, agreements, covenants, suits, contracts, obligations, liabilities, accounts, offsets, rights, actions, and causes of action of any nature whatsoever, including, without limitation, all claims, demands, and causes of action for contribution and indemnity, whether arising at law or in equity, whether presently possessed or possessed in the future, whether known or unknown, whether liability be direct or indirect, liquidated or unliquidated, whether presently accrued or to accrue hereafter, whether absolute or contingent, foreseen or unforeseen, and whether or not heretofore asserted, and including whether arising from the negligence (but not the gross negligence or willful misconduct) of any of the Released Group, which the Company may have or claim to have against any of the Released Group, in each case only to the extent arising or accruing prior to and including the Effective Date.

5.2 The Company agrees not to sue any of the Released Group or in any way assist any other person or entity in suing any of the Released Group with respect to any claim released herein. This Release Provision may be pleaded as a full and complete defense to, and may be used as the basis for an injunction against, any action, suit, or other proceeding which may be instituted, prosecuted, or attempted in breach of the release contained herein.

5.3 The Company is the sole owner of the claims released by the Release Provision, and the Company has not heretofore conveyed or assigned any interest in any such claims to any other person or entity. The Company understands that the Release Provision was a material consideration in the agreement of Agent and Lender to enter into this Agreement.

5.4 It is the express intent of the Company that the release and discharge set forth in the Release Provision be construed as broadly as possible in favor of the Released Group so as to foreclose forever the assertion by the Company of any claims released hereby against any of the Released Group. If any term, provision, covenant, or condition of the Release Provision is held by a court of competent jurisdiction to be invalid, illegal, or unenforceable, the remainder of the provisions shall remain in full force and effect.

ARTICLE 6 Miscellaneous.

6.1 Loan Document Pursuant to Credit Agreement. This Agreement is a Loan Document executed pursuant to the Credit Agreement. Except as expressly amended hereby, all of the representations, warranties, terms, covenants and conditions contained in the Credit Agreement and each other Loan Document shall remain unamended and otherwise unmodified and in full force and effect.

6.2 Limitation of Amendments. The temporary waivers and deferrals granted in Article 2 and the amendments provided in Article 3 shall be limited precisely as provided for therein and shall not be deemed to be a waiver of, amendment of, consent to or modification of any other term or provision of the Credit Agreement or any term or provision of any other Loan Document or of any transaction or further or future action on the part of the Loan Parties which would require the consent of Agent or the Lending Parties under the Credit Agreement or any other Loan Document.

6.3 Collateral. To the extent any Collateral is personal property, the Loan Parties hereby renounce and waive all rights that are waivable under Article 9 of the Uniform Commercial Code (the "UCC") of any jurisdiction in which any Collateral may now or hereafter be located. The Loan Parties also hereby acknowledge and agree that a public sale shall constitute a commercially reasonable manner for the disposition of the Collateral.

6.4 Counterparts; Effectiveness. This Agreement may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. This Agreement shall become effective when it shall have been executed by Agent and when Agent shall have received counterparts hereof that, when taken together, bear the signatures of each of the other parties hereto. Delivery of an executed counterpart of a signature page of this Agreement by telecopy or email shall be as effective as delivery of a manually executed counterpart of this Agreement.

6.5 Incorporation of Credit Agreement Provisions. The provisions of Article 11 of the Credit Agreement shall apply to this Agreement, mutatis mutandis.

[Signature Pages Follow]

[SIGNATURE PAGE TO AMENDMENT NO. 7]

IN WITNESS WHEREOF, the parties hereto, by their Authorized Officers, have executed this Agreement as of the date first set forth above.

COMPANY:

PACIFIC ETHANOL PEKIN, LLC

By: /s/ Bryon T. McGregor

Name: Bryon T. McGregor

Title: Chief Financial Officer

[SIGNATURE PAGE TO AMENDMENT NO. 7]

IN WITNESS WHEREOF, the parties hereto, by their Authorized Officers, have executed this Agreement as of the date first set forth above.

LENDER:

COMPEER FINANCIAL, PCA

By: /s/ Kevin Buente

Name: Kevin Buente

Title: Principal Credit Officer

[SIGNATURE PAGE TO AMENDMENT NO. 7]

IN WITNESS WHEREOF, the parties hereto, by their Authorized Officers, have executed this Agreement as of the date first set forth above.

COBANK, ACB

By: /s/ Janet Downs

Name: Janet Downs

Title: Vice President

Schedule I
Closing Deliveries

1. This Agreement
 2. Updated schedules to the Credit Agreement
 3. Amended and Restated Revolving Note executed by the Company
 4. Amended and Restated Term Note executed by the Company
 5. Amendment to ICP Credit Agreement executed by ICP
 6. Updated schedules to ICP Credit Agreement
 7. Amended and Restated Revolving Note executed by ICP
 8. Amended and Restated Term Note executed by ICP
-

Schedule II

Post-Closing Deliveries

1. Guaranty executed by the Company in favor of the Pekin Lenders
 2. First Amendment to Security Agreement executed by the Company
 3. First Amendment to Mortgage executed by the Company
 4. Guaranty of Pekin executed by ICP in favor of the ICP Lenders
 5. First Amendment to Security Agreement executed by ICP
 6. Third Amendment to Mortgage executed by ICP
 7. Amended and Restated Guaranty and Contribution Agreement executed by PEC
 8. First Amendment to Security Agreement executed by PEC
 9. Pledge Agreement executed by PEC pledging its interest in the Company and an Acknowledgment from the Company
 10. Pledge Agreement executed by PEC pledging its interest in Pekin with an Acknowledgment from Pekin
 11. Executed certificates of secretary for each Loan Party certifying that no changes have been made to the organizational documents since last delivered to the Agent
 12. Approved resolutions authorizing this Agreement and the actions contemplated herein
 13. Legal opinion of counsel to the Company, Pekin and PEC
-

SCHEDULE 5.2

Subsidiaries

This is Schedule 5.2 to that certain Credit Agreement dated as of December 15, 2016 by and between Pacific Ethanol Pekin, LLC, 1st Farm Credit Services, PCA and CoBank, ACB (as amended, restated, modified or supplemented from time to time, the Credit Agreement). Capitalized terms defined in the Credit Agreement and not defined in this Schedule 5.2 shall have the respective meanings ascribed to them by the Credit Agreement.

Legal Name of the Company	Jurisdiction of organization and type of entity [for example, Delaware limited liability company, Colorado corporation, etc.]
Pacific Ethanol Pekin, LLC	Delaware limited liability company

Legal Name of Subsidiary	Is the Subsidiary a Guarantor? [Yes or No]	Jurisdiction of organization and type of entity

Schedules updated as of December 20, 2019

SCHEDULE 5.6

Litigation

People of the State of Illinois v. Pacific Ethanol Pekin, LLC, case no. 18-CH-06, was filed on January 8, 2018 in the Circuit Court for the 10th Judicial Circuit in Tazewell County, Illinois. The Illinois Attorney General, on behalf of the People of the State of Illinois, alleges violations of the Pekin facility's NPDES permit and water pollution associated with the facility's discharge. Most of the alleged violations relate to thermal limits set forth in the permit. The complaint seeks a cease and desist order and damages for the alleged violations in accordance with statutory limits under the Illinois Environmental Protection Act. On August 20, 2018, the court entered an agreed Interim Order which stayed the proceedings. The Interim Order requires the Company to submit a proposed amendment to the facility's NPDES permit which, if approved by the Illinois Environmental Protection Agency, would modify the thermal limits in the permit to allow the facility to operate in compliance with the permit requirements. The order also requires the Company to undertake certain initial remedial actions. The Company has submitted a proposed permit amendment, which is currently under review by the Illinois Environmental Protection Agency.

The Company is disclosing the foregoing litigation in this Schedule 5.6 out of an abundance of caution and does not admit that the foregoing litigation may result in a Material Adverse Change.

Schedules updated as of December 20, 2019

SCHEDULE 5.12

Environmental Matters

In August 2016, the Environmental Protection Agency (“EPA”) issued a Notice of Intent (“NOI”) to file an Administrative Complaint to Pacific Ethanol for alleged violations of Section 112(r) of the Clean Air Act (the Risk Management Plan program) at the Pekin facility (“Facility”) and of Section 114 of the Clean Air Act for failure to adequately respond to information requests submitted to the previous owner of the Facility, Aventine Renewable Energy. The matter was settled under a Consent Decree and Final Order dated June 21, 2018, pursuant to which the Company paid a civil penalty of \$73,747 and complete a Supplemental Environmental Project worth at least \$209,416.

On October 11, 2016, the Company received a notice from the Illinois EPA, citing a number of air quality violations. The notice arises out of self-reported deviations at the Dry Mill at Pekin in early 2016, specifically emissions from the Thermal Oxidizer (NOx), the CO2 Scrubber (VOM, Acetaldehyde), and the methanator flare (no pilot light). All of the issues have been resolved except NOx emissions. The Company believe the underlying problem is that the permit limit for NOx emissions of .05 tons/day is based on a faulty BACT (best available control technology) analysis. A tentative agreement was reached with IEPA under which the permit would be amended to increase the limit for NOx emissions to .075 tons/day. The Company has filed the application for a permit amendment, and IEPA has suspended its enforcement action pending processing of the application.

IEPA issued a Violation Notice on March 15, 2018 pertaining to particulate emissions from the Yeast plant at PE Pekin. IEPA accepted the Company’s proposal for a Compliance Commitment Agreement on July 19, 2018. The CCA calls for the plant to perform certain stack testing and submit a revised air permit application seeking appropriate particulate matter (PM) emissions limits.

On March 14, 2018, IEPA issued a Violation Notice regarding air emissions violations at Illinois Corn Processing, LLC (“ICP”). A Compliance Commitment Agreement was agreed on July 19, 2018. The CCA calls for the plant to develop certain compliance programs and certify compliance. ICP is working with an environmental consultant to prepare certifications of compliance.

On March 13, 2018, the manager of environmental compliance at the Pekin facility discovered irregularities in the record keeping and reporting at the ICP facility. ICP subsequently engaged an independent expert to investigate the history of record keeping and environmental compliance at ICP. Based upon the expert’s findings, there appears to have been a pattern of inaccurate and untruthful reporting which could lead to the imposition of civil penalties, and, if the conduct is found to have been intentional, criminal sanctions. ICP reported what was known to the EPA on April 2, 2018 pursuant to EPA Audit Policy (April 2000) 65 FR 19,618 (04/11/00), formally titled “Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violation.” On July 26, ICP submitted letters stating that corrective measures have been complete regarding all violations reported on April 2. ICP also reported that an expert assessment had been completed and that further violations had been identified. On July 27, ICP self-reported additional violations, including 2 categories of potential criminal violations. On January 23, 2019, ICP submitted its final report on these matters and certified final remediation of the self-reported water permit violations. In the meanwhile, counsel for ICP met with the EPA investigators looking into the potential criminal matters, and were apprised of EPA’s plans for further investigation. After interviewing the former ICP employees who were implicated in the falsification of reports, EPA notified ICP on December 16, 2019, that EPA had closed the criminal investigation with no further action. The decision does not affect any review by EPA Region V’s civil enforcement program.

On October 1 and 4, 2018, the ICP and Pekin plants respectively received Findings of Violations from US EPA citing the plants for a number of Clean Air Act violations. These were not unexpected as EPA had previously made Section 114 information requests of both plants. EPA’s principal finding in the citations is that the plants “failed to demonstrate compliance with the [Miscellaneous Organic NESHAP (MON) at the Facility’s [Fiber, Germ, and Gluten Dryers], in violation of 40 C.F.R. § 63.2450(a).” The legal and technical experts the Company and ICP disagree with this finding. EPA, the Company and ICP have entered into tolling agreements to allow for technical analysis and continued discussion of the interpretive questions. The tolling agreements now expire on June 30, 2020.

FIRST AMENDMENT TO SECURITY AGREEMENT

This First Amendment to Security Agreement (this "Amendment") is made as of December 20, 2019 by and among ILLINOIS CORN PROCESSING, LLC, a limited liability company organized under the laws of Delaware (the "Debtor"), and COBANK, ACB, a federally-chartered instrumentality of the United States, as Agent for the benefit of the Lenders under the ICP Credit Agreement (defined below) (together with its successors and assigns, the "Secured Party").

WHEREAS, the Debtor, COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, as a Lender ("Lender"), and the Secured Party, as Cash Management Provider and Agent, are parties to a Credit Agreement dated as of September 15, 2017, as amended from time to time, including by that certain Amendment No. 1 to Credit Agreement and Waiver (the "ICP Amendment") of even date herewith (as amended, restated, supplemented or otherwise modified from time to time, the "ICP Credit Agreement").

WHEREAS, the Debtor executed and delivered to the Secured Party a Security Agreement dated as of September 15, 2017 (the "Security Agreement") to secure, among other things, the Debtor's obligations under the ICP Credit Agreement. Capitalized terms not defined in this Amendment shall have the respective meanings ascribed to them by the Security Agreement.

WHEREAS, PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized under the laws of Delaware and an affiliate of the Debtor ("PEP"), COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA, as a Lender, and the Secured Party, as Cash Management Provider and Agent, are parties to a Credit Agreement dated as of December 15, 2016, as amended from time to time, including by that certain Amendment No. 7 to Credit Agreement and Waiver of even date herewith (as amended, restated, supplemented or otherwise modified from time to time, the "PEP Credit Agreement").

WHEREAS, in connection with the ICP Amendment and the PEP Credit Agreement, the Debtor executed a Guaranty of even date herewith ("PEP Guaranty") in favor of the Lending Parties, guarantying, among other things, PEP's obligations under the PEP Credit Agreement.

WHEREAS, in connection with the execution of the ICP Amendment, the Debtor and PEP have agreed to amend certain provisions of the Security Agreement to provide, among other things, that the Security Agreement secures the Debtor's obligations under the PEP Guaranty.

NOW, THEREFORE, for Ten Dollars (\$10.00) in hand paid to the Debtor and in consideration of the premises and mutual covenants herein contained and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

Section 1. Acknowledgments and Agreements. The Debtor hereby acknowledges and agrees as follows:

(a) *Recitals*. The Recitals to this Amendment are true and correct, and are hereby incorporated into and made a part of this Amendment and the Security Agreement.

(b) *Defined Terms*. Unless otherwise defined in this Amendment, all capitalized terms used herein as defined terms shall have the meanings given to them in the Security Agreement.

Section 2. Amendments to the Security Agreement

(a) Section 2 of the Security Agreement is hereby amended by deleting Section 2 of the Security Agreement in its entirety and substituting the following in its place:

“2. THE OBLIGATIONS. The security interest granted hereunder shall secure (i) the payment and performance of all Obligations (as that term is defined in the Credit Agreement) and (ii) all Obligations (as that term is defined in the PEP Guaranty dated as of December 20, 2019, executed by the Debtor in favor of the Lending Parties, as amended, restated or modified from time to time, which guaranties, among other things, PEP’s obligations under the PEP Credit Agreement), and (iii) all obligations of the Debtor to the Lending Parties of every type and description, whether now existing or hereafter arising, fixed or contingent, as primary obligor or as guarantor or surety, acquired directly or by assignment or otherwise, liquidated or unliquidated, regardless of how they arise or by what agreement or instrument they may be evidenced, including without limitation all loans, advance and other extensions of credit by any of the Secured Party, the Lender, or the Cash Management Provider to the Debtor and all covenants, agreements, and provisions contained in all loan and other agreements between the Debtor, on the one hand, and any of the Secured Party, the Lender, or the Cash Management Provider, on the other hand (the **“Obligations”**); provided that, upon payment in full of the Guaranteed Amount (as defined in the PEP Guaranty), clause (ii) above shall be automatically deleted and thereafter the defined term **“Obligations”** as set forth herein shall mean as defined in clauses (i) and (iii) above.”

(b) Section 3 of the Security Agreement is hereby amended by adding new paragraphs O and P as follows:

“O. Deposit Accounts. All of the Debtor’s deposit accounts are listed on **Schedule C** attached hereto and made a part hereof. Each of the deposit accounts listed on **Schedule C** shall be deemed to be a “deposit account” referenced in the definition of “Collateral” contained in Section 1 of this Security Agreement and shall be subject in all respects to the security interest granted by the Debtor to the Secured Party pursuant to this Security Agreement. Upon establishing a deposit account that is not listed on **Schedule C** (to the extent that establishing such deposit account is otherwise permitted hereunder and under any other Loan Document), the Debtor shall promptly give notice to the Secured Party that such deposit account has been established and shall immediately execute or otherwise authenticate a supplement to **Schedule C** that includes such deposit account and take all action necessary to give the Secured Party “control” (as such term is defined in the UCC) over such deposit account, including causing the applicable bank or financial institution to enter into a control agreement (in form and substance acceptable to the Secured Party) with the Secured Party for such deposit account.

P. Commercial Tort Claims. All of the Debtor’s commercial tort claims are listed on **Schedule D** attached hereto and made a part hereof. Each of the commercial tort claims listed on **Schedule D** shall be deemed to be a “commercial tort claim” referenced in the definition of “Collateral” contained in Section 1 of this Security Agreement and shall be subject in all respects to the security interest granted by the Debtor to the Secured Party pursuant to this Security Agreement. Upon the Debtor commencing (or otherwise becoming aware of the existence of) a commercial tort claim that is not expressly identified on **Schedule D**, the Debtor shall promptly give notice to the Secured Party of such commercial tort claim and shall immediately execute or otherwise authenticate a supplement to **Schedule D** that expressly identifies such commercial tort claim and take all other action necessary to subject such commercial tort claim to the first priority security interest created under this Security Agreement.”

(c) Section 4 of the Security Agreement is hereby amended by adding (immediately after paragraph D) a new paragraph E as follows:

“E. **Appointment of Receiver.** Upon and during the existence of an Event of Default, the Secured Party shall be entitled to apply for the appointment of a receiver of any or all of the Collateral, and of all rents, incomes, profits, issues and revenues thereof, and the Debtor hereby consent to such appointment and agrees that the receiver may serve without bond if permitted by law. The Debtor expressly waives notice of and the right to object to the appointment of a receiver and agrees that such appointment shall be made as a matter of absolute right of the Secured Party and without reference to the adequacy or inadequacy of the value of the Collateral or to the Debtor’s solvency.”

Section 3. Representations and Warranties. The Debtor hereby represents and warrants to the Secured Party as follows:

(a) The Debtor has all requisite power and authority, corporate or otherwise, to execute and deliver this Amendment. This Amendment has been duly and validly executed and delivered to the Secured Party by the Debtor, and this Amendment and the Security Agreement as amended hereby and the other Loan Documents constitute the Debtor’s legal, valid and binding obligations enforceable in accordance with their respective terms.

(b) The execution, delivery and performance by the Debtor of this Amendment, and the performance of the Security Agreement as amended hereby, have been duly authorized by all necessary corporate action and do not and will not (i) require any authorization, consent or approval by any Governmental Authority, (ii) violate the Debtor’s Organizational Documents or any provision of any law, rule, regulation or order presently in effect having applicability to the Debtor, (iii) result in a breach of or constitute a default under any indenture or agreement to which the Debtor is a party or by which the Debtor or its properties may be bound or affected, or (iv) result in, or require, the creation or imposition of any Lien of any nature upon or with respect to any of the properties now owned or hereafter acquired by the Debtor (other than as required under the Loan Documents in favor of the Secured Party).

Section 4. Miscellaneous. This Amendment is a Loan Document. This Amendment shall be governed by, and construed in accordance with, the laws of the State of Colorado (other than its conflicts of laws rules). This Amendment, together with the Security Agreement amended hereby and the other Loan Documents, comprise the final and complete integration of all prior expressions by the parties hereto with respect to the subject matter hereof and shall constitute the entire agreement among the parties hereto with respect to such subject matter, superseding all prior oral or written understandings. In the event of any conflict between this Amendment and the ICP Amendment, the ICP Amendment shall control. This Amendment is subject to the provisions of the ICP Credit Agreement relating to submission to jurisdiction, venue, service of process and waiver of right to trial by jury, the provisions which are by this reference incorporated herein in full. Any provision of this Amendment which is prohibited or unenforceable shall be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof. Section headings in this Amendment are included herein for convenience of reference only and shall not constitute a part of this Amendment for any other purpose. This Amendment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed to be an original and all of which counterparts, taken together, shall constitute but one and the same instrument. Delivery of an executed counterpart of a signature page to this Amendment by facsimile or by e-mail transmission of a PDF or similar copy shall be equally as effective as delivery of an original executed counterpart of this Amendment. Any party delivering an executed counterpart signature page by facsimile or by e-mail transmission shall also deliver an original executed counterpart, but the failure to deliver an original executed counterpart shall not affect the validity, enforceability or binding effect of this Amendment. The Debtor hereby authorizes the Secured Party to amend any previously filed UCC-1 financing statements to reflect the changes to the grant of security interest made effective by this Amendment.

[Signature pages follow]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed as of the date first above written.

ILLINOIS CORN PROCESSING, LLC, as the Debtor

By: /s/ Bryon T. McGregor

Name: Bryon T. McGregor

Title: Chief Financial Officer

Signature Page to First Amendment to Security Agreement

COBANK, ACB, as the Secured Party

By: /s/ Janet Downs

Name: Janet Downs

Title: Sr. Officer

Signature Page to First Amendment to Security Agreement

FIRST AMENDMENT TO SECURITY AGREEMENT

This First Amendment to Security Agreement (this "Amendment") is made as of December 20, 2019 by and among PACIFIC ETHANOL CENTRAL, LLC, a limited liability company organized under the laws of Delaware ("Grantor"), and COBANK, ACB, a federally-chartered instrumentality of the United States, as Agent (together with its successors and assigns, "Secured Party") for the benefit of the Lenders under the PEP Credit Agreement (defined below) and ICP Credit Agreement (defined below).

WHEREAS, PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized under the laws of Delaware and wholly-owned subsidiary of Grantor ("PEP"), COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA, as a Lender, and Secured Party, as Agent, are parties to a Credit Agreement dated as of December 15, 2016 (as amended by that certain Amendment No. 7 to Credit Agreement and Waiver dated December 20, 2019 (the "PEP Amendment No. 7"), and as amended, restated, supplemented or otherwise modified from time to time, collectively the "PEP Credit Agreement").

WHEREAS, ILLINOIS CORN PROCESSING, LLC, a limited liability company organized under the laws of Delaware and wholly-owned subsidiary of Grantor ("ICP"), COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, as a Lender, and Secured Party, as Cash Management Provider and Agent, are parties to a Credit Agreement dated as of September 15, 2017 as amended from time to time, including by that certain Amendment No. 1 to Credit Agreement and Waiver (the "ICP Amendment" and together with the PEP Amendment No. 7, the "Credit Agreement Amendments") of even date herewith (and as further amended, restated, supplemented or otherwise modified from time to time, the "ICP Credit Agreement" and together with the PEP Credit Agreement, the "Credit Agreements") pursuant to which the Lender Parties have made and may make advances and extend other financial accommodations to ICP.

WHEREAS, in connection with Amendment No. 4 to PEP Credit Agreement dated as of March 20, 2019, (i) the Grantor executed a Guaranty and Contribution Agreement even dated therewith ("Original Guaranty") in favor of the Lender and the Secured Party, and (ii) the Grantor and the Secured Party executed a Security Agreement even dated therewith to secure, among other things, Grantor's obligations under the Original Guaranty (as amended by this Amendment, the "Security Agreement").

WHEREAS, in connection with Amendment No. 7 to PEP Credit Agreement even dated herewith and Amendment No. 1 to ICP Credit Agreement even dated herewith, the Grantor executed an Amended and Restated Guaranty and Contribution Agreement even dated herewith (the "Amended and Restated Guaranty") in favor of the Lender and the Secured Party to, among other things, provide for the Grantor's guaranty of ICP's obligations under the ICP Credit Agreement.

WHEREAS, the Grantor, PEP and ICP have requested that the Secured Party and the Lender amend certain provisions of the Security Agreement including, without limitation, to grant a security interest to the Secured Party for the benefit of the Lender in Grantor's equity interest in ICP.

NOW, THEREFORE, for Ten Dollars (\$10.00) in hand paid to Grantor and in consideration of the premises and mutual covenants herein contained and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

Section 1. Acknowledgments and Agreements. The Grantor hereby acknowledges and agrees as follows:

(a) *Recitals*. The Recitals to this Amendment are true and correct, and are hereby incorporated into and made a part of this Amendment and the Security Agreement.

(b) *Defined Terms*. Unless otherwise defined in this Amendment, all capitalized terms used herein as defined terms shall have the meanings given to them in the Security Agreement.

Section 2. Amendments to the Security Agreement

(a) The following definitions are hereby inserted in Section 1(a) of the Security Agreement in correct alphabetical order:

“**Paydown Amount**” means an amount equal to \$40,000,000 to be applied according to the terms of the Credit Agreement.”

“**Pledged Equity Interests**” means any equity interest in any subsidiary of Grantor pledged by Grantor to Secured Party.”

(b) Section 2 of the Security Agreement is amended by amending and restating such section in its entirety:

“**2. Grant of Security Interest**. Grantor hereby grants to Secured Party a continuing security interest in all of its right, title and interest in and to the following, wherever located, whether now existing or hereafter arising or acquired (collectively, the “Collateral”):

(a) all accounts (including health-care-insurance receivables), goods (including inventory and equipment), goods (including inventory and equipment) currently or hereafter held on consignment, documents (including, if applicable, electronic documents), fixtures, instruments, promissory notes, chattel paper (whether tangible or electronic), letters of credit, letter-of-credit rights (whether or not the letter of credit is evidenced by a writing), securities and all other investment property, commercial tort claims described on **Schedule 1** hereof as supplemented by any written notification given by Grantor to Secured Party pursuant to Section 4(e), general intangibles (including all payment intangibles), money, deposit accounts (including each of the deposit accounts listed on **Schedule 2** attached hereto), and any other contract rights or rights to the payment of money; and

(b) all Proceeds and products of each of the foregoing, all books and records relating to the foregoing, all supporting obligations related thereto, and all accessions to, substitutions and replacements for, and rents, profits and products of, each of the foregoing, and any and all Proceeds of any insurance, indemnity, warranty or guaranty payable to Grantor from time to time with respect to any of the foregoing.”

(c) Section 3 of the Security Agreement is amended by amending and restating such section in its entirety:

“**3. Secured Obligations**. The Collateral secures the payment and performance of (a) all indebtedness and obligations of Grantor under the Amended and Restated Guaranty dated as of December 20, 2019, executed by Grantor for the benefit of benefit of Compeer Financial, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA, and CoBank, ACB, a federally-chartered instrumentality of the United States, as amended, restated or modified from time to time (the “**Amended/Restated Guaranty**”), and (b) and all indebtedness and obligations of Grantor now or hereafter existing under this Agreement (collectively, “**Secured Obligations**”).”

(d) Section 17 of the Security Agreement is amended by amending and restating such section in its entirety:

“17. Termination; Release. On the date on which the Paydown Amount has been paid in full as provided in the PEP Credit Agreement, the lien and security interest granted under this Agreement with respect to all of the Collateral other than Pledged Equity Interests will terminate automatically without any delivery of any instrument or performance of any act by any party, except that provisions that by their express terms survive the termination of the Loan Documents will so survive. Upon such termination, Secured Party will, at the request and expense of Grantor, (a) duly assign, transfer and deliver to or at the direction of Grantor (without recourse and without any representation or warranty) such of the Collateral as may then remain in the possession of Secured Party (but exclusive of the Pledged Equity Interests), together with any monies at the time held by Secured Party hereunder, and (b) execute and deliver to Grantor a proper instrument or instruments acknowledging the satisfaction and termination of Secured Party’s security interest and lien on the Collateral other than Pledged Equity Interests. Until such time as the Paydown Amount has been paid in full, the sale of any of PEC, Pekin, ICP and their respective Subsidiaries shall be subject to the consent of each of the Pekin Lenders and the ICP Lenders, in each case not to be unreasonably withheld, conditioned or delayed.”

Section 3. Representations and Warranties. Grantor hereby represents and warrants to the Secured Party as follows:

(a) Grantor has all requisite power and authority, corporate or otherwise, to execute and deliver this Amendment. This Amendment has been duly and validly executed and delivered to the Secured Party by Grantor, and this Amendment and the Security Agreement as amended hereby and the other Loan Documents constitute the Grantor’s legal, valid and binding obligations enforceable in accordance with their respective terms.

(b) The execution, delivery and performance by the Grantor of this Amendment, and the performance of the Security Agreement as amended hereby, have been duly authorized by all necessary corporate action and do not and will not (i) require any authorization, consent or approval by any Governmental Authority, (ii) violate the Grantor’s Organizational Documents or any provision of any law, rule, regulation or order presently in effect having applicability to the Grantor, (iii) result in a breach of or constitute a default under any indenture or agreement to which the Grantor is a party or by which the Grantor or its properties may be bound or affected, or (iv) result in, or require, the creation or imposition of any Lien of any nature upon or with respect to any of the properties now owned or hereafter acquired by the Grantor (other than as required under the Loan Documents in favor of the Secured Party).

(c) For the avoidance of doubt, pursuant to the original grant of security interest by Grantor in favor of Secured Party of the benefit of Lender contained in the Security Agreement, Grantor granted a security interest in all of Grantor’s equity interest in each of PEP and Pacific Aurora, LLC, a Delaware limited liability company, and sole holder of equity in Pacific Ethanol Aurora West, LLC and Pacific Ethanol Aurora East, LLC.

Section 4. Miscellaneous. This Amendment is a Loan Document. This Amendment shall be governed by, and construed in accordance with, the laws of the State of Colorado (other than its conflicts of laws rules). This Amendment, together with the Security Agreement amended hereby and the other Loan Documents, comprise the final and complete integration of all prior expressions by the parties hereto with respect to the subject matter hereof and shall constitute the entire agreement among the parties hereto with respect to such subject matter, superseding all prior oral or written understandings. In the event of any conflict between this Amendment and the Credit Agreement Amendments, the Credit Agreement Amendments shall control. This Amendment is subject to the provisions of the PEP Credit Agreement and the ICP Credit Agreement, respectively, relating to submission to jurisdiction, venue, service of process and waiver of right to trial by jury, the provisions which are by this reference incorporated herein in full. Any provision of this Amendment which is prohibited or unenforceable shall be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof. Section headings in this Amendment are included herein for convenience of reference only and shall not constitute a part of this Amendment for any other purpose. This Amendment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed to be an original and all of which counterparts, taken together, shall constitute but one and the same instrument. Delivery of an executed counterpart of a signature page to this Amendment by facsimile or by e-mail transmission of a PDF or similar copy shall be equally as effective as delivery of an original executed counterpart of this Amendment. Any party delivering an executed counterpart signature page by facsimile or by e-mail transmission shall also deliver an original executed counterpart, but the failure to deliver an original executed counterpart shall not affect the validity, enforceability or binding effect of this Amendment. Grantor hereby authorizes Secured Party to amend any previously filed UCC-1 financing statements to reflect the changes to the grant of security interest made effective by this Amendment.

[Signature pages follow]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed as of the date first above written.

PACIFIC ETHANOL CENTRAL, LLC, as a Grantor

By: /s/ Bryon T. McGregor

Name: Bryon T. McGregor

Title: Chief Financial Officer

Signature Page to First Amendment to Security Agreement

COBANK, ACB, as Secured Party

By: /s/ Janet Downs

Name: Janet Downs

Title: Sr. Officer

Signature Page to First Amendment to Security Agreement

SECOND AMENDMENT TO SECURITY AGREEMENT

This Second Amendment to Security Agreement (this "Amendment") is made as of December 20, 2019 by and among PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized under the laws of Delaware (the "Debtor"), and COBANK, ACB, a federally-chartered instrumentality of the United States, as Agent for the benefit of the Lenders under the PEP Credit Agreement (defined below) (together with its successors and assigns, the "Secured Party").

WHEREAS, the Debtor, COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA, as a Lender ("Lender"), and the Secured Party, as Cash Management Provider and Agent, are parties to a Credit Agreement dated as of December 15, 2016, as amended from time to time, including by that certain Amendment No. 7 to Credit Agreement and Waiver (the "PEP Amendment") of even date herewith (as amended, restated, supplemented or otherwise modified from time to time, the "PEP Credit Agreement").

WHEREAS, the Debtor executed and delivered to the Secured Party a Security Agreement dated as of December 15, 2016 (the "Security Agreement") to secure, among other things, the Debtor's obligations under the PEP Credit Agreement. Capitalized terms not defined in this Amendment shall have the respective meanings ascribed to them by the Security Agreement.

WHEREAS, pursuant to Amendment No. 4 to Credit Agreement and Other Loan Documents dated as of March 20, 2019, the Debtor and the Lending Parties agreed to certain amendments to the Security Agreement.

WHEREAS, ILLINOIS CORN PROCESSING, LLC, a limited liability company organized under the laws of Delaware and an affiliate of the Debtor ("ICP"), COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, as a Lender, and the Secured Party, as Cash Management Provider and Agent, are parties to a Credit Agreement dated as of September 15, 2017 (as amended, restated, supplemented or otherwise modified from time to time, the "ICP Credit Agreement").

WHEREAS, in connection with the PEP Amendment and the ICP Credit Agreement, the Debtor executed a Guaranty of even date herewith ("ICP Guaranty") in favor of the Lending Parties, guarantying, among other things, ICP's obligations under the ICP Credit Agreement.

WHEREAS, in connection with the execution of the PEP Amendment, the Debtor and ICP have agreed to amend certain provisions of the Security Agreement to provide, among other things, that the Security Agreement secures the Debtor's obligations under the ICP Guaranty.

NOW, THEREFORE, for Ten Dollars (\$10.00) in hand paid to the Debtor and in consideration of the premises and mutual covenants herein contained and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

Section 1. Acknowledgments and Agreements. The Debtor hereby acknowledges and agrees as follows:

(a) *Recitals*. The Recitals to this Amendment are true and correct, and are hereby incorporated into and made a part of this Amendment and the Security Agreement.

(b) *Defined Terms*. Unless otherwise defined in this Amendment, all capitalized terms used herein as defined terms shall have the meanings given to them in the Security Agreement.

Section 2. Amendment to the Security Agreement.

(a) Section 2 of the Security Agreement is hereby amended by deleting Section 2 of the Security Agreement in its entirety and substituting the following in its place:

“2. THE OBLIGATIONS. The security interest granted hereunder shall secure (i) the payment and performance of all Obligations (as that term is defined in the Credit Agreement), (ii) all Guaranteed Obligations (as that term is defined in the ICP Guaranty dated as of December 20, 2019, executed by the Debtor in favor of the Lending Parties, as amended, restated or modified from time to time, which guaranties, among other things, ICP’s obligations under the ICP Credit Agreement), and (iii) all other obligations of the Debtor to the Lending Parties of every type and description, whether now existing or hereafter arising, fixed or contingent, as primary obligor or as guarantor or surety, acquired directly or by assignment or otherwise, liquidated or unliquidated, regardless of how they arise or by what agreement or instrument they may be evidenced, including without limitation all loans, advance and other extensions of credit by any of the Secured Party, the Lender, or the Cash Management Provider to the Debtor and all covenants, agreements, and provisions contained in all loan and other agreements between the Debtor, on the one hand, and any of the Secured Party, the Lender, or the Cash Management Provider, on the other hand (the **“Obligations”**); provided that, upon payment in full of the Guaranteed Amount (as defined in the ICP Guaranty), clause (ii) above shall be automatically deleted and thereafter the defined term **“Obligations”** as set forth herein shall mean as defined in clauses (i) and (iii) above.”.

Section 3. Representations and Warranties. The Debtor hereby represents and warrants to the Secured Party as follows:

(a) The Debtor has all requisite power and authority, corporate or otherwise, to execute and deliver this Amendment. This Amendment has been duly and validly executed and delivered to the Secured Party by the Debtor, and this Amendment and the Security Agreement as amended hereby and the other Loan Documents constitute the Debtor’s legal, valid and binding obligations enforceable in accordance with their respective terms.

(b) The execution, delivery and performance by the Debtor of this Amendment, and the performance of the Security Agreement as amended hereby, have been duly authorized by all necessary corporate action and do not and will not (i) require any authorization, consent or approval by any Governmental Authority, (ii) violate the Debtor’s Organizational Documents or any provision of any law, rule, regulation or order presently in effect having applicability to the Debtor, (iii) result in a breach of or constitute a default under any indenture or agreement to which the Debtor is a party or by which the Debtor or its properties may be bound or affected, or (iv) result in, or require, the creation or imposition of any Lien of any nature upon or with respect to any of the properties now owned or hereafter acquired by the Debtor (other than as required under the Loan Documents in favor of the Secured Party).

Section 4. Miscellaneous. This Amendment is a Loan Document. This Amendment shall be governed by, and construed in accordance with, the laws of the State of Colorado (other than its conflicts of laws rules). This Amendment, together with the Security Agreement amended hereby and the other Loan Documents, comprise the final and complete integration of all prior expressions by the parties hereto with respect to the subject matter hereof and shall constitute the entire agreement among the parties hereto with respect to such subject matter, superseding all prior oral or written understandings. In the event of any conflict between this Amendment and the PEP Amendment, the PEP Amendment shall control. This Amendment is subject to the provisions of the PEP Credit Agreement relating to submission to jurisdiction, venue, service of process and waiver of right to trial by jury, the provisions which are by this reference incorporated herein in full. Any provision of this Amendment which is prohibited or unenforceable shall be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof. Section headings in this Amendment are included herein for convenience of reference only and shall not constitute a part of this Amendment for any other purpose. This Amendment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed to be an original and all of which counterparts, taken together, shall constitute but one and the same instrument. Delivery of an executed counterpart of a signature page to this Amendment by facsimile or by e-mail transmission of a PDF or similar copy shall be equally as effective as delivery of an original executed counterpart of this Amendment. Any party delivering an executed counterpart signature page by facsimile or by e-mail transmission shall also deliver an original executed counterpart, but the failure to deliver an original executed counterpart shall not affect the validity, enforceability or binding effect of this Amendment. The Debtor hereby authorizes the Secured Party to amend any previously filed UCC-1 financing statements to reflect the changes to the grant of security interest made effective by this Amendment.

[Signature pages follow]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed as of the date first above written.

PACIFIC ETHANOL PEKIN, LLC, as the Debtor

By: /s/ Bryon T. McGregor

Name: Bryon T. McGregor

Title: Chief Financial Officer

Signature Page to Second Amendment to Security Agreement

COBANK, ACB, as the Secured Party

By: /s/ Janet Downs

Name: Janet Downs

Title: Sr. Officer

Signature Page to Second Amendment to Security Agreement

GUARANTY

This Guaranty (this “**Guaranty**”), dated as of December 20, 2019, is made by ILLINOIS CORN PROCESSING, LLC, a limited liability company organized and existing under the laws of Delaware (the “**Guarantor**”), for the benefit of COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA (“**Lender**”), and COBANK, ACB, a federally-chartered instrumentality of the United States (“**Agent**” and collectively with Lender, the “**Lender Parties**”).

RECITALS:

WHEREAS, Lender, Agent and PACIFIC ETHANOL PEKIN, LLC (“**Borrower**”) are parties to that certain Credit Agreement dated as of December 15, 2016, as amended from time to time, including by that certain Amendment No. 7 to Credit Agreement and Waiver (the “**Amendment**”) of even date herewith (as may be amended, supplemented or restated from time to time, collectively the “**Credit Agreement**”), pursuant to which the Lender Parties may make advances and extend other financial accommodations to Borrower.

WHEREAS, as a condition to entering into the Amendment and continuing to extend such credit to Borrower, the Lender Parties have required the execution and delivery of this Guaranty.

WHEREAS, Guarantor will receive substantial direct and indirect benefit from entering into the Guaranty.

NOW, THEREFORE, Guarantor agrees as follows:

1. **Definitions.** All capitalized terms defined in the Credit Agreement that are not otherwise defined in this Guaranty have the meanings given them in the Credit Agreement.
2. **Agreement to Guarantee.**

2.1 **Obligations Guaranteed.** For value received, Guarantor absolutely and unconditionally guarantees to the Lender Parties the full and prompt payment and performance when due, whether at maturity or earlier by reason of acceleration or otherwise, of the Obligations; provided that in no instance shall the Obligations exceed an amount in excess of the Guaranteed Amount. “**Guaranteed Amount**” shall mean the Paydown Amount (as such term is defined in the Credit Agreement).

2.2 **Savings Provision.** Notwithstanding anything contained in this Guaranty to the contrary, the liability of Guarantor at any time will be limited to the maximum amount as will result in the liability of Guarantor not constituting a fraudulent conveyance or fraudulent transfer to the extent applicable to this Guaranty and the liability of Guarantor.

3. Guarantor's Representations and Warranties. Guarantor represents and warrants to the Lender Parties that (a) Guarantor is an entity of the type described in the preamble to this Guaranty, duly organized and existing in good standing and has full power and authority to make and deliver this Guaranty; (b) the execution, delivery and performance of this Guaranty by Guarantor have been duly authorized by all necessary action and does not and will not violate the provisions of, or constitute a default under, any presently applicable law or its constituent documents or any agreement presently binding on Guarantor; (c) this Guaranty has been duly executed and delivered by the authorized officers of Guarantor and constitutes its lawful, binding and legally enforceable obligation; and (d) the authorization, execution, delivery and performance of this Guaranty do not require notification to, registration with, or consent or approval by, any federal, state or local regulatory body or administrative agency. Guarantor represents and warrants to the Lender Parties that Guarantor has a direct and substantial economic interest in Borrower and expects to derive substantial benefits therefrom and from any loans, credit transactions, financial accommodations, discounts, purchases of property and other transactions and events resulting in the creation of the Obligations guaranteed hereby, and that this Guaranty is given for a corporate purpose. The Lender Parties may rely conclusively on a continuing warranty, hereby made, that Guarantor continues to be benefited by this Guaranty and the Lender Parties shall have no duty to inquire into or confirm the receipt of any such benefits, and this Guaranty shall be effective and enforceable by the Lender Parties without regard to the receipt, nature or value of any such benefits.

4. Unconditional Nature. No act or thing need occur to establish Guarantor's liability hereunder, and no act or thing, except full payment and discharge of all of the Obligations, shall in any way exonerate Guarantor hereunder or modify, reduce, limit or release Guarantor's liability hereunder. This is an absolute, unconditional and continuing guaranty of payment of the Obligations and shall continue to be in force and be binding upon Guarantor, until the earlier of (a) all of the Obligations are paid in full and the Lender Parties' commitment to make Loans have terminated or (b) this Guaranty shall be terminated in accordance with Section 15.

5. Dissolution or Insolvency of Guarantor. The dissolution or adjudication of bankruptcy of Guarantor shall not revoke this Guaranty. If Guarantor dissolves or becomes insolvent (however defined), then the Lender Parties shall have the right to declare immediately due and payable, and Guarantor will pay to the Lender Parties, the full amount of all of the Obligations whether due and payable or unmatured. If Guarantor voluntarily commences or there is commenced involuntarily against Guarantor a case under the United States Bankruptcy Code, the full amount of all Obligations, whether due and payable or unmatured, shall be immediately due and payable without demand or notice thereof.

6. Subrogation. Guarantor hereby waives all rights that Guarantor may now have or hereafter acquire, whether by subrogation, contribution, reimbursement, recourse, exoneration, contract or otherwise, to recover from Borrower or from any property of Borrower any sums paid under this Guaranty. Guarantor will not exercise or enforce any right of contribution to recover any such sums from any person who is a co-obligor with Borrower or a guarantor or surety of the Obligations or from any property of any such person until all of the Obligations shall have been fully paid and discharged.

7. Subordination. The Obligations, whether now existing or hereafter created, shall be superior to any claim that Guarantor may now have or hereafter acquire against Borrower, whether or not Borrower becomes insolvent. Guarantor hereby subordinates any claim Guarantor may have against Borrower, upon any account whatsoever, to any claim that the Lender Parties may now or hereafter have against Borrower. In the event of insolvency and consequent liquidation of the assets of Borrower, through bankruptcy, by an assignment for the benefit of creditors, by voluntary liquidation, or otherwise, the assets of Borrower applicable to the payment of the claims of both the Lender Parties and Guarantor shall be paid to the Lender Parties and shall be first applied by the Lender Parties to the Obligations. Guarantor hereby assigns to the Lender Parties all claims that it may have or acquire against Borrower or against any assignee or trustee in bankruptcy of Borrower; provided, however, that such assignment shall be effective only for the purpose of assuring to the Lender Parties full payment in legal tender of the Obligations. If the Lender Parties so request, any notes or credit agreements now or hereafter evidencing any debts or obligations of Borrower to Guarantor shall be marked with a legend that the same are subject to this Guaranty and shall be delivered to the Lender Parties. Guarantor agrees, and the Lender Parties are hereby authorized, in the name of Guarantor, from time to time, to file financing statements and continuation statements and to execute documents and to take such other actions as the Lender Parties deem necessary or appropriate to perfect, preserve and enforce its rights under this Guaranty.

8. Enforcement Expenses. Guarantor shall pay on demand all costs and expenses, including reasonable attorneys' fees, incurred by the Lender Parties (a) in collecting the Obligations and in enforcing its rights under this Guaranty and the other Loan Documents, (b) in any bankruptcy, insolvency, assignment for the benefit of creditors, receivership, or other similar proceeding relating to Borrower, Borrower's assets, or Guarantor, (c) in any actual or threatened suit, action, proceeding, or adversary proceeding (including all appeals) by, against, or in any way involving the Lender Parties and Borrower or Guarantor, or in any way arising from this Guaranty or the Lender Parties' dealings with Guarantor, and (d) to retain any payments or transfers of any kind made to the Lender Parties by or on account of this Guaranty, including the granting of liens, collateral rights, security interests, or payment protection of any type.

9. Lender Parties' Rights. The Lender Parties shall not be obligated by reason of its acceptance of this Guaranty to engage in any transactions with or for Borrower. Whether or not any existing relationship between Guarantor and Borrower has been changed or ended and whether or not this Guaranty has been revoked, the Lender Parties may enter into transactions resulting in the creation or continuance of the Obligations and may otherwise agree, consent to or suffer the creation or continuance of any of the Obligations, without any consent or approval by Guarantor and without any prior or subsequent notice to Guarantor. Guarantor's liability shall not be affected or impaired by any of the following acts or things (which the Lender Parties are expressly authorized to do, omit or suffer from time to time, both before and after revocation of this Guaranty, without consent or approval by or notice to Guarantor): (a) any acceptance of collateral security, guarantors, accommodation parties or sureties for any or all of the Obligations; (b) one or more extensions or renewals of the Obligations (whether or not for longer than the original period) or any modification of the interest rates, maturities, if any, or other contractual terms applicable to any of the Obligations or any amendment or modification of any of the terms or provisions of any loan agreement or other agreement under which the Obligations or any part thereof arose; (c) any waiver or indulgence granted to Borrower, any delay or lack of diligence in the enforcement of the Obligations or any failure to institute proceedings, file a claim, give any required notices or otherwise protect any of the Obligations; (d) any full or partial release of, compromise or settlement with, or agreement not to sue, Borrower or any guarantor or other person liable in respect of any of the Obligations; (e) any release, surrender, cancellation or other discharge of any evidence of the Obligations or the acceptance of any instrument in renewal or substitution thereof; (f) any failure to obtain collateral security (including rights of setoff) for the Obligations, or to see to the proper or sufficient creation and perfection thereof, or to establish the priority thereof, or to preserve, protect, insure, care for, exercise or enforce any collateral security; (g) any modification, alteration, substitution, exchange, surrender, cancellation, termination, release or other change, impairment, limitation, loss or discharge of any collateral security; (h) any collection, sale, lease or disposition of, or any other foreclosure or enforcement of or realization on, any collateral security; (i) any assignment, pledge or other transfer of any of the Obligations or any evidence thereof; (j) any manner, order or method of application of any payments or credits upon the Obligations; and (k) any election by the Lender Parties under Section 1111(b) of the United States Bankruptcy Code.

10. Waivers by Guarantor. Guarantor waives any and all defenses and discharges available to a surety, guarantor or accommodation co-obligor. Guarantor waives any and all defenses, claims, setoffs and discharges of Borrower, or any other obligor, pertaining to the Obligations, except the defense of discharge by payment in full. Without limiting the generality of the foregoing, Guarantor will not assert, plead or enforce against the Lender Parties any defense of waiver, release, discharge or disallowance in bankruptcy, statute of limitations, res judicata, statute of frauds, anti-deficiency statute, fraud, incapacity, minority, usury, illegality or unenforceability which may be available to Borrower or any other person liable in respect of any of the Obligations, or any setoff available against the Lender Parties to Borrower or any other such person, whether or not on account of a related transaction. Guarantor shall be and remain liable for any deficiency remaining after foreclosure of any mortgage or security interest securing the Obligations, whether or not the liability of Borrower or any other obligor for such deficiency is discharged pursuant to statute or judicial decision. The liability of Guarantor shall not be affected or impaired by any voluntary or involuntary liquidation, dissolution, sale or other disposition of all or substantially all of the assets, marshalling of assets and liabilities, receivership, insolvency, bankruptcy, assignment for the benefit of creditors, reorganization, arrangement, composition or readjustment of, or other similar event or proceeding affecting, Borrower or any of its assets. Guarantor will not assert, plead or enforce against the Lender Parties any claim, defense or setoff available to Guarantor against Borrower. Guarantor waives presentment, demand for payment, notice of dishonor or nonpayment and protest of any instrument evidencing the Obligations. The Lender Parties shall not be required first to resort for payment of the Obligations to Borrower or other persons, or their properties, or first to enforce, realize upon or exhaust any collateral security for the Obligations, before enforcing this Guaranty.

11. Reinstatement. If the Lender Parties repay, restore, or return, in whole or in part, any payment or property previously paid or transferred to the Lender Parties in full or partial satisfaction of any Obligation, because the payment or transfer was declared void, voidable, or otherwise recoverable under any law, or because the Lender Parties elect to repay, restore, or return all or any portion of the payment or transfer in connection with a claim that the payment or transfer was void, voidable, or otherwise recoverable, then the liability of Guarantor will automatically and immediately be revived, reinstated, and restored as to the amount repaid, returned, or restored as though the payment or transfer to the Lender Parties had never been made.

12. **Additional Obligation of Guarantor.** Guarantor's liability under this Guaranty is in addition to and shall be cumulative with all other liabilities of Guarantor to the Lender Parties as guarantor, surety, endorser, accommodation co-obligor or otherwise of any of the Obligations or obligation of Borrower, without any limitation as to amount, unless the instrument or agreement evidencing or creating such other liability specifically provides to the contrary.

13. **Financial Information.** Guarantor will deliver to the Lender Parties all financial information concerning Guarantor required to be delivered under the Credit Agreement, or as may be reasonably requested by the Lender Parties from time to time.

14. **No Duties Owed by the Lender Parties** Guarantor acknowledges and agrees that the Lender Parties (a) have not made any representations or warranties with respect to, (b) do not assume any responsibility to Guarantor for, and (c) have no duty to provide information to Guarantor regarding, the enforceability of any of the Obligations or the financial condition of Borrower or any guarantor. Guarantor has independently determined the creditworthiness of Borrower and the enforceability of the Obligations and until the Obligations are paid in full will independently and without reliance on the Lender Parties continue to make such determinations.

15. **Termination.** Upon receipt in full by the Lender Parties of the Guaranteed Amount, but subject to Section 11 hereof, this Guaranty shall automatically terminate.

16. **Miscellaneous.**

16.1 **Recitals.** The recitals set forth above are true and correct, and each recital is hereby incorporated into this Agreement by reference.

16.2 **Notices.** Except as otherwise specified herein, any notice, consent, request or other communication required or permitted to be given hereunder shall be in writing, addressed to the other party as set forth below such party's signature to this Guaranty or below for the Lender Parties (or to such other address or person as either party or person entitled to notice may by notice to the other party specify), and shall be: (a) personally delivered; (b) delivered by Federal Express or other comparable overnight delivery service; or (c) transmitted by United States certified mail, return receipt requested with postage prepaid.

If to the Agent: 6340 S. Fiddlers Green Grove
Greenwood Village, Colorado 80111-1914
Attention: Credit Information Services

If to the Guarantor: Pacific Ethanol, Inc.

400 Capitol Mall, Suite 2060
Sacramento, California 95814
Attn: Christopher W. Wright

With a copy to:
Troutman Sanders
5 Park Plaza, Suite 1400
Irvine, CA 92614
Attn: Larry Cerutti

All such notices and communications shall have been duly given and shall be effective: (i) when delivered; (ii) the Business Day following the day on which the same has been delivered prepaid (or pursuant to an invoice arrangement) to Federal Express or other comparable overnight delivery service; or (iii) the third Business Day following the day on which the same is sent by certified mail, postage prepaid.

16.3 No Oral Amendments. This Guaranty may not be modified, amended, waived, extended, changed, discharged, revoked or terminated orally or by any act or failure to act on the part of Guarantor or the Lender Parties, but only by an agreement in writing signed by the party against whom enforcement of any modification, amendment, waiver, extension, change, discharge, revocation or termination is sought.

16.4 Counterparts; Integration; Effectiveness. This Guaranty and any amendments, waivers, consents or supplements may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which, when so executed and delivered, shall be deemed an original, but all of which counterparts together shall constitute but one agreement. This Guaranty and the other Loan Documents to which Guarantor is a party constitute the entire contract among the parties with respect to the subject matter hereof and supersede all previous agreements and understandings, oral or written, with respect thereto. Delivery of an executed counterpart of a signature page to this Guaranty by facsimile or in electronic (i.e., "pdf" or "tif") format shall be effective as delivery of a manually executed counterpart signature page.

16.5 Successors and Assigns. The terms and conditions of this Guaranty shall be binding upon Guarantor and Guarantor's successors, assigns and legal representatives; provided that this Guaranty shall not be assigned by Guarantor without the prior written consent of the Lender Parties.

16.6 Severability. If any term, covenant or condition of this Guaranty is held to be invalid, illegal or unenforceable in any respect, this Guaranty shall be construed without such provision.

16.7 Governing Law; Jurisdiction; Etc.

16.7.1 Governing Law. The laws of the State of Colorado will govern this Guaranty and any claim, controversy, dispute or cause of action (whether in contract or tort or otherwise) based upon, arising out of or relating to this Guaranty and the transactions contemplated hereby and thereby.

16.7.2 **Submission to Jurisdiction.** Guarantor irrevocably and unconditionally agrees that it will not commence any action, litigation or proceeding of any kind whatsoever, whether in law or equity, or whether in contract or tort or otherwise, against the Lender Parties in any way relating to this Guaranty or the transactions contemplated hereby, in any forum other than the courts of the State of Colorado sitting in Denver County, and of the United States District Court of Colorado, and any appellate court from any thereof, and each of the parties hereto irrevocably and unconditionally submits to the jurisdiction of such courts and agrees that any such action, litigation or proceeding may be brought in any such Colorado State court or, to the fullest extent permitted by applicable law, in such federal court. Each of the parties hereto agrees that a final judgment in any such action, litigation or proceeding will be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. Nothing herein will affect any right the Lender Parties may otherwise have to bring any action or proceeding relating to this Guaranty against Guarantor or its properties in the courts of any jurisdiction.

16.7.3 **Waiver of Venue.** Guarantor irrevocably and unconditionally waives, to the fullest extent permitted by applicable law, any objection that it may now or hereafter have to the laying of venue of any action or proceeding arising out of or relating to this Guaranty in any such court referred to in Section 15.7.2. Each of the parties hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court.

16.7.4 **Service of Process.** Guarantor irrevocably consents to the service of process in the manner provided for notices in Section 15.1 and agrees that nothing herein will affect the right of any party hereto to serve process in any other manner permitted by applicable law.

16.8 **Waiver of Jury Trial.** GUARANTOR HEREBY KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED ON THE LOAN OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT, OR ANY OF THE LOAN DOCUMENTS OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENT (WHETHER VERBAL OR WRITTEN) OR ACTION OF GUARANTOR OR LENDER PARTIES. THIS PROVISION IS A MATERIAL INDUCEMENT FOR LENDER PARTIES' MAKING OF THE LOAN.

[signature page to follow]

Guarantor has executed this Guaranty as of the date set forth in the introductory clause.

ILLINOIS CORN PROCESSING, LLC,
a Delaware limited liability company

Address:

By: /s/ Bryon T. McGregor
Name: Bryon T. McGregor
Title: Chief Financial Officer

See Section 16.2

Signature Page to Guaranty

**AMENDED AND RESTATED
GUARANTY AND CONTRIBUTION AGREEMENT**

This Amended and Restated Guaranty and Contribution Agreement (this “**Guaranty**”), dated as of December 20, 2019, is made by PACIFIC ETHANOL CENTRAL, LLC, a limited liability company organized and existing under the laws of Delaware (the “**Guarantor**”), for the benefit of COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA (“**Lender**”), and COBANK, ACB, a federally-chartered instrumentality of the United States (“**Agent**” and collectively with Lender, the “**Lender Parties**”).

RECITALS:

WHEREAS, Lender, Agent and PACIFIC ETHANOL PEKIN, LLC (“**PEP**”) are parties to that certain Credit Agreement dated as of December 15, 2016, as amended from time to time, including by that certain Amendment No. 7 to Credit Agreement and Waiver (the “**PEP Amendment**”) of even date herewith (and as may be amended, supplemented or restated from time to time, collectively the “**PEP Credit Agreement**”), pursuant to which the Lender Parties have made and may make advances and extend other financial accommodations to PEP.

WHEREAS, Guarantor executed that certain Guaranty and Contribution Agreement dated as of March 20, 2019 (the “**Original Guaranty**”) in favor of Agent pursuant to which Guarantor guaranteed prompt payment and performance of the PEP with respect to the PEC Contribution Amount (as defined in the PEP Credit Agreement).

WHEREAS, ILLINOIS CORN PROCESSING, LLC, a limited liability company organized under the laws of Delaware and wholly-owned subsidiary of Guarantor (“**ICP**”), COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, as a Lender, and Secured Party, as Cash Management Provider and Agent, are parties to a Credit Agreement dated as of September 15, 2017 as amended from time to time, including by that certain Amendment No. 1 to Credit Agreement and Waiver (the “**ICP Amendment**”) of even date herewith (and as further amended, restated, supplemented or otherwise modified from time to time, the “**ICP Credit Agreement**”) and together with the PEP Credit Agreement, the “**Credit Agreements**”) pursuant to which the Lender Parties have made and may make advances and extend other financial accommodations to ICP (together, the “**Borrowers**” and each individually, a “**Borrower**”).

WHEREAS, in connection with the PEP Amendment and the ICP Amendment, Guarantor has agreed to amend and restate its guaranty obligations as set forth herein.

WHEREAS, Guarantor will receive substantial direct and indirect benefit from entering into the Guaranty.

WHEREAS, as a condition to entering into the PEP Amendment and the ICP Amendment and continuing to extend such credit to PEP and ICP, the Lender Parties have required the execution and delivery of this Guaranty.

NOW, THEREFORE, Guarantor agrees as follows:

1. **Definitions.** All capitalized terms defined in the Credit Agreements, as applicable, that are not otherwise defined in this Guaranty have the meanings given them in the applicable Credit Agreement. As used herein, the following terms shall have the following meanings:

“Aurora Assets” means (a) the membership interests in PAL owned by Guarantor, and (b) the assets owned by PAL, Aurora East, and Aurora West.

“Aurora East” means Pacific Ethanol Aurora East, LLC, a Delaware limited liability company.

“Aurora Plants” means the real estate, the improvements thereon, and the personal property associated with the ethanol plants located in Aurora, Nebraska and owned by PAL, Aurora East, and Aurora West.

“Aurora West” means Pacific Ethanol Aurora West, LLC, a Delaware limited liability company.

“Guaranteed Amount” shall mean, collectively, (i) the Paydown Amount (as such term is defined in the Credit Agreement), (ii) all payment amounts due to the Lender Parties under section 2.8(c) the PEP Credit Agreement, and (iii) all payment amounts due to the Lender Parties under section 2.8(c) the ICP Credit Agreement.

“JV Agreement” means the Amended and Restated Limited Liability Company Agreement of Aurora in effect on the date hereof.

“Net Income” shall have the meaning ascribed to it in the JV Agreement.

“Pledged Account” shall have the meaning ascribed to it in Section 15.

“Sale Proceeds” means all Net Income payable or distributable to Guarantor upon the sale of the Aurora Assets, or any portion thereof, whether as the result of the sale of any of the real property and/or personal property owned by PAL, Aurora East, or Aurora West or the sale of any of Guarantor’s membership interest in PAL.

2. Agreement to Guarantee.

2.1 Obligations Guaranteed. For value received, Guarantor absolutely and unconditionally guarantees to the Lender Parties the full and prompt payment and performance when due, whether at maturity or earlier by reason of acceleration or otherwise, of (i) the Obligations of PEP under the PEP Credit Agreement, and (ii) the Obligations of ICP under the ICP Credit Agreement; provided that in no instance shall the obligations hereunder exceed an amount in excess of the Guaranteed Amount.

2.2 Savings Provision. Notwithstanding anything contained in this Guaranty to the contrary, the liability of Guarantor at any time will be limited to the maximum amount as will result in the liability of Guarantor not constituting a fraudulent conveyance or fraudulent transfer to the extent applicable to this Guaranty and the liability of Guarantor.

3. Guarantor’s Representations and Warranties. Guarantor represents and warrants to the Lender Parties that (a) Guarantor is an entity of the type described in the preamble to this Guaranty, duly organized and existing in good standing and has full power and authority to make and deliver this Guaranty; (b) the execution, delivery and performance of this Guaranty by Guarantor have been duly authorized by all necessary action and does not and will not violate the provisions of, or constitute a default under, any presently applicable law or its constituent documents or any agreement presently binding on Guarantor; (c) this Guaranty has been duly executed and delivered by the authorized officers of Guarantor and constitutes its lawful, binding and legally enforceable obligation; and (d) the authorization, execution, delivery and performance of this Guaranty do not require notification to, registration with, or consent or approval by, any federal, state or local regulatory body or administrative agency. Guarantor represents and warrants to the Lender Parties that Guarantor has a direct and substantial economic interest in each Borrower and expects to derive substantial benefits therefrom and from any loans, credit transactions, financial accommodations, discounts, purchases of property and other transactions and events resulting in the creation of the Obligations guaranteed hereby, and that this Guaranty is given for a corporate purpose. The Lender Parties may rely conclusively on a continuing warranty, hereby made, that Guarantor continues to be benefited by this Guaranty and the Lender Parties shall have no duty to inquire into or confirm the receipt of any such benefits, and this Guaranty shall be effective and enforceable by the Lender Parties without regard to the receipt, nature or value of any such benefits. Guarantor represents and warrants to the Lender Parties that, from and after the date of this Guaranty, none of PAL, Aurora East, or Aurora West shall perform any of the following (and Guarantor hereby covenants and agrees that it shall not direct, authorize or otherwise permit PAL, Aurora East, or Aurora West to perform any of the following (whether in its capacity as a member of PAL or otherwise) and shall exercise all voting rights it may hold with respect to PAL, Aurora East, or Aurora West in a manner that ensures that none of the following shall occur): (a) sell, assign, transfer or otherwise alienate ownership of any of the Aurora Assets without the prior written consent of the Lender Parties, or (b) incur, create, assume, or suffer to exist any lien, security interest, pledge, charge, encumbrance, or other limitation as to the Aurora Assets or the Sale Proceeds or incur any indebtedness (secured or unsecured, direct or contingent including guaranteeing any obligation) without the prior written consent of the Lender Parties. The Aurora Assets are now, and Guarantor will at all times ensure that the Aurora Assets remain, free and clear of all liens and encumbrances except for any liens and encumbrances in favor of the Lender Parties.

4. **Unconditional Nature.** No act or thing need occur to establish Guarantor's liability hereunder, and no act or thing, except full payment and discharge of all of the Obligations, shall in any way exonerate Guarantor hereunder or modify, reduce, limit or release Guarantor's liability hereunder. This is an absolute, unconditional and continuing guaranty of payment of the Obligations and shall continue to be in force and be binding upon Guarantor, until the earlier of the date that (a) all of the Obligations are paid in full and the Lender Parties' commitment to make Loans have terminated, or (b) this Guaranty shall be terminated in accordance with Section 16.

5. **Dissolution or Insolvency of Guarantor.** The dissolution or adjudication of bankruptcy of Guarantor shall not revoke this Guaranty. If Guarantor dissolves or becomes insolvent (however defined), then the Lender Parties shall have the right to declare immediately due and payable, and Guarantor will pay to the Lender Parties, the full amount of all of the Obligations whether due and payable or unmatured. If Guarantor voluntarily commences or there is commenced involuntarily against Guarantor a case under the United States Bankruptcy Code, the full amount of all Obligations, whether due and payable or unmatured, shall be immediately due and payable without demand or notice thereof.

6. **Subrogation.** Guarantor hereby waives all rights that Guarantor may now have or hereafter acquire, whether by subrogation, contribution, reimbursement, recourse, exoneration, contract or otherwise, to recover from any Borrower or from any property of any Borrower any sums paid under this Guaranty. Guarantor will not exercise or enforce any right of contribution to recover any such sums from any person who is a co-obligor with any Borrower or a guarantor or surety of the Obligations or from any property of any such person until all of the Obligations shall have been fully paid and discharged.

7. **Subordination.** The Obligations, whether now existing or hereafter created, shall be superior to any claim that Guarantor may now have or hereafter acquire against any Borrower, whether or not such Borrower becomes insolvent. Guarantor hereby subordinates any claim Guarantor may have against any Borrower, upon any account whatsoever, to any claim that the Lender Parties may now or hereafter have against such Borrower. In the event of insolvency and consequent liquidation of the assets of any Borrower, through bankruptcy, by an assignment for the benefit of creditors, by voluntary liquidation, or otherwise, the assets of such Borrower applicable to the payment of the claims of both the Lender Parties and Guarantor shall be paid to the Lender Parties and shall be first applied by the Lender Parties to the Obligations. Guarantor hereby assigns to the Lender Parties all claims that it may have or acquire against any Borrower or against any assignee or trustee in bankruptcy of such Borrower; provided, however, that such assignment shall be effective only for the purpose of assuring to the Lender Parties full payment in legal tender of the Obligations. If the Lender Parties so request, any notes or credit agreements now or hereafter evidencing any debts or obligations of any Borrower to Guarantor shall be marked with a legend that the same are subject to this Guaranty and shall be delivered to the Lender Parties. Guarantor agrees, and the Lender Parties are hereby authorized, in the name of Guarantor, from time to time, to file financing statements and continuation statements and to execute documents and to take such other actions as the Lender Parties deem necessary or appropriate to perfect, preserve and enforce its rights under this Guaranty.

8. **Enforcement Expenses.** Guarantor shall pay on demand all costs and expenses, including reasonable attorneys' fees, incurred by the Lender Parties (a) in collecting the Obligations and in enforcing its rights under this Guaranty and the other Loan Documents, (b) in any bankruptcy, insolvency, assignment for the benefit of creditors, receivership, or other similar proceeding relating to any Borrower, any Borrower's assets, or Guarantor, (c) in any actual or threatened suit, action, proceeding, or adversary proceeding (including all appeals) by, against, or in any way involving the Lender Parties and any Borrower or Guarantor, or in any way arising from this Guaranty or the Lender Parties' dealings with Guarantor, and (d) to retain any payments or transfers of any kind made to the Lender Parties by or on account of this Guaranty, including the granting of liens, collateral rights, security interests, or payment protection of any type.

9. Lender Parties' Rights. The Lender Parties shall not be obligated by reason of its acceptance of this Guaranty to engage in any transactions with or for any Borrower. Whether or not any existing relationship between Guarantor and any Borrower has been changed or ended and whether or not this Guaranty has been revoked, the Lender Parties may enter into transactions resulting in the creation or continuance of the Obligations and may otherwise agree, consent to or suffer the creation or continuance of any of the Obligations, without any consent or approval by Guarantor and without any prior or subsequent notice to Guarantor. Guarantor's liability shall not be affected or impaired by any of the following acts or things (which the Lender Parties are expressly authorized to do, omit or suffer from time to time, both before and after revocation of this Guaranty, without consent or approval by or notice to Guarantor): (a) any acceptance of collateral security, guarantors, accommodation parties or sureties for any or all of the Obligations; (b) one or more extensions or renewals of the Obligations (whether or not for longer than the original period) or any modification of the interest rates, maturities, if any, or other contractual terms applicable to any of the Obligations or any amendment or modification of any of the terms or provisions of any loan agreement or other agreement under which the Obligations or any part thereof arose; (c) any waiver or indulgence granted to any Borrower, any delay or lack of diligence in the enforcement of the Obligations or any failure to institute proceedings, file a claim, give any required notices or otherwise protect any of the Obligations; (d) any full or partial release of, compromise or settlement with, or agreement not to sue, any Borrower or any guarantor or other person liable in respect of any of the Obligations; (e) any release, surrender, cancellation or other discharge of any evidence of the Obligations or the acceptance of any instrument in renewal or substitution thereof; (f) any failure to obtain collateral security (including rights of setoff) for the Obligations, or to see to the proper or sufficient creation and perfection thereof, or to establish the priority thereof, or to preserve, protect, insure, care for, exercise or enforce any collateral security; (g) any modification, alteration, substitution, exchange, surrender, cancellation, termination, release or other change, impairment, limitation, loss or discharge of any collateral security; (h) any collection, sale, lease or disposition of, or any other foreclosure or enforcement of or realization on, any collateral security; (i) any assignment, pledge or other transfer of any of the Obligations or any evidence thereof; (j) any manner, order or method of application of any payments or credits upon the Obligations; and (k) any election by the Lender Parties under Section 1111(b) of the United States Bankruptcy Code.

10. Waivers by Guarantor. Guarantor waives any and all defenses and discharges available to a surety, guarantor or accommodation co-obligor. Guarantor waives any and all defenses, claims, setoffs and discharges of any Borrower, or any other obligor, pertaining to the Obligations, except the defense of discharge by payment in full. Without limiting the generality of the foregoing, Guarantor will not assert, plead or enforce against the Lender Parties any defense of waiver, release, discharge or disallowance in bankruptcy, statute of limitations, res judicata, statute of frauds, anti-deficiency statute, fraud, incapacity, minority, usury, illegality or unenforceability which may be available to any Borrower or any other person liable in respect of any of the Obligations, or any setoff available against the Lender Parties to any Borrower or any other such person, whether or not on account of a related transaction. Guarantor shall be and remain liable for any deficiency remaining after foreclosure of any mortgage or security interest securing the Obligations, whether or not the liability of such Borrower or any other obligor for such deficiency is discharged pursuant to statute or judicial decision. The liability of Guarantor shall not be affected or impaired by any voluntary or involuntary liquidation, dissolution, sale or other disposition of all or substantially all of the assets, marshalling of assets and liabilities, receivership, insolvency, bankruptcy, assignment for the benefit of creditors, reorganization, arrangement, composition or readjustment of, or other similar event or proceeding affecting, any Borrower or any of its assets. Guarantor will not assert, plead or enforce against the Lender Parties any claim, defense or setoff available to Guarantor against any Borrower. Guarantor waives presentment, demand for payment, notice of dishonor or nonpayment and protest of any instrument evidencing the Obligations. The Lender Parties shall not be required first to resort for payment of the Obligations to any Borrower or other persons, or their properties, or first to enforce, realize upon or exhaust any collateral security for the Obligations, before enforcing this Guaranty.

11. **Reinstatement.** If the Lender Parties repay, restore, or return, in whole or in part, any payment or property previously paid or transferred to the Lender Parties in full or partial satisfaction of any Obligation, because the payment or transfer was declared void, voidable, or otherwise recoverable under any law, or because the Lender Parties elect to repay, restore, or return all or any portion of the payment or transfer in connection with a claim that the payment or transfer was void, voidable, or otherwise recoverable, then the liability of Guarantor will automatically and immediately be revived, reinstated, and restored as to the amount repaid, returned, or restored as though the payment or transfer to the Lender Parties had never been made.

12. **Additional Obligation of Guarantor.** Guarantor's liability under this Guaranty is in addition to and shall be cumulative with all other liabilities of Guarantor to the Lender Parties as guarantor, surety, endorser, accommodation co-obligor or otherwise of any of the Obligations or obligation of any Borrower, without any limitation as to amount, unless the instrument or agreement evidencing or creating such other liability specifically provides to the contrary.

13. **Financial Information.** Guarantor will deliver to the Lender Parties all financial information concerning Guarantor required to be delivered under the Credit Agreement, or as may be reasonably requested by the Lender Parties from time to time.

14. **No Duties Owed by the Lender Parties** Guarantor acknowledges and agrees that the Lender Parties (a) have not made any representations or warranties with respect to, (b) do not assume any responsibility to Guarantor for, and (c) have no duty to provide information to Guarantor regarding, the enforceability of any of the Obligations or the financial condition of any Borrower or any guarantor. Guarantor has independently determined the creditworthiness of any Borrower and the enforceability of the Obligations and until the Obligations are paid in full will independently and without reliance on the Lender Parties continue to make such determinations.

15. **Direction and Contribution.** Guarantor represents and warrants that (i) it is a member of PAL and holds 73.93% of the membership interests in PAL, (ii) PAL holds title to all real property comprising the Aurora Plants, and (iii) PAL is the sole member of each of each of Pacific West and Pacific East, which entities have leasehold interests in the improvement portions of the Aurora Plants and hold title to all personal property associated with the Aurora Plants. Guarantor hereby covenants and agrees that (i) as a member of PAL it shall take all necessary actions to cause all Sale Proceeds to be distributed to Guarantor based on Guarantor's pro rata membership interest as set forth in the JV Agreement, and (ii) all Sale Proceeds distributed to Guarantor shall be immediately deposited into the deposit account set forth on Schedule 1 attached hereto (the "**Pledged Account**"). Guarantor shall promptly, but in all events within two (2) business days, contribute such Sale Proceeds to PEP in an amount not to exceed the Guaranteed Amount.

16. **Termination.** Upon receipt in full satisfaction of the Obligations of the Borrowers under the Credit Agreements, but subject to Section 11 hereof, this Guaranty shall automatically terminate.

17. **Miscellaneous.**

17.1 **Recitals.** The recitals set forth above are true and correct, and each recital is hereby incorporated into this Agreement by reference.

17.2 **Notices.** Except as otherwise specified herein, any notice, consent, request or other communication required or permitted to be given hereunder shall be in writing, addressed to the other party as set forth below such party's signature to this Guaranty or below for the Lender Parties (or to such other address or person as either party or person entitled to notice may by notice to the other party specify), and shall be: (a) personally delivered; (b) delivered by Federal Express or other comparable overnight delivery service; or (c) transmitted by United States certified mail, return receipt requested with postage prepaid.

If to the Agent: 6340 S. Fiddlers Green Grove
Greenwood Village, Colorado 80111-1914
Attention: Credit Information Services

If to the Guarantor: Pacific Ethanol, Inc.
400 Capitol Mall, Suite 2060
Sacramento, California 95814
Attn: Christopher W. Wright

With a copy to:

Troutman Sanders
5 Park Plaza, Suite 1400
Irvine, CA 92614
Attn: Larry Cerutti

All such notices and communications shall have been duly given and shall be effective: (i) when delivered; (ii) the Business Day following the day on which the same has been delivered prepaid (or pursuant to an invoice arrangement) to Federal Express or other comparable overnight delivery service; or (iii) the third Business Day following the day on which the same is sent by certified mail, postage prepaid.

17.3 **No Oral Amendments.** This Guaranty may not be modified, amended, waived, extended, changed, discharged, revoked or terminated orally or by any act or failure to act on the part of Guarantor or the Lender Parties, but only by an agreement in writing signed by the party against whom enforcement of any modification, amendment, waiver, extension, change, discharge, revocation or termination is sought.

17.4 **Counterparts; Integration; Effectiveness.** This Guaranty and any amendments, waivers, consents or supplements may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which, when so executed and delivered, shall be deemed an original, but all of which counterparts together shall constitute but one agreement. This Guaranty and the other Loan Documents to which Guarantor is a party constitute the entire contract among the parties with respect to the subject matter hereof and supersede all previous agreements and understandings, oral or written, with respect thereto. Delivery of an executed counterpart of a signature page to this Guaranty by facsimile or in electronic (i.e., "pdf" or "tif") format shall be effective as delivery of a manually executed counterpart signature page.

17.5 **Successors and Assigns.** The terms and conditions of this Guaranty shall be binding upon Guarantor and Guarantor's successors, assigns and legal representatives; provided that this Guaranty shall not be assigned by Guarantor without the prior written consent of the Lender Parties.

17.6 **Severability.** If any term, covenant or condition of this Guaranty is held to be invalid, illegal or unenforceable in any respect, this Guaranty shall be construed without such provision.

17.7 Governing Law; Jurisdiction; Etc.

17.7.1 **Governing Law.** The laws of the State of Colorado will govern this Guaranty and any claim, controversy, dispute or cause of action (whether in contract or tort or otherwise) based upon, arising out of or relating to this Guaranty and the transactions contemplated hereby and thereby.

17.7.2 **Submission to Jurisdiction.** Guarantor irrevocably and unconditionally agrees that it will not commence any action, litigation or proceeding of any kind whatsoever, whether in law or equity, or whether in contract or tort or otherwise, against the Lender Parties in any way relating to this Guaranty or the transactions contemplated hereby, in any forum other than the courts of the State of Colorado sitting in Denver County, and of the United States District Court of Colorado, and any appellate court from any thereof, and each of the parties hereto irrevocably and unconditionally submits to the jurisdiction of such courts and agrees that any such action, litigation or proceeding may be brought in any such Colorado State court or, to the fullest extent permitted by applicable law, in such federal court. Each of the parties hereto agrees that a final judgment in any such action, litigation or proceeding will be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. Nothing herein will affect any right the Lender Parties may otherwise have to bring any action or proceeding relating to this Guaranty against Guarantor or its properties in the courts of any jurisdiction.

17.7.3 **Waiver of Venue.** Guarantor irrevocably and unconditionally waives, to the fullest extent permitted by applicable law, any objection that it may now or hereafter have to the laying of venue of any action or proceeding arising out of or relating to this Guaranty in any such court referred to in Section 17.7.2. Each of the parties hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court.

17.7.4 **Service of Process.** Guarantor irrevocably consents to the service of process in the manner provided for notices in Section 17.1 and agrees that nothing herein will affect the right of any party hereto to serve process in any other manner permitted by applicable law.

17.8 **Waiver of Jury Trial.** GUARANTOR HEREBY KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED ON THE LOAN OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT, OR ANY OF THE LOAN DOCUMENTS OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENT (WHETHER VERBAL OR WRITTEN) OR ACTION OF GUARANTOR OR LENDER PARTIES. THIS PROVISION IS A MATERIAL INDUCEMENT FOR LENDER PARTIES' MAKING OF THE LOAN.

17.9 This Amended and Restated Guaranty and Contribution Agreement (i) is made by the undersigned in favor of the Lender Parties in connection with the execution and delivery of the PEP Amendment and the ICP Amendment, and (ii) amends and restates in its entirety that certain Guaranty and Contribution Agreement dated as of March 20, 2019 made by the undersigned in favor of the Lender Parties.

[signature page to follow]

Guarantor has executed this Guaranty as of the date set forth in the introductory clause.

PACIFIC ETHANOL CENTRAL, LLC,
a Delaware limited liability company

Address:

By: /s/ Bryon T. McGregor
Name: Bryon T. McGregor
Title: Chief Financial Officer

See Section 17.2

Signature Page to Guaranty

SCHEDULE 1

PLEGGED ACCOUNT

<u>Depository Bank</u>	<u>Account Holder</u>	<u>Account Number</u>	<u>Account Name</u>
Bank of America	Pacific Ethanol Central, LLC	325000605601	Pacific Ethanol Central, LLC

Schedule 1

GUARANTY

This Guaranty (this “**Guaranty**”), dated as of December 20, 2019, is made by PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized and existing under the laws of Delaware (the “**Guarantor**”), for the benefit of COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA (“**Lender**”), and COBANK, ACB, a federally-chartered instrumentality of the United States (“**Agent**” and collectively with Lender, the “**Lender Parties**”).

RECITALS:

WHEREAS, Lender, Agent and ILLINOIS CORN PROCESSING, LLC (“**Borrower**”) are parties to that certain Credit Agreement dated as of September 15, 2017, as amended from time to time, including by that certain Amendment No. 1 to Credit Agreement and Waiver (the “**Amendment**”) of even date herewith (as may be amended, supplemented or restated from time to time, collectively the “**Credit Agreement**”), pursuant to which the Lender Parties may make advances and extend other financial accommodations to Borrower.

WHEREAS, as a condition to entering into the Amendment and continuing to extend such credit to Borrower, the Lender Parties have required the execution and delivery of this Guaranty.

WHEREAS, Guarantor will receive substantial direct and indirect benefit from entering into the Guaranty.

NOW, THEREFORE, Guarantor agrees as follows:

1. **Definitions.** All capitalized terms defined in the Credit Agreement that are not otherwise defined in this Guaranty have the meanings given them in the Credit Agreement.

2. **Agreement to Guarantee.**

2.1 **Obligations Guaranteed.** For value received, Guarantor absolutely and unconditionally guarantees to the Lender Parties the full and prompt payment and performance when due, whether at maturity or earlier by reason of acceleration or otherwise, of the Obligations; provided that in no instance shall the Obligations exceed an amount in excess of the Guaranteed Amount. “**Guaranteed Amount**” shall mean the Paydown Amount (as such term is defined in the Credit Agreement).

2.2 **Savings Provision.** Notwithstanding anything contained in this Guaranty to the contrary, the liability of Guarantor at any time will be limited to the maximum amount as will result in the liability of Guarantor not constituting a fraudulent conveyance or fraudulent transfer to the extent applicable to this Guaranty and the liability of Guarantor.

3. Guarantor's Representations and Warranties. Guarantor represents and warrants to the Lender Parties that (a) Guarantor is an entity of the type described in the preamble to this Guaranty, duly organized and existing in good standing and has full power and authority to make and deliver this Guaranty; (b) the execution, delivery and performance of this Guaranty by Guarantor have been duly authorized by all necessary action and does not and will not violate the provisions of, or constitute a default under, any presently applicable law or its constituent documents or any agreement presently binding on Guarantor; (c) this Guaranty has been duly executed and delivered by the authorized officers of Guarantor and constitutes its lawful, binding and legally enforceable obligation; and (d) the authorization, execution, delivery and performance of this Guaranty do not require notification to, registration with, or consent or approval by, any federal, state or local regulatory body or administrative agency. Guarantor represents and warrants to the Lender Parties that Guarantor has a direct and substantial economic interest in Borrower and expects to derive substantial benefits therefrom and from any loans, credit transactions, financial accommodations, discounts, purchases of property and other transactions and events resulting in the creation of the Obligations guaranteed hereby, and that this Guaranty is given for a corporate purpose. The Lender Parties may rely conclusively on a continuing warranty, hereby made, that Guarantor continues to be benefited by this Guaranty and the Lender Parties shall have no duty to inquire into or confirm the receipt of any such benefits, and this Guaranty shall be effective and enforceable by the Lender Parties without regard to the receipt, nature or value of any such benefits.

4. Unconditional Nature. No act or thing need occur to establish Guarantor's liability hereunder, and no act or thing, except full payment and discharge of all of the Obligations, shall in any way exonerate Guarantor hereunder or modify, reduce, limit or release Guarantor's liability hereunder. This is an absolute, unconditional and continuing guaranty of payment of the Obligations and shall continue to be in force and be binding upon Guarantor, until the earlier of (a) all of the Obligations are paid in full and the Lender Parties' commitment to make Loans have terminated or (b) this Guaranty shall be terminated in accordance with Section 15.

5. Dissolution or Insolvency of Guarantor. The dissolution or adjudication of bankruptcy of Guarantor shall not revoke this Guaranty. If Guarantor dissolves or becomes insolvent (however defined), then the Lender Parties shall have the right to declare immediately due and payable, and Guarantor will pay to the Lender Parties, the full amount of all of the Obligations whether due and payable or unmatured. If Guarantor voluntarily commences or there is commenced involuntarily against Guarantor a case under the United States Bankruptcy Code, the full amount of all Obligations, whether due and payable or unmatured, shall be immediately due and payable without demand or notice thereof.

6. Subrogation. Guarantor hereby waives all rights that Guarantor may now have or hereafter acquire, whether by subrogation, contribution, reimbursement, recourse, exoneration, contract or otherwise, to recover from Borrower or from any property of Borrower any sums paid under this Guaranty. Guarantor will not exercise or enforce any right of contribution to recover any such sums from any person who is a co-obligor with Borrower or a guarantor or surety of the Obligations or from any property of any such person until all of the Obligations shall have been fully paid and discharged.

7. Subordination. The Obligations, whether now existing or hereafter created, shall be superior to any claim that Guarantor may now have or hereafter acquire against Borrower, whether or not Borrower becomes insolvent. Guarantor hereby subordinates any claim Guarantor may have against Borrower, upon any account whatsoever, to any claim that the Lender Parties may now or hereafter have against Borrower. In the event of insolvency and consequent liquidation of the assets of Borrower, through bankruptcy, by an assignment for the benefit of creditors, by voluntary liquidation, or otherwise, the assets of Borrower applicable to the payment of the claims of both the Lender Parties and Guarantor shall be paid to the Lender Parties and shall be first applied by the Lender Parties to the Obligations. Guarantor hereby assigns to the Lender Parties all claims that it may have or acquire against Borrower or against any assignee or trustee in bankruptcy of Borrower; provided, however, that such assignment shall be effective only for the purpose of assuring to the Lender Parties full payment in legal tender of the Obligations. If the Lender Parties so request, any notes or credit agreements now or hereafter evidencing any debts or obligations of Borrower to Guarantor shall be marked with a legend that the same are subject to this Guaranty and shall be delivered to the Lender Parties. Guarantor agrees, and the Lender Parties are hereby authorized, in the name of Guarantor, from time to time, to file financing statements and continuation statements and to execute documents and to take such other actions as the Lender Parties deem necessary or appropriate to perfect, preserve and enforce its rights under this Guaranty.

8. Enforcement Expenses. Guarantor shall pay on demand all costs and expenses, including reasonable attorneys' fees, incurred by the Lender Parties (a) in collecting the Obligations and in enforcing its rights under this Guaranty and the other Loan Documents, (b) in any bankruptcy, insolvency, assignment for the benefit of creditors, receivership, or other similar proceeding relating to Borrower, Borrower's assets, or Guarantor, (c) in any actual or threatened suit, action, proceeding, or adversary proceeding (including all appeals) by, against, or in any way involving the Lender Parties and Borrower or Guarantor, or in any way arising from this Guaranty or the Lender Parties' dealings with Guarantor, and (d) to retain any payments or transfers of any kind made to the Lender Parties by or on account of this Guaranty, including the granting of liens, collateral rights, security interests, or payment protection of any type.

9. Lender Parties' Rights. The Lender Parties shall not be obligated by reason of its acceptance of this Guaranty to engage in any transactions with or for Borrower. Whether or not any existing relationship between Guarantor and Borrower has been changed or ended and whether or not this Guaranty has been revoked, the Lender Parties may enter into transactions resulting in the creation or continuance of the Obligations and may otherwise agree, consent to or suffer the creation or continuance of any of the Obligations, without any consent or approval by Guarantor and without any prior or subsequent notice to Guarantor. Guarantor's liability shall not be affected or impaired by any of the following acts or things (which the Lender Parties are expressly authorized to do, omit or suffer from time to time, both before and after revocation of this Guaranty, without consent or approval by or notice to Guarantor): (a) any acceptance of collateral security, guarantors, accommodation parties or sureties for any or all of the Obligations; (b) one or more extensions or renewals of the Obligations (whether or not for longer than the original period) or any modification of the interest rates, maturities, if any, or other contractual terms applicable to any of the Obligations or any amendment or modification of any of the terms or provisions of any loan agreement or other agreement under which the Obligations or any part thereof arose; (c) any waiver or indulgence granted to Borrower, any delay or lack of diligence in the enforcement of the Obligations or any failure to institute proceedings, file a claim, give any required notices or otherwise protect any of the Obligations; (d) any full or partial release of, compromise or settlement with, or agreement not to sue, Borrower or any guarantor or other person liable in respect of any of the Obligations; (e) any release, surrender, cancellation or other discharge of any evidence of the Obligations or the acceptance of any instrument in renewal or substitution thereof; (f) any failure to obtain collateral security (including rights of setoff) for the Obligations, or to see to the proper or sufficient creation and perfection thereof, or to establish the priority thereof, or to preserve, protect, insure, care for, exercise or enforce any collateral security; (g) any modification, alteration, substitution, exchange, surrender, cancellation, termination, release or other change, impairment, limitation, loss or discharge of any collateral security; (h) any collection, sale, lease or disposition of, or any other foreclosure or enforcement of or realization on, any collateral security; (i) any assignment, pledge or other transfer of any of the Obligations or any evidence thereof; (j) any manner, order or method of application of any payments or credits upon the Obligations; and (k) any election by the Lender Parties under Section 1111(b) of the United States Bankruptcy Code.

10. Waivers by Guarantor. Guarantor waives any and all defenses and discharges available to a surety, guarantor or accommodation co-obligor. Guarantor waives any and all defenses, claims, setoffs and discharges of Borrower, or any other obligor, pertaining to the Obligations, except the defense of discharge by payment in full. Without limiting the generality of the foregoing, Guarantor will not assert, plead or enforce against the Lender Parties any defense of waiver, release, discharge or disallowance in bankruptcy, statute of limitations, res judicata, statute of frauds, anti-deficiency statute, fraud, incapacity, minority, usury, illegality or unenforceability which may be available to Borrower or any other person liable in respect of any of the Obligations, or any setoff available against the Lender Parties to Borrower or any other such person, whether or not on account of a related transaction. Guarantor shall be and remain liable for any deficiency remaining after foreclosure of any mortgage or security interest securing the Obligations, whether or not the liability of Borrower or any other obligor for such deficiency is discharged pursuant to statute or judicial decision. The liability of Guarantor shall not be affected or impaired by any voluntary or involuntary liquidation, dissolution, sale or other disposition of all or substantially all of the assets, marshalling of assets and liabilities, receivership, insolvency, bankruptcy, assignment for the benefit of creditors, reorganization, arrangement, composition or readjustment of, or other similar event or proceeding affecting, Borrower or any of its assets. Guarantor will not assert, plead or enforce against the Lender Parties any claim, defense or setoff available to Guarantor against Borrower. Guarantor waives presentment, demand for payment, notice of dishonor or nonpayment and protest of any instrument evidencing the Obligations. The Lender Parties shall not be required first to resort for payment of the Obligations to Borrower or other persons, or their properties, or first to enforce, realize upon or exhaust any collateral security for the Obligations, before enforcing this Guaranty.

11. Reinstatement. If the Lender Parties repay, restore, or return, in whole or in part, any payment or property previously paid or transferred to the Lender Parties in full or partial satisfaction of any Obligation, because the payment or transfer was declared void, voidable, or otherwise recoverable under any law, or because the Lender Parties elect to repay, restore, or return all or any portion of the payment or transfer in connection with a claim that the payment or transfer was void, voidable, or otherwise recoverable, then the liability of Guarantor will automatically and immediately be revived, reinstated, and restored as to the amount repaid, returned, or restored as though the payment or transfer to the Lender Parties had never been made.

12. **Additional Obligation of Guarantor.** Guarantor's liability under this Guaranty is in addition to and shall be cumulative with all other liabilities of Guarantor to the Lender Parties as guarantor, surety, endorser, accommodation co-obligor or otherwise of any of the Obligations or obligation of Borrower, without any limitation as to amount, unless the instrument or agreement evidencing or creating such other liability specifically provides to the contrary.

13. **Financial Information.** Guarantor will deliver to the Lender Parties all financial information concerning Guarantor required to be delivered under the Credit Agreement, or as may be reasonably requested by the Lender Parties from time to time.

14. **No Duties Owed by the Lender Parties** Guarantor acknowledges and agrees that the Lender Parties (a) have not made any representations or warranties with respect to, (b) do not assume any responsibility to Guarantor for, and (c) have no duty to provide information to Guarantor regarding, the enforceability of any of the Obligations or the financial condition of Borrower or any guarantor. Guarantor has independently determined the creditworthiness of Borrower and the enforceability of the Obligations and until the Obligations are paid in full will independently and without reliance on the Lender Parties continue to make such determinations.

15. **Termination.** Upon receipt in full by the Lender Parties of the Guaranteed Amount, but subject to Section 11 hereof, this Guaranty shall automatically terminate.

16. **Miscellaneous.**

16.1 **Recitals.** The recitals set forth above are true and correct, and each recital is hereby incorporated into this Agreement by reference.

16.2 **Notices.** Except as otherwise specified herein, any notice, consent, request or other communication required or permitted to be given hereunder shall be in writing, addressed to the other party as set forth below such party's signature to this Guaranty or below for the Lender Parties (or to such other address or person as either party or person entitled to notice may by notice to the other party specify), and shall be: (a) personally delivered; (b) delivered by Federal Express or other comparable overnight delivery service; or (c) transmitted by United States certified mail, return receipt requested with postage prepaid.

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Irvine, CA 92614
Attn: Larry Cerutti

All such notices and communications shall have been duly given and shall be effective: (i) when delivered; (ii) the Business Day following the day on which the same has been delivered prepaid (or pursuant to an invoice arrangement) to Federal Express or other comparable overnight delivery service; or (iii) the third Business Day following the day on which the same is sent by certified mail, postage prepaid.

16.3 No Oral Amendments. This Guaranty may not be modified, amended, waived, extended, changed, discharged, revoked or terminated orally or by any act or failure to act on the part of Guarantor or the Lender Parties, but only by an agreement in writing signed by the party against whom enforcement of any modification, amendment, waiver, extension, change, discharge, revocation or termination is sought.

16.4 Counterparts; Integration; Effectiveness. This Guaranty and any amendments, waivers, consents or supplements may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which, when so executed and delivered, shall be deemed an original, but all of which counterparts together shall constitute but one agreement. This Guaranty and the other Loan Documents to which Guarantor is a party constitute the entire contract among the parties with respect to the subject matter hereof and supersede all previous agreements and understandings, oral or written, with respect thereto. Delivery of an executed counterpart of a signature page to this Guaranty by facsimile or in electronic (i.e., "pdf" or "tif") format shall be effective as delivery of a manually executed counterpart signature page.

16.5 Successors and Assigns. The terms and conditions of this Guaranty shall be binding upon Guarantor and Guarantor's successors, assigns and legal representatives; provided that this Guaranty shall not be assigned by Guarantor without the prior written consent of the Lender Parties.

16.6 Severability. If any term, covenant or condition of this Guaranty is held to be invalid, illegal or unenforceable in any respect, this Guaranty shall be construed without such provision.

16.7 Governing Law; Jurisdiction; Etc.

16.7.1 Governing Law. The laws of the State of Colorado will govern this Guaranty and any claim, controversy, dispute or cause of action (whether in contract or tort or otherwise) based upon, arising out of or relating to this Guaranty and the transactions contemplated hereby and thereby.

16.7.2 **Submission to Jurisdiction.** Guarantor irrevocably and unconditionally agrees that it will not commence any action, litigation or proceeding of any kind whatsoever, whether in law or equity, or whether in contract or tort or otherwise, against the Lender Parties in any way relating to this Guaranty or the transactions contemplated hereby, in any forum other than the courts of the State of Colorado sitting in Denver County, and of the United States District Court of Colorado, and any appellate court from any thereof, and each of the parties hereto irrevocably and unconditionally submits to the jurisdiction of such courts and agrees that any such action, litigation or proceeding may be brought in any such Colorado State court or, to the fullest extent permitted by applicable law, in such federal court. Each of the parties hereto agrees that a final judgment in any such action, litigation or proceeding will be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law. Nothing herein will affect any right the Lender Parties may otherwise have to bring any action or proceeding relating to this Guaranty against Guarantor or its properties in the courts of any jurisdiction.

16.7.3 **Waiver of Venue.** Guarantor irrevocably and unconditionally waives, to the fullest extent permitted by applicable law, any objection that it may now or hereafter have to the laying of venue of any action or proceeding arising out of or relating to this Guaranty in any such court referred to in Section 16.7.2. Each of the parties hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court.

16.7.4 **Service of Process.** Guarantor irrevocably consents to the service of process in the manner provided for notices in Section 16.1 and agrees that nothing herein will affect the right of any party hereto to serve process in any other manner permitted by applicable law.

16.8 **Waiver of Jury Trial.** GUARANTOR HEREBY KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED ON THE LOAN OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT, OR ANY OF THE LOAN DOCUMENTS OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENT (WHETHER VERBAL OR WRITTEN) OR ACTION OF GUARANTOR OR LENDER PARTIES. THIS PROVISION IS A MATERIAL INDUCEMENT FOR LENDER PARTIES' MAKING OF THE LOAN.

[signature page to follow]

Guarantor has executed this Guaranty as of the date set forth in the introductory clause.

PACIFIC ETHANOL PEKIN, LLC,
a Delaware limited liability company

Address:

By: /s/ Bryon T. McGregor
Name: Bryon T. McGregor
Title: Chief Financial Officer

See Section 16.2

Signature Page to Guaranty

PLEDGE AGREEMENT

THIS PLEDGE AGREEMENT (this “**Agreement**”) is made on December 20, 2019, by and among PACIFIC ETHANOL CENTRAL, LLC, a limited liability company organized under the laws of Delaware (“**Pledgor**”), PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized under the laws of Delaware (“**PEP**”), and COBANK, ACB, a federally-chartered instrumentality of the United States, as Agent for the benefit of the Lenders under the Credit Agreements (together with its successors and assigns, “**Agent**”).

RECITALS:

WHEREAS, COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA (together with its successors and assigns, “**Lender**” and together with Agent, the “**Lender Parties**”), Agent and PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized under the laws of Delaware (“**PEP**”) are parties to that certain Credit Agreement dated as of December 15, 2016, as amended by that certain Amendment No. 1 to Credit Agreement dated as of March 1, 2017, as further amended by that certain Amendment No. 2 to Credit Agreement dated as of August 7, 2017, that certain Amendment No. 3 to Credit Agreement dated as of March 30, 2018, as further amended by that certain Amendment No. 4 to Credit Agreement dated March 20, 2019 (the “**Amendment No. 4**”), as further amended by that certain Amendment No. 5 to Credit Agreement dated July 15, 2019, as further amended by that certain Amendment No. 6 to Credit Agreement dated November 15, 2019, and as further amended by that certain Amendment No. 7 (the “**Amendment No. 7**”) of even date herewith (as may be amended, supplemented or restated from time to time, collectively the “**PEP Credit Agreement**”), pursuant to which the Lender Parties may make advances and extend other financial accommodations to PEP.

WHEREAS, Lender, Agent and ILLINOIS CORN PROCESSING, LLC, a limited liability company organized under the laws of Delaware (“**ICP**”) are parties to that certain Credit Agreement dated as of September 15, 2017 and as amended by that certain Amendment No. 1 (the “**ICP Amendment**”) of even date herewith (as may be amended, supplemented or restated from time to time, collectively the “**ICP Credit Agreement**” and together with the PEP Credit Agreement, the “**Credit Agreements**”), pursuant to which the Lender Parties may make advances and extend other financial accommodations to ICP.

WHEREAS, in connection with Amendment No. 4 to PEP Credit Agreement dated as of March 20, 2019, (i) the Pledgor executed a Guaranty and Contribution Agreement even dated therewith (the “**Original Guaranty**”) in favor of the Lender and Agent and (ii) Pledgor and Agent executed a Security Agreement even dated therewith to secure, among other things, Grantor’s obligations under the Original Guaranty (as amended from time to time, including by that certain First Amendment to Security Agreement even dated herewith, the “**Security Agreement**”) which created a grant of security in the Pledged Collateral (defined below).

WHEREAS, in connection with the execution of the Security Agreement, the Agent recorded a UCC-1 financing statement with the Delaware Secretary of State with a filing number 201920022769 (the “**Filed Financing Statement**”), which filing perfected the Pledgor’s security interest in the Pledged Collateral.

WHEREAS, in connection with the Amendment No. 7 and the ICP Amendment, the Pledgor executed and delivered an Amended and Restate Guaranty and Contribution Agreement in favor of Lender and Agent of even date herewith (the “**Amended and Restated Guaranty**”).

WHEREAS, as a condition to Lender and Agent entering into the Amendment No. 7 and the ICP Amendment, and to memorialize and further elaborate on the security interest in the Pledged Collateral in favor of the Agent and the Lender created on March 20, 2019, Pledgor shall enter into this Agreement.

NOW, THEREFORE, for Ten Dollars (\$10.00) in hand paid to Pledgor and in consideration of the premises and mutual covenants herein contained and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and to secure the timely payment and performance of the Secured Obligations (as hereinafter defined), the parties hereto agree as follows:

1. Definitions. Each capitalized term used herein, unless otherwise defined herein, shall have the meaning ascribed to such term in the Credit Agreement. As used herein, the following terms shall have the following meanings:

“Companies” shall mean each of the entities identified as an “Issuer” on Annex A hereto, and each such entity individually is referred to herein as a “Company”.

“Equity Interests” shall mean means all shares of capital stock (whether denominated as common stock or preferred stock), equity interests, beneficial partnership or membership interests, joint venture interests, units, limited liability company interests, participations or other ownership or profit interests in or equivalents (regardless of how designated) of or in a Person (other than an individual), whether voting or non-voting.

“Pledged Collateral” shall have the meaning ascribed to it in Section 2 hereof.

“Power” shall have the meaning ascribed to it in Section 2 hereof.

“Secured Obligations” shall mean (i) all obligations of Pledgor under the Amended and Restated Guaranty and (ii) and all obligations of Pledgor now or hereafter existing under this Agreement.

2. Pledge; Agent’s Duties.

(a) Pledgor hereby affirms the pledge, assignment, transfer, set over and delivery to Agent originally created on March 20, 2019 in connection with the Security Agreement, and hereby affirms its grant to Agent, for the benefit of Lender Parties, of a security interest originally made on March 20, 2019 in connection with the Security Agreement in, all of the Equity Interests of the Companies now or hereafter held by such Pledgor, including the Equity Interests more particularly described on Annex A hereto and all of such Pledgor’s options, if any, for the purchase of any Equity Interests of any of the Companies, herewith delivered to Agent, and where certificated, accompanied by powers (“**Powers**”) duly executed in blank, and all proceeds thereof including, without limitation, all proceeds from the sale of any such Equity Interests and all dividends and distributions at any time payable in connection such Equity Interests (said Equity Interests, Powers, options, and proceeds hereinafter collectively called the “**Pledged Collateral**”) as security for the due and punctual payment and performance of the Secured Obligations.

(b) Agent shall have no duty with respect to any part or all of the Pledged Collateral of any nature or kind other than the duty to use reasonable care in the safe custody of any tangible items of the Pledged Collateral in its possession. Without limiting the generality of the foregoing, Agent shall be under no obligation to sell any of the Pledged Collateral or otherwise to take any steps necessary to preserve the value of any of the Pledged Collateral or to preserve rights in the Pledged Collateral against any other Persons, but may do so at its option upon an Event of Default, and all expenses incurred in connection therewith shall be for the sole account of Pledgor.

3. Voting Rights. During the term of this Agreement, and so long as no Event of Default shall have occurred, Pledgor shall have the right to vote all or any portion of the Equity Interests owned by such Pledgor on all corporate and other company questions for all purposes not inconsistent with the terms of this Agreement or any of the other Loan Documents. To that end, if Agent transfers all or any portion of the Pledged Collateral into its name or the name of its nominee, to the extent authorized to do so under this Agreement or any of the other Loan Documents, Agent shall, upon the request of a Pledgor, unless an Event of Default shall have occurred, execute and deliver or cause to be executed and delivered to such Pledgor, proxies with respect to such Pledgor's respective portion of the Pledged Collateral. Pledgor hereby grants to Agent, effective upon or after the occurrence of an Event of Default, an **IRREVOCABLE PROXY** pursuant to which Agent shall be entitled (but shall not be obligated) to exercise all voting powers pertaining to its respective portion of the Pledged Collateral, including to call and attend all meetings of the shareholders, members or partners of the Companies to be held from time to time with full power to act and vote in the name, place and stead of such Pledgor (whether or not the Equity Interests shall have been transferred into its name or the name of its nominee or nominees), give all consents, waivers and ratifications in respect of the Pledged Collateral and otherwise act with respect thereto as though it were the outright owner thereof, and any and all proxies theretofore executed by such Pledgor shall terminate and thereafter be null and void and of no effect whatsoever.

4. Collection of Dividend Payments. Subject to Amendment No. 7 and the ICP Amendment, during the term of this Agreement, and so long as there no Event of Default shall exist, Pledgor shall have the right to receive and retain any and all dividends and other distributions payable by any Company to such Pledgor on account of any of the Pledged Collateral except as otherwise provided in the Loan Documents; provided that, upon or after the occurrence of any Event of Default, all dividends and other distributions payable by any Company on account of any of the Pledged Collateral shall be paid to Agent and any such sum received by Pledgor shall be deemed to be held by such Pledgor in trust for the benefit of Agent and the other Lender Parties and shall be forthwith turned over to Agent for application by Agent to the Secured Obligations in the manner authorized by the Credit Agreement.

5. Representations and Warranties of Pledgor. Pledgor hereby represents and warrants to Agent and Lenders as follows (which representations and warranties shall be deemed continuing): (a) such Pledgor is the legal and beneficial owner of its respective portion of the Pledged Collateral identified on Annex A; (b) all of the Equity Interests have been duly and validly issued, are fully paid and nonassessable, and are owned by such Pledgor free of any Liens except for Agent's security interest hereunder and under the Credit Agreement; (c) the Pledged Collateral constitutes the percentage of the issued and outstanding Equity Interests of each of the Companies identified on Annex A hereto; (d) there are no contractual or charter restrictions upon the voting rights or upon the transfer of any of the Pledged Collateral; (e) such Pledgor has the right to vote, pledge and grant a security interest in or otherwise transfer its respective portion of the Pledged Collateral without the consent of any other Person and free of any Liens and applicable restrictions imposed by any governmental authority, and without any restriction under the Organizational Documents of such Pledgor or any Company or any agreement among such Pledgor's or any Company's shareholders, partners or members; (f) this Agreement has been duly authorized, executed and delivered by such Pledgor and constitutes a legal, valid and binding obligation of such Pledgor, enforceable in accordance with its terms except to the extent that the enforceability thereof may be limited by bankruptcy, insolvency or other similar laws of general application affecting the enforcement of creditors' rights; (g) the execution, delivery and performance by such Pledgor of this Agreement and the exercise by Agent of its rights and remedies hereunder do not and will not result in the violation of any of the Organizational Documents of such Pledgor, any agreement, indenture, instrument or Law by which such Pledgor or any Company is bound or to which such Pledgor or any Company is subject (except that such Pledgor makes no representation or warranty with respect to Agent's prospective compliance with any federal or state laws or regulations governing the sale or exchange of securities); (h) no consent, filing, approval, registration or recording is required (1) for the pledge by such Pledgor of its respective portion of the Pledged Collateral pursuant to this Agreement or (2) except for the filing of the Filed Financing Statement, to perfect the Lien created by the Security Agreement and affirmed this Agreement (to the extent that a Lien created by this Agreement can be perfected by filing a financing statement); (i) none of the Pledged Collateral is held or maintained in the form of a securities entitlement or credited to any securities account; and (j) if the Pledged Collateral is certificated, Pledgor shall cause such certificates or other documents evidencing or representing such Pledged Collateral, accompanied by Powers, all in form and substance satisfactory to Agent to be delivered to Agent.

6. Affirmative Covenants of Pledgor: Until Payment in Full of all of the Secured Obligations and termination of the Credit Agreement, Pledgor covenants that it will: (a) warrant and defend at its own expense Agent's right, title and security interest in and to the Pledged Collateral against the claims of any Person; (b) promptly deliver to Agent all written notices with respect to the Pledged Collateral, and promptly give written notice to Agent of any other notices received by such Pledgor with respect to the Pledged Collateral; (c) promptly deliver to Agent to hold under this Agreement any Equity Interests of any Company subsequently acquired by such Pledgor, whether acquired by such Pledgor by virtue of the exercise of any options included within the Pledged Collateral or otherwise (which Equity Interests, whether or not delivered, shall be deemed to be a part of the Pledged Collateral); (d) if any of the Pledged Collateral constituting membership interests in a limited liability company or general or limited partnership interests in a limited partnership or limited liability partnership is hereafter designated by the relevant Company as a "security" under (and as defined in) Article 8 of the UCC, cause such Pledged Collateral to be certificated and deliver to Agent all certificates evidencing such Pledged Collateral, accompanied by Powers, all in form and substance satisfactory to Agent; and (e) if at any time hereafter any of the Pledged Collateral that is not currently certificated becomes certificated, deliver all certificates or other documents evidencing or representing the Pledged Collateral to Agent, accompanied by Powers, all in form and substance satisfactory to Agent.

7. Negative Covenants of Pledgor: Except as provided in Amendment No. 7 and the ICP Amendment, until Payment in Full of the Secured Obligations and termination of the Credit Agreement, Pledgor covenants that it will not, without the prior written consent of Agent, (a) sell, convey or otherwise dispose of any of the Pledged Collateral or any interest therein other than as permitted under the Credit Agreement; (b) grant or permit to exist any Lien whatsoever upon or with respect to any of the Pledged Collateral or the proceeds thereof, other than the security interest created hereby; (c) consent to the issuance by any Company of any new Equity Interests; (d) consent to any merger or other consolidation of any Company with or into any corporation or other entity other than as permitted under the Credit Agreement; (e) cause any Pledged Collateral to be held or maintained in the form of a security entitlement or credited to any securities account; (f) designate, or cause any Company to designate, any of the Pledged Collateral constituting membership interests in a limited liability company or general or limited partnership interests in a limited partnership or limited liability partnership as a "security" under Article 8 of the UCC, unless such Company has caused such Pledged Collateral to become certificated and has complied with the requirements of Section 6(e) hereof with respect to such Pledged Collateral; (g) evidence, or permit any Company to evidence, any of the Pledged Collateral that is not currently certificated, with any certificates, instruments or other writings, unless such Company has complied with the provisions of Section 6(e) of this Agreement; or (h) consent to or permit any amendment of the Organizational Documents of any Company that would restrict such Pledgor's right to vote, pledge or grant a security interest in or otherwise transfer its respective portion of the Pledged Collateral.

8. Irrevocable Authorization and Instruction to Companies. To the extent that any portion of the Pledged Collateral might now or hereafter consist of uncertificated securities within the meaning of Article 8 of the UCC, Pledgor irrevocably authorizes and instructs each Company to comply with any instruction received by such Company from Agent with respect to such Pledged Collateral without any other or further instructions from or consent of Pledgor, and Pledgor agrees that each Company shall be fully protected in so complying; provided, however, that Agent agrees that Agent will not issue or deliver any such instructions to any Company except upon or after the occurrence of an Event of Default.

9. Subsequent Changes Affecting Pledged Collateral. Pledgor hereby represents to Agent that such Pledgor has made its own arrangements for keeping informed of changes or potential changes affecting the Pledged Collateral (including rights to convert, rights to subscribe, payment of dividends and distributions, reorganization or other exchanges, tender offers and voting rights), and such Pledgor hereby agrees that Agent shall have no responsibility or liability for informing such Pledgor of any such changes or potential changes or for taking any action or omitting to take any action with respect thereto. Agent may, at any time that an Event of Default exists, at its option and without notice to Pledgor, transfer or register the Pledged Collateral or any portion thereof into its or its nominee's name with or without any indication that such Pledged Collateral is subject to the security interest hereunder.

10. Equity Interest Adjustments. If during the term of this Agreement any dividend, reclassification, readjustment or other change is declared or made in the capital structure of any of the Companies, or any option included within the Pledged Collateral is exercised, or both, all new, substituted and additional Equity Interests or other securities issued by reason of any such change or exercise shall, if received by Pledgor, be held in trust for Lenders' benefit and shall be promptly delivered to and held by Agent under the terms of this Agreement in the same manner as the Pledged Collateral originally pledged hereunder.

11. Warrants, Options and Rights. If during the term of this Agreement subscription warrants or any other rights or options are issued or exercised by Pledgor in connection with the Pledged Collateral, then such warrants, rights and options shall be promptly assigned by such Pledgor to Agent and all certificates evidencing new Equity Interests or other securities so acquired by such Pledgor shall be promptly delivered to Agent to be held under the terms of this Agreement in the same manner as the Pledged Collateral originally pledged hereunder.

12. Registration. If Agent determines that it is required to register under or otherwise comply in any way with the Securities Act of 1933, as amended from time to time (the "Securities Act") or any similar federal or state law with respect to the securities, if any, included in the Pledged Collateral prior to sale thereof by Agent, then upon or after the occurrence of any Event of Default, Pledgor will use its best efforts to cause any such registration to be effectively made, at no expense to Agent, and to continue such registration effective for such time as may be necessary in the reasonable opinion of Agent, and will reimburse Agent for any out-of-pocket expense incurred by Agent, including reasonable attorneys' fees and accountants' fees and expenses, in connection therewith.

13. Consent. Pledgor hereby consents that from time to time, before or after the occurrence or existence of any Default or Event of Default, with or without notice to or assent from such Pledgor, any other security at any time held by or available to Agent for any of the Secured Obligations may be exchanged, surrendered, or released, and any of the Secured Obligations may be changed, altered, renewed, extended, continued, surrendered, compromised, waived or released, in whole or in part, as Agent may see fit, and Pledgor shall remain bound under this Agreement and under the other Loan Documents notwithstanding any such exchange, surrender, release, alteration, renewal, extension, continuance, compromise, waiver or inaction, extension of further credit or other dealing.

14. Remedies Upon Default. Upon or after the occurrence of any Event of Default, (i) Agent shall have, in addition to any other rights given by law or the rights given hereunder or under each of the other Loan Documents, all of the rights and remedies with respect to the Pledged Collateral of a secured party under the UCC and (ii) Agent may cause all or any part of the Equity Interests held by it to be transferred into its name or the name of its nominee or nominees. In addition, upon or at any time after the occurrence of an Event of Default, Agent may sell or cause the Pledged Collateral, or any part thereof, which shall then be or shall thereafter come into Agent's possession or custody, to be sold at any broker's board or at public or private sale, in one or more sales or lots, at such price as Agent may deem best, and for cash or on credit or for future delivery, and the purchaser of any or all of the Pledged Collateral so sold shall thereafter hold the same absolutely, free from any claim, encumbrance or right of any kind whatsoever of Pledgor or arising through Pledgor. If any of the Pledged Collateral is sold by Agent upon credit or for future delivery, Agent shall not be liable for the failure of the purchaser to pay the same and in such event Agent may resell such Pledged Collateral. Unless the Pledged Collateral threatens to decline speedily in value or is or becomes of a type sold on a recognized market, Agent will give the applicable Pledgor reasonable notice of the time and place of any public sale thereof, or of the time after which any private sale or other intended disposition is to be made. Any sale of the Pledged Collateral conducted in conformity with reasonable commercial practices of banks, insurance companies or other financial institutions disposing of property similar to the Pledged Collateral shall be deemed to be commercially reasonable. Any requirements of reasonable notice shall be met if such notice is mailed to the applicable Pledgor, as provided in Section 22 below, at least ten (10) days before the time of the sale or disposition. Any other requirement of notice, demand or advertisement for sale is, to the fullest extent permitted by applicable Law, waived. Agent may, in its own name, or in the name of a designee or nominee, buy at any public sale of the Pledged Collateral and, if permitted by applicable Law, buy at any private sale thereof. Pledgor will pay to Agent on demand all expenses (including court costs and reasonable attorneys' fees and expenses) of, or incident to, the enforcement of any of the provisions hereof and all other charges due against the Pledged Collateral, including taxes, assessments or Liens upon the Pledged Collateral and any expenses, including transfer or other taxes, arising in connection with any sale, transfer or other disposition of Pledged Collateral. In connection with any sale of Pledged Collateral by Agent, Agent shall have the right to execute any document or form, in its name or in the name of Pledgor, that may be necessary or desirable in connection with such sale, including Form 144 promulgated by the Securities and Exchange Commission. In view of the fact that federal and state securities laws may impose certain restrictions on the method by which a sale of the Pledged Collateral may be effected after an Event of Default, Pledgor agrees that Agent may, from time to time, attempt to sell all or any part of the Pledged Collateral by means of a private placement restricting the bidders and prospective purchasers to those who will represent and agree that they are purchasing for investment only and not for distribution. Pledgor agrees that any such private sales may be at prices and other terms less favorable to the seller than if sold at public sales and that such private sales shall not by reason thereof be deemed not to have been made in a commercially reasonable manner. Agent shall be under no obligation to delay a sale of any of the Pledged Collateral for the period of time necessary to permit the issuer of such securities to register such securities for public sale under the Securities Act even if the issuer would agree to do so. Agent shall apply the cash proceeds actually received from any sale or other disposition to the reasonable expenses of retaking, holding, preparing for sale, selling and the like, to reasonable attorneys' fees, and all legal expenses, travel and other expenses that might be incurred by Agent in attempting to collect the Secured Obligations or to enforce this Agreement or in the prosecution or defense of any action or proceeding related to the subject matter of this Agreement; and then to the Secured Obligations in the manner authorized by the Credit Agreement.

15. Redemption; Marshaling. Pledgor hereby waives and releases to the fullest extent permitted by applicable Law any right or equity of redemption with respect to the Pledged Collateral before or after a sale conducted pursuant to Section 14 hereof. Pledgor agrees that Agent shall not be required to marshal any present or future security (including this Agreement and the Pledged Collateral pledged hereunder) for, or guaranties of, the Secured Obligations or any of them, or to resort to such security or guaranties in any particular order; and all of Agent's rights hereunder and in respect of such security and guaranties shall be cumulative and in addition to all other rights, however existing or arising. To the fullest extent that it lawfully may, Pledgor hereby agrees that it will not invoke any law relating to the marshaling of collateral that might cause delay in or impede the enforcement of Agent's rights under this Agreement or under any other instrument evidencing any of the Secured Obligations or under which any of the Secured Obligations is outstanding or by which any of the Secured Obligations is secured or guaranteed, and to the fullest extent that it lawfully may, Pledgor hereby irrevocably waives the benefits of all such laws.

16. Term. This Agreement shall become effective only when accepted by Agent and, when so accepted, shall constitute a continuing agreement and shall remain in full force and effect until Payment in Full of the Secured Obligations and termination of the Guaranty, at which time this Agreement shall terminate and Agent shall deliver to the Pledgor, at Pledgor's expense, such of the Pledged Collateral as shall not have been sold or otherwise applied pursuant to this Agreement. Notwithstanding the foregoing, in no event shall any termination of this Agreement terminate any indemnity set forth in this Agreement or any of the other Loan Documents, all of which indemnities shall survive any termination of this Agreement or any of the other Loan Documents. For the avoidance of doubt, this Agreement shall automatically terminate on the date on which the PEC Contribution Amount (as defined in the Amendment) has been paid in full to Borrower.

17. Rules and Construction. The singular shall include the plural and vice versa, and any gender shall include any other gender as the text shall indicate. All references to "including" shall mean "including, without limitation." Each reference in this Agreement to a "corporation" shall also be deemed to include a reference to a limited liability company, limited partnership or limited liability partnership and vice versa, each reference to "shareholders" of a Person shall also be deemed to include a reference to members or partners and vice versa and each reference to "certificate of incorporation" or "articles of incorporation" or "bylaws" shall also be deemed to include a reference to "certificate of formation" or "certificate of limited partnership" and "limited liability company operating agreement" or "limited partnership agreement" or other Organizational Documents of a limited liability company, limited partnership or limited liability partnership and vice versa.

18. Successors and Assigns. This Agreement shall be binding upon Pledgor and its respective successors and assigns, and shall inure to the benefit of Agent and Lender Parties and their respective successors and assigns. This Agreement is fully assignable by any Lender Party without the consent of Pledgor or PEP; provided that this Agreement may not be assigned by Pledgor or PEP without the prior written consent of the Lender Parties.

19. Construction and Applicable Law. Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable Law, but, if any provision of this Agreement shall be held to be prohibited or invalid under any applicable Law, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Agreement. This Agreement shall be governed by and the rights and liabilities of the parties hereto determined and construed in accordance with the internal laws of the State of Colorado without regard to its conflicts of law provisions. This Agreement is intended to take effect as a document executed and delivered under seal.

20. Cooperation and Further Assurances. Pledgor agrees that it will cooperate with Agent and will, upon Agent's request, execute and deliver, or cause to be executed and delivered, all such other powers, instruments, financing statements, certificates, legal opinions and other documents, and will take all such other action as Agent requests from time to time, in order to carry out the provisions and purposes hereof, including delivering to Agent, if requested by Agent, irrevocable proxies with respect to the Equity Interests in form satisfactory to Agent. Until receipt thereof, this Agreement shall constitute Pledgor's proxy to Agent or its nominee to vote all shares of the Equity Interests then registered in such Pledgor's name (subject to such Pledgor's voting rights under Section 3 hereof) upon or after the occurrence of an Event of Default.

21. Agent's Exoneration. Under no circumstances shall Agent be deemed to assume any responsibility for or obligation or duty with respect to any part or all of the Pledged Collateral of any nature or kind, other than the physical custody thereof, or any matter or proceedings arising out of or relating thereto. Agent shall not be required to take any action of any kind to collect, preserve or protect its or Pledgor's rights in the Pledged Collateral or against other parties thereto. Agent's prior recourse to any part or all of the Pledged Collateral shall not constitute a condition of any demand, suit or proceeding for payment or collection of the Secured Obligations.

22. Notices. All notices, requests and demands to or upon any party hereto shall be given in the manner and become effective as stipulated in the Credit Agreement. Regardless of the manner in which notice is provided, notices may be sent to Agent at the Agent's address or telecopier number set forth in the signature pages to the Credit Agreement and to Pledgor at the address or telecopier number of Borrower set forth in the signature pages to the Credit Agreement or to such other address or telecopier number as any party may give to the other for such purpose in accordance with this paragraph.

23. Pledgor's Obligations Not Affected. The obligations of Pledgor hereunder shall remain in full force and effect without regard to, and shall not be impaired by (a) any bankruptcy, insolvency, reorganization, arrangement, readjustment, composition, liquidation or the like of Pledgor; (b) any exercise or nonexercise, or any waiver, by Agent of any right, remedy, power or privilege under or in respect of any of the Secured Obligations or any security thereof (including this Agreement); (c) any amendment to or modification of the Credit Agreement, the other Loan Documents or any of the Secured Obligations; (d) any amendment to or modification of any instrument (other than this Agreement) securing any of the Secured Obligations; or (e) the taking of additional security for, or any guaranty of, any of the Secured Obligations or the release or discharge or termination of any security or guaranty for any of the Secured Obligations, regardless of whether or not Pledgor shall have notice or knowledge of any of the foregoing.

24. No Waiver, Etc. No act, failure or delay by Agent shall constitute a waiver of any of its rights and remedies hereunder or otherwise. No single or partial waiver by Agent of any Default or Event of Default or right or remedy that Agent might have shall operate as a waiver of any other Default, Event of Default, right or remedy or of the same Default, Event of Default, right or remedy on a future occasion. Pledgor hereby waives presentment, notice of dishonor and protest of all instruments included in or evidencing any of the Secured Obligations or the Pledged Collateral, and any and all other notices and demands whatsoever (except as expressly provided herein).

25. Section Headings. The section headings herein are for convenience of reference only, and shall not affect in any way the interpretation of any of the provisions hereof.

26. Agent Appointed Attorney-In-Fact. Upon and after the occurrence of an Event of Default, Agent shall be deemed to be Pledgor's attorney-in-fact, with full power of substitution, for the purpose of carrying out the provisions of this Agreement and taking any action and executing any instrument that Agent reasonably deems necessary or advisable to accomplish the purposes hereof, which appointment is coupled with an interest and is irrevocable. Without limiting the generality of the foregoing, Agent shall have the power to arrange for the transfer, upon or at any time after the occurrence of an Event of Default, of any of the Pledged Collateral on the books of any or all of the Companies to the name of Agent or Agent's nominee. Pledgor agrees to indemnify and save Agent harmless from and against any liability or damage that Agent might suffer or incur, in the exercise or performance of any of Agent's powers and duties specifically set forth herein, except to the extent that such liability or damage arises from Agent's gross negligence or willful misconduct.

27. Use of Loan Proceeds. Pledgor hereby represents and warrants to Agent that none of the loan proceeds heretofore and hereafter received by it under the Credit Agreement are for the purpose of purchasing any "margin stock" as that term is defined in either Regulation U promulgated by the Board of Governors of the Federal Reserve System, or refinancing any indebtedness originally incurred to purchase any such "margin stock."

28. Waiver of Subrogation and Other Claims. Pledgor recognizes that Agent, in exercising its rights and remedies with respect to the Pledged Collateral, may likely be unable to find one or more purchasers thereof if, after the sale of the Pledged Collateral, the Company were, because of any claim based on subrogation or any other theory, liable to such Pledgor on account of the sale by Agent of the Pledged Collateral in full or partial satisfaction of the Secured Obligations or liable to such Pledgor on account of any indebtedness owing to such Pledgor that is subordinated to any or all of the Secured Obligations. Pledgor hereby agrees, therefore, that if Agent sells any of the Pledged Collateral in full or partial satisfaction of the Secured Obligations, such Pledgor shall in such case have no right or claim against any Company on account of any such subordinated indebtedness or on the theory that such Pledgor has become subrogated to any claim or right of Agent against such Company or on any basis whatsoever, and Pledgor hereby expressly waives and relinquishes, to the fullest extent permitted by applicable Law, all such rights and claims against Companies.

29. Execution in Counterparts. This Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed and delivered shall be deemed to be an original and all of which counterparts taken together shall constitute but one and the same instrument. In proving this Agreement in any judicial proceeding, it shall not be necessary to produce or account for more than one such counterpart signed by the party against whom such enforcement is sought. Any manually-executed signature page delivered by a party by facsimile or other electronic transmission shall be deemed to be an original signature page hereto.

30. WAIVERS. PLEDGOR HEREBY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW: NOTICE OF AGENT'S ACCEPTANCE OF THIS AGREEMENT; NOTICE OF EXTENSIONS OF CREDIT, LOANS, ADVANCES OR OTHER FINANCIAL ASSISTANCE BY LENDERS TO PLEDGOR; THE RIGHT TO TRIAL BY JURY (WHICH AGENT ALSO WAIVES) IN ANY ACTION, SUIT, PROCEEDING OR COUNTERCLAIM CONCERNING THIS AGREEMENT OR ANY OF THE PLEDGED COLLATERAL; PRESENTMENT AND DEMAND FOR PAYMENT OF ANY OF THE SECURED OBLIGATIONS; PROTEST AND NOTICE OF DISHONOR OR DEFAULT WITH RESPECT TO ANY OF THE SECURED OBLIGATIONS; AND ALL OTHER NOTICES TO WHICH SUCH PLEDGOR MIGHT OTHERWISE BE ENTITLED EXCEPT AS HEREIN OTHERWISE EXPRESSLY PROVIDED.

31. Recitals. The recitals set forth above are specifically incorporated herein and made a part of this Agreement.

[Remainder of page intentionally left blank; signatures begin on following page.]

IN WITNESS WHEREOF, Pledgor has caused this Agreement to be signed, sealed and delivered by its duly authorized representative on the day and year first above written.

PLEDGOR:

PACIFIC ETHANOL CENTRAL, LLC

By: /s/ Bryon T. McGregor

Name: Bryon T. McGregor

Title: Chief Financial Officer

Accepted:

AGENT:

COBANK, ACB

By: /s/ Janet Downs

Name: Janet Downs

Title: Sr. Officer

[Acknowledgment and Agreement of Issuer]

ANNEX A

to Pledge Agreement

<u>Pledgor</u>	<u>Issuer</u>	<u>Type and Class of Equity Interests</u>	<u>Percentage of Pledged Equity Interests</u>	<u>Certificate Number</u>	<u>Percentage of Outstanding Equity Interests</u>
Pacific Ethanol Central, LLC	Pacific Ethanol Pekin, LLC	Membership Interest	100%	N/A	100%

ACKNOWLEDGMENT AND AGREEMENT OF ISSUER

The undersigned (“**Issuer**”) hereby acknowledges, represents and agrees that: (i) such Issuer has received a true and correct copy of the within and foregoing Pledge Agreement (the “**Agreement**”) by and among PACIFIC ETHANOL CENTRAL, LLC, a limited liability company organized under the laws of Delaware (“**Pledgor**”), PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized under the laws of Delaware (“**PEP**”), COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA (together with its successors and assigns, “**Lender**”), and COBANK, ACB, a federally-chartered instrumentality of the United States (together with its successors and assigns, “**Agent**” and together with the Lender, the “**Lender Parties**”); (ii) the Agreement has been duly recorded and noted on the books and records of Issuer and will be maintained as part of such books and records; (iii) the Agreement does not violate any term, condition or covenant of the organizational documents of Issuer, or of any other agreement to which Issuer is a party; (iv) Issuer will comply with written instructions originated by Agent without further consent of Pledgor as the registered owner of such Pledgor’s respective portion of the Pledged Collateral; (v) Issuer consents to the execution of the Agreement and to the assignment, transfer and pledge of the Pledged Collateral effected thereby; and (vi) upon and after the occurrence of an Event of Default, Issuer consents to a public or private sale or sales of all or any part of the Pledged Collateral by Agent in accordance with the terms of the Agreement and consents to each purchaser of all or any part of the Pledged Collateral at such sale or sales becoming a shareholder, member, partner or other owner, as applicable, of Issuer thereby entitled to the same rights and privileges and subject to the same duties as the owner of the applicable Pledged Collateral under the Organizational Documents of Issuer.

Each capitalized term used herein, unless otherwise defined herein, shall have the meaning ascribed to such term in the Agreement. Any manually-executed signature page delivered by a party by facsimile or other electronic transmission shall be deemed to be an original signature page hereto.

[Remainder of page intentionally left blank; signature appears on the following page.]

IN WITNESS WHEREOF, Issuer has executed this Acknowledgment and Agreement of Issuer under seal as of the date of the Agreement referenced above.

ISSUER:

PACIFIC ETHANOL PEKIN, LLC

By: /s/ Bryon T. McGregor

Name: Bryon T. McGregor

Title: Chief Financial Officer

[Acknowledgment and Agreement of Issuer]

PLEDGE AGREEMENT

THIS PLEDGE AGREEMENT (this “**Agreement**”) is made on December 20, 2019, by and among PACIFIC ETHANOL CENTRAL, LLC, a limited liability company organized under the laws of Delaware (“**Pledgor**”), ILLINOIS CORN PROCESSING, LLC, a limited liability company organized under the laws of Delaware (“**ICP**”), and COBANK, ACB, a federally-chartered instrumentality of the United States, as Agent for the benefit of the Lenders under the Credit Agreements (together with its successors and assigns, “**Agent**”).

RECITALS:

WHEREAS, COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA (together with its successors and assigns, “**Lender**” and together with Agent, the “**Lender Parties**”), Agent and PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized under the laws of Delaware (“**PEP**”) are parties to that certain Credit Agreement dated as of December 15, 2016, as amended by that certain Amendment No. 1 to Credit Agreement dated as of March 1, 2017, as further amended by that certain Amendment No. 2 to Credit Agreement dated as of August 7, 2017, that certain Amendment No. 3 to Credit Agreement dated as of March 30, 2018, as further amended by that certain Amendment No. 4 to Credit Agreement dated March 20, 2019, as further amended by that certain Amendment No. 5 to Credit Agreement dated July 15, 2019, as further amended by that certain Amendment No. 6 to Credit Agreement dated November 15, 2019, and as further amended by that certain Amendment No. 7 (the “**PEP Amendment**”) of even date herewith (as may be amended, supplemented or restated from time to time, collectively the “**PEP Credit Agreement**”), pursuant to which the Lender Parties may make advances and extend other financial accommodations to PEP.

WHEREAS, Lender, Agent and ILLINOIS CORN PROCESSING, LLC, a limited liability company organized under the laws of Delaware (“**ICP**”) are parties to that certain Credit Agreement dated as of September 15, 2017 and as amended by that certain Amendment No. 1 (the “**ICP Amendment**”) of even date herewith (as may be amended, supplemented or restated from time to time, collectively the “**ICP Credit Agreement**” and together with the PEP Credit Agreement, the “**Credit Agreements**”), pursuant to which the Lender Parties may make advances and extend other financial accommodations to ICP.

WHEREAS, in connection with Amendment No. 4 to PEP Credit Agreement dated as of March 20, 2019, the Pledgor executed a Guaranty and Contribution Agreement even dated therewith (the “**Original Guaranty**”) in favor of the Lender and Agent;

WHEREAS, in connection with the PEP Amendment and the ICP Amendment, the Pledgor executed and delivered an Amended and Restate Guaranty and Contribution Agreement in favor of Lender and Agent of even date herewith (as may be amended, modified or restated from time to time, the “**Amended and Restated Guaranty**”).

WHEREAS, as a condition to Lender and Agent entering into the PEP Amendment and the ICP Amendment, Pledgor shall enter into this Agreement.

NOW, THEREFORE, for Ten Dollars (\$10.00) in hand paid to Pledgor and in consideration of the premises and mutual covenants herein contained and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and to secure the timely payment and performance of the Secured Obligations (as hereinafter defined), the parties hereto agree as follows:

1. Definitions. Each capitalized term used herein, unless otherwise defined herein, shall have the meaning ascribed to such term in the Credit Agreement. As used herein, the following terms shall have the following meanings:

“**Companies**” shall mean each of the entities identified as an “Issuer” on Annex A hereto, and each such entity individually is referred to herein as a “Company”.

“**Equity Interests**” shall mean means all shares of capital stock (whether denominated as common stock or preferred stock), equity interests, beneficial partnership or membership interests, joint venture interests, units, limited liability company interests, participations or other ownership or profit interests in or equivalents (regardless of how designated) of or in a Person (other than an individual), whether voting or non-voting.

“**Pledged Collateral**” shall have the meaning ascribed to it in Section 2 hereof.

“**Power**” shall have the meaning ascribed to it in Section 2 hereof.

“**Secured Obligations**” shall mean (i) all obligations of Pledgor under the Amended and Restated Guaranty and (ii) and all obligations of Pledgor now or hereafter existing under this Agreement.

2. Pledge; Agent’s Duties.

(a) Pledgor hereby pledges, assigns, transfers, sets over and delivers to Agent, and hereby grants to Agent, for the benefit of Lender Parties, a security interest in, all of the Equity Interests of the Companies now or hereafter held by such Pledgor, including the Equity Interests more particularly described on Annex A hereto and all of such Pledgor’s options, if any, for the purchase of any Equity Interests of any of the Companies, herewith delivered to Agent, and where certificated, accompanied by powers (“**Powers**”) duly executed in blank, and all proceeds thereof including, without limitation, all proceeds from the sale of any such Equity Interests and all dividends and distributions at any time payable in connection such Equity Interests (said Equity Interests, Powers, options, and proceeds hereinafter collectively called the “**Pledged Collateral**”) as security for the due and punctual payment and performance of the Secured Obligations.

(b) Agent shall have no duty with respect to any part or all of the Pledged Collateral of any nature or kind other than the duty to use reasonable care in the safe custody of any tangible items of the Pledged Collateral in its possession. Without limiting the generality of the foregoing, Agent shall be under no obligation to sell any of the Pledged Collateral or otherwise to take any steps necessary to preserve the value of any of the Pledged Collateral or to preserve rights in the Pledged Collateral against any other Persons, but may do so at its option upon an Event of Default, and all expenses incurred in connection therewith shall be for the sole account of Pledgor.

3. Voting Rights. During the term of this Agreement, and so long as no Event of Default shall have occurred, Pledgor shall have the right to vote all or any portion of the Equity Interests owned by such Pledgor on all corporate and other company questions for all purposes not inconsistent with the terms of this Agreement or any of the other Loan Documents. To that end, if Agent transfers all or any portion of the Pledged Collateral into its name or the name of its nominee, to the extent authorized to do so under this Agreement or any of the other Loan Documents, Agent shall, upon the request of a Pledgor, unless an Event of Default shall have occurred, execute and deliver or cause to be executed and delivered to such Pledgor, proxies with respect to such Pledgor’s respective portion of the Pledged Collateral. Pledgor hereby grants to Agent, effective upon or after the occurrence of an Event of Default, an **IRREVOCABLE PROXY** pursuant to which Agent shall be entitled (but shall not be obligated) to exercise all voting powers pertaining to its respective portion of the Pledged Collateral, including to call and attend all meetings of the shareholders, members or partners of the Companies to be held from time to time with full power to act and vote in the name, place and stead of such Pledgor (whether or not the Equity Interests shall have been transferred into its name or the name of its nominee or nominees), give all consents, waivers and ratifications in respect of the Pledged Collateral and otherwise act with respect thereto as though it were the outright owner thereof, and any and all proxies theretofore executed by such Pledgor shall terminate and thereafter be null and void and of no effect whatsoever.

4. Collection of Dividend Payments. Subject to the PEP Amendment and the ICP Amendment, during the term of this Agreement, and so long as there no Event of Default shall exist, Pledgor shall have the right to receive and retain any and all dividends and other distributions payable by any Company to such Pledgor on account of any of the Pledged Collateral except as otherwise provided in the Loan Documents; provided that, upon or after the occurrence of any Event of Default, all dividends and other distributions payable by any Company on account of any of the Pledged Collateral shall be paid to Agent and any such sum received by Pledgor shall be deemed to be held by such Pledgor in trust for the benefit of Agent and the other Lender Parties and shall be forthwith turned over to Agent for application by Agent to the Secured Obligations in the manner authorized by the Credit Agreement.

5. Representations and Warranties of Pledgor. Pledgor hereby represents and warrants to Agent and Lenders as follows (which representations and warranties shall be deemed continuing): (a) such Pledgor is the legal and beneficial owner of its respective portion of the Pledged Collateral identified on Annex A; (b) all of the Equity Interests have been duly and validly issued, are fully paid and nonassessable, and are owned by such Pledgor free of any Liens except for Agent's security interest hereunder and under the Credit Agreement; (c) the Pledged Collateral constitutes the percentage of the issued and outstanding Equity Interests of each of the Companies identified on Annex A hereto; (d) there are no contractual or charter restrictions upon the voting rights or upon the transfer of any of the Pledged Collateral; (e) such Pledgor has the right to vote, pledge and grant a security interest in or otherwise transfer its respective portion of the Pledged Collateral without the consent of any other Person and free of any Liens and applicable restrictions imposed by any governmental authority, and without any restriction under the Organizational Documents of such Pledgor or any Company or any agreement among such Pledgor's or any Company's shareholders, partners or members; (f) this Agreement has been duly authorized, executed and delivered by such Pledgor and constitutes a legal, valid and binding obligation of such Pledgor, enforceable in accordance with its terms except to the extent that the enforceability thereof may be limited by bankruptcy, insolvency or other similar laws of general application affecting the enforcement of creditors' rights; (g) the execution, delivery and performance by such Pledgor of this Agreement and the exercise by Agent of its rights and remedies hereunder do not and will not result in the violation of any of the Organizational Documents of such Pledgor, any agreement, indenture, instrument or Law by which such Pledgor or any Company is bound or to which such Pledgor or any Company is subject (except that such Pledgor makes no representation or warranty with respect to Agent's prospective compliance with any federal or state laws or regulations governing the sale or exchange of securities); (h) no consent, filing, approval, registration or recording is required (1) for the pledge by such Pledgor of its respective portion of the Pledged Collateral pursuant to this Agreement or (2) except for the filing of an appropriate UCC financing statement, to perfect the Lien created by this Agreement (to the extent that a Lien created by this Agreement can be perfected by filing a financing statement); (i) none of the Pledged Collateral is held or maintained in the form of a securities entitlement or credited to any securities account; and (j) if the Pledged Collateral is certificated, Pledgor shall cause such certificates or other documents evidencing or representing such Pledged Collateral, accompanied by Powers, all in form and substance satisfactory to Agent to be delivered to Agent.

6. Affirmative Covenants of Pledgor. Until Payment in Full of all of the Secured Obligations and termination of the Credit Agreement, Pledgor covenants that it will: (a) warrant and defend at its own expense Agent's right, title and security interest in and to the Pledged Collateral against the claims of any Person; (b) promptly deliver to Agent all written notices with respect to the Pledged Collateral, and promptly give written notice to Agent of any other notices received by such Pledgor with respect to the Pledged Collateral; (c) promptly deliver to Agent to hold under this Agreement any Equity Interests of any Company subsequently acquired by such Pledgor, whether acquired by such Pledgor by virtue of the exercise of any options included within the Pledged Collateral or otherwise (which Equity Interests, whether or not delivered, shall be deemed to be a part of the Pledged Collateral); (d) if any of the Pledged Collateral constituting membership interests in a limited liability company or general or limited partnership interests in a limited partnership or limited liability partnership is hereafter designated by the relevant Company as a "security" under (and as defined in) Article 8 of the UCC, cause such Pledged Collateral to be certificated and deliver to Agent all certificates evidencing such Pledged Collateral, accompanied by Powers, all in form and substance satisfactory to Agent; and (e) if at any time hereafter any of the Pledged Collateral that is not currently certificated becomes certificated, deliver all certificates or other documents evidencing or representing the Pledged Collateral to Agent, accompanied by Powers, all in form and substance satisfactory to Agent.

7. Negative Covenants of Pledgor. Except as provided in the PEP Amendment and the ICP Amendment, until Payment in Full of the Secured Obligations and termination of the Credit Agreement, Pledgor covenants that it will not, without the prior written consent of Agent, (a) sell, convey or otherwise dispose of any of the Pledged Collateral or any interest therein other than as permitted under the Credit Agreement; (b) grant or permit to exist any Lien whatsoever upon or with respect to any of the Pledged Collateral or the proceeds thereof, other than the security interest created hereby; (c) consent to the issuance by any Company of any new Equity Interests; (d) consent to any merger or other consolidation of any Company with or into any corporation or other entity other than as permitted under the Credit Agreement; (e) cause any Pledged Collateral to be held or maintained in the form of a security entitlement or credited to any securities account; (f) designate, or cause any Company to designate, any of the Pledged Collateral constituting membership interests in a limited liability company or general or limited partnership interests in a limited partnership or limited liability partnership as a "security" under Article 8 of the UCC, unless such Company has caused such Pledged Collateral to become certificated and has complied with the requirements of Section 6(e) hereof with respect to such Pledged Collateral; (g) evidence, or permit any Company to evidence, any of the Pledged Collateral that is not currently certificated, with any certificates, instruments or other writings, unless such Company has complied with the provisions of Section 6(e) of this Agreement; or (h) consent to or permit any amendment of the Organizational Documents of any Company that would restrict such Pledgor's right to vote, pledge or grant a security interest in or otherwise transfer its respective portion of the Pledged Collateral.

8. Irrevocable Authorization and Instruction to Companies. To the extent that any portion of the Pledged Collateral might now or hereafter consist of uncertificated securities within the meaning of Article 8 of the UCC, Pledgor irrevocably authorizes and instructs each Company to comply with any instruction received by such Company from Agent with respect to such Pledged Collateral without any other or further instructions from or consent of Pledgor, and Pledgor agrees that each Company shall be fully protected in so complying; provided, however, that Agent agrees that Agent will not issue or deliver any such instructions to any Company except upon or after the occurrence of an Event of Default.

9. Subsequent Changes Affecting Pledged Collateral. Pledgor hereby represents to Agent that such Pledgor has made its own arrangements for keeping informed of changes or potential changes affecting the Pledged Collateral (including rights to convert, rights to subscribe, payment of dividends and distributions, reorganization or other exchanges, tender offers and voting rights), and such Pledgor hereby agrees that Agent shall have no responsibility or liability for informing such Pledgor of any such changes or potential changes or for taking any action or omitting to take any action with respect thereto. Agent may, at any time that an Event of Default exists, at its option and without notice to Pledgor, transfer or register the Pledged Collateral or any portion thereof into its or its nominee's name with or without any indication that such Pledged Collateral is subject to the security interest hereunder.

10. Equity Interest Adjustments. If during the term of this Agreement any dividend, reclassification, readjustment or other change is declared or made in the capital structure of any of the Companies, or any option included within the Pledged Collateral is exercised, or both, all new, substituted and additional Equity Interests or other securities issued by reason of any such change or exercise shall, if received by Pledgor, be held in trust for Lenders' benefit and shall be promptly delivered to and held by Agent under the terms of this Agreement in the same manner as the Pledged Collateral originally pledged hereunder.

11. Warrants, Options and Rights. If during the term of this Agreement subscription warrants or any other rights or options are issued or exercised by Pledgor in connection with the Pledged Collateral, then such warrants, rights and options shall be promptly assigned by such Pledgor to Agent and all certificates evidencing new Equity Interests or other securities so acquired by such Pledgor shall be promptly delivered to Agent to be held under the terms of this Agreement in the same manner as the Pledged Collateral originally pledged hereunder.

12. Registration. If Agent determines that it is required to register under or otherwise comply in any way with the Securities Act of 1933, as amended from time to time (the "Securities Act") or any similar federal or state law with respect to the securities, if any, included in the Pledged Collateral prior to sale thereof by Agent, then upon or after the occurrence of any Event of Default, Pledgor will use its best efforts to cause any such registration to be effectively made, at no expense to Agent, and to continue such registration effective for such time as may be necessary in the reasonable opinion of Agent, and will reimburse Agent for any out-of-pocket expense incurred by Agent, including reasonable attorneys' fees and accountants' fees and expenses, in connection therewith.

13. Consent. Pledgor hereby consents that from time to time, before or after the occurrence or existence of any Default or Event of Default, with or without notice to or assent from such Pledgor, any other security at any time held by or available to Agent for any of the Secured Obligations may be exchanged, surrendered, or released, and any of the Secured Obligations may be changed, altered, renewed, extended, continued, surrendered, compromised, waived or released, in whole or in part, as Agent may see fit, and Pledgor shall remain bound under this Agreement and under the other Loan Documents notwithstanding any such exchange, surrender, release, alteration, renewal, extension, continuance, compromise, waiver or inaction, extension of further credit or other dealing.

14. Remedies Upon Default. Upon or after the occurrence of any Event of Default, (i) Agent shall have, in addition to any other rights given by law or the rights given hereunder or under each of the other Loan Documents, all of the rights and remedies with respect to the Pledged Collateral of a secured party under the UCC and (ii) Agent may cause all or any part of the Equity Interests held by it to be transferred into its name or the name of its nominee or nominees. In addition, upon or at any time after the occurrence of an Event of Default, Agent may sell or cause the Pledged Collateral, or any part thereof, which shall then be or shall thereafter come into Agent's possession or custody, to be sold at any broker's board or at public or private sale, in one or more sales or lots, at such price as Agent may deem best, and for cash or on credit or for future delivery, and the purchaser of any or all of the Pledged Collateral so sold shall thereafter hold the same absolutely, free from any claim, encumbrance or right of any kind whatsoever of Pledgor or arising through Pledgor. If any of the Pledged Collateral is sold by Agent upon credit or for future delivery, Agent shall not be liable for the failure of the purchaser to pay the same and in such event Agent may resell such Pledged Collateral. Unless the Pledged Collateral threatens to decline speedily in value or is or becomes of a type sold on a recognized market, Agent will give the applicable Pledgor reasonable notice of the time and place of any public sale thereof, or of the time after which any private sale or other intended disposition is to be made. Any sale of the Pledged Collateral conducted in conformity with reasonable commercial practices of banks, insurance companies or other financial institutions disposing of property similar to the Pledged Collateral shall be deemed to be commercially reasonable. Any requirements of reasonable notice shall be met if such notice is mailed to the applicable Pledgor, as provided in Section 22 below, at least ten (10) days before the time of the sale or disposition. Any other requirement of notice, demand or advertisement for sale is, to the fullest extent permitted by applicable Law, waived. Agent may, in its own name, or in the name of a designee or nominee, buy at any public sale of the Pledged Collateral and, if permitted by applicable Law, buy at any private sale thereof. Pledgor will pay to Agent on demand all expenses (including court costs and reasonable attorneys' fees and expenses) of, or incident to, the enforcement of any of the provisions hereof and all other charges due against the Pledged Collateral, including taxes, assessments or Liens upon the Pledged Collateral and any expenses, including transfer or other taxes, arising in connection with any sale, transfer or other disposition of Pledged Collateral. In connection with any sale of Pledged Collateral by Agent, Agent shall have the right to execute any document or form, in its name or in the name of Pledgor, that may be necessary or desirable in connection with such sale, including Form 144 promulgated by the Securities and Exchange Commission. In view of the fact that federal and state securities laws may impose certain restrictions on the method by which a sale of the Pledged Collateral may be effected after an Event of Default, Pledgor agrees that Agent may, from time to time, attempt to sell all or any part of the Pledged Collateral by means of a private placement restricting the bidders and prospective purchasers to those who will represent and agree that they are purchasing for investment only and not for distribution. Pledgor agrees that any such private sales may be at prices and other terms less favorable to the seller than if sold at public sales and that such private sales shall not by reason thereof be deemed not to have been made in a commercially reasonable manner. Agent shall be under no obligation to delay a sale of any of the Pledged Collateral for the period of time necessary to permit the issuer of such securities to register such securities for public sale under the Securities Act even if the issuer would agree to do so. Agent shall apply the cash proceeds actually received from any sale or other disposition to the reasonable expenses of retaking, holding, preparing for sale, selling and the like, to reasonable attorneys' fees, and all legal expenses, travel and other expenses that might be incurred by Agent in attempting to collect the Secured Obligations or to enforce this Agreement or in the prosecution or defense of any action or proceeding related to the subject matter of this Agreement; and then to the Secured Obligations in the manner authorized by the Credit Agreement.

15. Redemption; Marshaling. Pledgor hereby waives and releases to the fullest extent permitted by applicable Law any right or equity of redemption with respect to the Pledged Collateral before or after a sale conducted pursuant to Section 14 hereof. Pledgor agrees that Agent shall not be required to marshal any present or future security (including this Agreement and the Pledged Collateral pledged hereunder) for, or guaranties of, the Secured Obligations or any of them, or to resort to such security or guaranties in any particular order; and all of Agent's rights hereunder and in respect of such security and guaranties shall be cumulative and in addition to all other rights, however existing or arising. To the fullest extent that it lawfully may, Pledgor hereby agrees that it will not invoke any law relating to the marshaling of collateral that might cause delay in or impede the enforcement of Agent's rights under this Agreement or under any other instrument evidencing any of the Secured Obligations or under which any of the Secured Obligations is outstanding or by which any of the Secured Obligations is secured or guaranteed, and to the fullest extent that it lawfully may, Pledgor hereby irrevocably waives the benefits of all such laws.

16. Term. This Agreement shall become effective only when accepted by Agent and, when so accepted, shall constitute a continuing agreement and shall remain in full force and effect until Payment in Full of the Secured Obligations and termination of the Guaranty, at which time this Agreement shall terminate and Agent shall deliver to the Pledgor, at Pledgor's expense, such of the Pledged Collateral as shall not have been sold or otherwise applied pursuant to this Agreement. Notwithstanding the foregoing, in no event shall any termination of this Agreement terminate any indemnity set forth in this Agreement or any of the other Loan Documents, all of which indemnities shall survive any termination of this Agreement or any of the other Loan Documents. For the avoidance of doubt, this Agreement shall automatically terminate on the date on which the PEC Contribution Amount (as defined in the Amendment) has been paid in full to Borrower.

17. Rules and Construction. The singular shall include the plural and vice versa, and any gender shall include any other gender as the text shall indicate. All references to "including" shall mean "including, without limitation." Each reference in this Agreement to a "corporation" shall also be deemed to include a reference to a limited liability company, limited partnership or limited liability partnership and vice versa, each reference to "shareholders" of a Person shall also be deemed to include a reference to members or partners and vice versa and each reference to "certificate of incorporation" or "articles of incorporation" or "bylaws" shall also be deemed to include a reference to "certificate of formation" or "certificate of limited partnership" and "limited liability company operating agreement" or "limited partnership agreement" or other Organizational Documents of a limited liability company, limited partnership or limited liability partnership and vice versa.

18. Successors and Assigns. This Agreement shall be binding upon Pledgor and its respective successors and assigns, and shall inure to the benefit of Agent and Lender Parties and their respective successors and assigns. This Agreement is fully assignable by any Lender Party without the consent of Pledgor or ICP; provided that this Agreement may not be assigned by Pledgor or ICP without the prior written consent of the Lender Parties.

19. Construction and Applicable Law. Whenever possible, each provision of this Agreement shall be interpreted in such manner as to be effective and valid under applicable Law, but, if any provision of this Agreement shall be held to be prohibited or invalid under any applicable Law, such provision shall be ineffective only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Agreement. This Agreement shall be governed by and the rights and liabilities of the parties hereto determined and construed in accordance with the internal laws of the State of Colorado without regard to its conflicts of law provisions. This Agreement is intended to take effect as a document executed and delivered under seal.

20. Cooperation and Further Assurances. Pledgor agrees that it will cooperate with Agent and will, upon Agent's request, execute and deliver, or cause to be executed and delivered, all such other powers, instruments, financing statements, certificates, legal opinions and other documents, and will take all such other action as Agent requests from time to time, in order to carry out the provisions and purposes hereof, including delivering to Agent, if requested by Agent, irrevocable proxies with respect to the Equity Interests in form satisfactory to Agent. Until receipt thereof, this Agreement shall constitute Pledgor's proxy to Agent or its nominee to vote all shares of the Equity Interests then registered in such Pledgor's name (subject to such Pledgor's voting rights under Section 3 hereof) upon or after the occurrence of an Event of Default.

21. Agent's Exoneration. Under no circumstances shall Agent be deemed to assume any responsibility for or obligation or duty with respect to any part or all of the Pledged Collateral of any nature or kind, other than the physical custody thereof, or any matter or proceedings arising out of or relating thereto. Agent shall not be required to take any action of any kind to collect, preserve or protect its or Pledgor's rights in the Pledged Collateral or against other parties thereto. Agent's prior recourse to any part or all of the Pledged Collateral shall not constitute a condition of any demand, suit or proceeding for payment or collection of the Secured Obligations.

22. Notices. All notices, requests and demands to or upon any party hereto shall be given in the manner and become effective as stipulated in the Credit Agreement. Regardless of the manner in which notice is provided, notices may be sent to Agent at the Agent's address or telecopier number set forth in the signature pages to the Credit Agreement and to Pledgor at the address or telecopier number of Borrower set forth in the signature pages to the Credit Agreement or to such other address or telecopier number as any party may give to the other for such purpose in accordance with this paragraph.

23. Pledgor's Obligations Not Affected. The obligations of Pledgor hereunder shall remain in full force and effect without regard to, and shall not be impaired by (a) any bankruptcy, insolvency, reorganization, arrangement, readjustment, composition, liquidation or the like of Pledgor; (b) any exercise or nonexercise, or any waiver, by Agent of any right, remedy, power or privilege under or in respect of any of the Secured Obligations or any security thereof (including this Agreement); (c) any amendment to or modification of the Credit Agreement, the other Loan Documents or any of the Secured Obligations; (d) any amendment to or modification of any instrument (other than this Agreement) securing any of the Secured Obligations; or (e) the taking of additional security for, or any guaranty of, any of the Secured Obligations or the release or discharge or termination of any security or guaranty for any of the Secured Obligations, regardless of whether or not Pledgor shall have notice or knowledge of any of the foregoing.

24. No Waiver, Etc. No act, failure or delay by Agent shall constitute a waiver of any of its rights and remedies hereunder or otherwise. No single or partial waiver by Agent of any Default or Event of Default or right or remedy that Agent might have shall operate as a waiver of any other Default, Event of Default, right or remedy or of the same Default, Event of Default, right or remedy on a future occasion. Pledgor hereby waives presentment, notice of dishonor and protest of all instruments included in or evidencing any of the Secured Obligations or the Pledged Collateral, and any and all other notices and demands whatsoever (except as expressly provided herein).

25. Section Headings. The section headings herein are for convenience of reference only, and shall not affect in any way the interpretation of any of the provisions hereof.

26. Agent Appointed Attorney-In-Fact. Upon and after the occurrence of an Event of Default, Agent shall be deemed to be Pledgor's attorney-in-fact, with full power of substitution, for the purpose of carrying out the provisions of this Agreement and taking any action and executing any instrument that Agent reasonably deems necessary or advisable to accomplish the purposes hereof, which appointment is coupled with an interest and is irrevocable. Without limiting the generality of the foregoing, Agent shall have the power to arrange for the transfer, upon or at any time after the occurrence of an Event of Default, of any of the Pledged Collateral on the books of any or all of the Companies to the name of Agent or Agent's nominee. Pledgor agrees to indemnify and save Agent harmless from and against any liability or damage that Agent might suffer or incur, in the exercise or performance of any of Agent's powers and duties specifically set forth herein, except to the extent that such liability or damage arises from Agent's gross negligence or willful misconduct.

27. Use of Loan Proceeds. Pledgor hereby represents and warrants to Agent that none of the loan proceeds heretofore and hereafter received by it under the Credit Agreement are for the purpose of purchasing any "margin stock" as that term is defined in either Regulation U promulgated by the Board of Governors of the Federal Reserve System, or refinancing any indebtedness originally incurred to purchase any such "margin stock."

28. Waiver of Subrogation and Other Claims. Pledgor recognizes that Agent, in exercising its rights and remedies with respect to the Pledged Collateral, may likely be unable to find one or more purchasers thereof if, after the sale of the Pledged Collateral, the Company were, because of any claim based on subrogation or any other theory, liable to such Pledgor on account of the sale by Agent of the Pledged Collateral in full or partial satisfaction of the Secured Obligations or liable to such Pledgor on account of any indebtedness owing to such Pledgor that is subordinated to any or all of the Secured Obligations. Pledgor hereby agrees, therefore, that if Agent sells any of the Pledged Collateral in full or partial satisfaction of the Secured Obligations, such Pledgor shall in such case have no right or claim against any Company on account of any such subordinated indebtedness or on the theory that such Pledgor has become subrogated to any claim or right of Agent against such Company or on any basis whatsoever, and Pledgor hereby expressly waives and relinquishes, to the fullest extent permitted by applicable Law, all such rights and claims against Companies.

29. Execution in Counterparts. This Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed and delivered shall be deemed to be an original and all of which counterparts taken together shall constitute but one and the same instrument. In proving this Agreement in any judicial proceeding, it shall not be necessary to produce or account for more than one such counterpart signed by the party against whom such enforcement is sought. Any manually-executed signature page delivered by a party by facsimile or other electronic transmission shall be deemed to be an original signature page hereto.

30. WAIVERS. PLEDGOR HEREBY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW: NOTICE OF AGENT'S ACCEPTANCE OF THIS AGREEMENT; NOTICE OF EXTENSIONS OF CREDIT, LOANS, ADVANCES OR OTHER FINANCIAL ASSISTANCE BY LENDERS TO PLEDGOR; THE RIGHT TO TRIAL BY JURY (WHICH AGENT ALSO WAIVES) IN ANY ACTION, SUIT, PROCEEDING OR COUNTERCLAIM CONCERNING THIS AGREEMENT OR ANY OF THE PLEDGED COLLATERAL; PRESENTMENT AND DEMAND FOR PAYMENT OF ANY OF THE SECURED OBLIGATIONS; PROTEST AND NOTICE OF DISHONOR OR DEFAULT WITH RESPECT TO ANY OF THE SECURED OBLIGATIONS; AND ALL OTHER NOTICES TO WHICH SUCH PLEDGOR MIGHT OTHERWISE BE ENTITLED EXCEPT AS HEREIN OTHERWISE EXPRESSLY PROVIDED.

[Remainder of page intentionally left blank; signatures begin on following page.]

IN WITNESS WHEREOF, Pledgor has caused this Agreement to be signed, sealed and delivered by its duly authorized representative on the day and year first above written.

PLEDGOR:

PACIFIC ETHANOL CENTRAL, LLC

By: /s/ Bryon T. McGregor

Name: Bryon T. McGregor

Title: Chief Financial Officer

Accepted:

AGENT:

COBANK, ACB

By: /s/ Janet Downs

Name: Janet Downs

Title: Sr. Officer

[Signature page to Pledge Agreement]

ANNEX A

to Pledge Agreement

<u>Pledgor</u>	<u>Issuer</u>	<u>Type and Class of Equity Interests</u>	<u>Percentage of Pledged Equity Interests</u>	<u>Certificate Number</u>	<u>Percentage of Outstanding Equity Interests</u>
Pacific Ethanol Central, LLC	Illinois Corn Processing, LLC	Membership Interest	100%	N/A	100%

ACKNOWLEDGMENT AND AGREEMENT OF ISSUER

The undersigned (“**Issuer**”) hereby acknowledges, represents and agrees that: (i) such Issuer has received a true and correct copy of the within and foregoing Pledge Agreement (the “**Agreement**”) by and among PACIFIC ETHANOL CENTRAL, LLC, a limited liability company organized under the laws of Delaware (“**Pledgor**”), ILLINOIS CORN PROCESSING, LLC, a limited liability company organized under the laws of Delaware (“**ICP**”), COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA (together with its successors and assigns, “**Lender**”), and COBANK, ACB, a federally-chartered instrumentality of the United States (together with its successors and assigns, “**Agent**” and together with the Lender, the “**Lender Parties**”); (ii) the Agreement has been duly recorded and noted on the books and records of Issuer and will be maintained as part of such books and records; (iii) the Agreement does not violate any term, condition or covenant of the organizational documents of Issuer, or of any other agreement to which Issuer is a party; (iv) Issuer will comply with written instructions originated by Agent without further consent of Pledgor as the registered owner of such Pledgor’s respective portion of the Pledged Collateral; (v) Issuer consents to the execution of the Agreement and to the assignment, transfer and pledge of the Pledged Collateral effected thereby; and (vi) upon and after the occurrence of an Event of Default, Issuer consents to a public or private sale or sales of all or any part of the Pledged Collateral by Agent in accordance with the terms of the Agreement and consents to each purchaser of all or any part of the Pledged Collateral at such sale or sales becoming a shareholder, member, partner or other owner, as applicable, of Issuer thereby entitled to the same rights and privileges and subject to the same duties as the owner of the applicable Pledged Collateral under the Organizational Documents of Issuer.

Each capitalized term used herein, unless otherwise defined herein, shall have the meaning ascribed to such term in the Agreement. Any manually-executed signature page delivered by a party by facsimile or other electronic transmission shall be deemed to be an original signature page hereto.

[Remainder of page intentionally left blank; signature appears on the following page.]

IN WITNESS WHEREOF, Issuer has executed this Acknowledgment and Agreement of Issuer under seal as of the date of the Agreement referenced above.

ISSUER:

ILLINOIS CORN PROCESSING, LLC

By: /s/ Bryon T. McGregor

Name: Bryon T. McGregor

Title: Chief Financial Officer

[Acknowledgment and Agreement of Issuer]

FIRST AMENDMENT TO PLEDGE AGREEMENT

This First Amendment to Pledge Agreement (this "Amendment") is made as of December 20, 2019 by and among PACIFIC ETHANOL CENTRAL, LLC, a limited liability company organized under the laws of Delaware ("Pledgor"), PACIFIC AURORA, LLC, a limited liability company organized under the laws of Delaware ("Aurora"), and COBANK, ACB, a federally-chartered instrumentality of the United States, as Agent for the benefit of the Lenders under the Credit Agreement (together with its successors and assigns, "Agent").

WHEREAS, COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1st Farm Credit Services, PCA (together with its successors and assigns, "Lender" and together with Agent, the "Lender Parties"), Agent and PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized under the laws of Delaware ("PEP") are parties to that certain Credit Agreement dated as of December 15, 2016, as amended by that certain Amendment No. 1 to Credit Agreement dated as of March 1, 2017, as further amended by that certain Amendment No. 2 to Credit Agreement dated as of August 7, 2017, that certain Amendment No. 3 to Credit Agreement dated as of March 30, 2018, as further amended by that certain Amendment No. 4 to Credit Agreement dated March 20, 2019 ("Amendment No. 4"), as further amended by that certain Amendment No. 5 to Credit Agreement dated July 15, 2019, as further amended by that certain Amendment No. 6 to Credit Agreement dated November 15, 2019, and as further amended by that certain Amendment No. 7 ("Amendment No. 7") of even date herewith (as may be amended, supplemented or restated from time to time, collectively the "PEP Credit Agreement"), pursuant to which the Lender Parties may make advances and extend other financial accommodations to PEP.

WHEREAS, in connection with Amendment No. 4, Pledgor executed and delivered to the Lender Parties, (i) a Guaranty and Contribution Agreement dated as of March 20, 2019 favor of Lender and Agent of even date herewith (the "Guaranty") and (ii) a Pledge Agreement dated as of March 20, 2019 (the "Original Pledge Agreement") to secure, among other things, the Pledgor's obligations under the Guaranty.

WHEREAS, in connection with the Amendment No. 7, the Pledgor executed and delivered an Amended and Restated Guaranty and Contribution Agreement in favor of Lender and Agent of even date herewith (as may be amended, modified or restated from time to time, the "Amended and Restated Guaranty").

WHEREAS, as a condition to Lender and Agent entering into Amendment No. 7, Pledgor shall enter into this Amendment.

NOW, THEREFORE, for Ten Dollars (\$10.00) in hand paid to the Pledgor and in consideration of the premises and mutual covenants herein contained and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

Section 1. Acknowledgments and Agreements. The Pledgor hereby acknowledges and agrees as follows:

(a) *Recitals*. The Recitals to this Amendment are true and correct, and are hereby incorporated into and made a part of this Amendment and the Pledge Agreement.

(b) *Defined Terms*. Each capitalized term used herein, unless otherwise defined herein, shall have the meaning ascribed to such term in the Credit Agreement. As used herein, the following terms shall have the following meanings:

“Guaranty” shall mean that certain Amended and Restated Guaranty and Contribution Agreement in favor of Lender and Agent, dated as of December 20, 2019, as may be amended, modified or restated from time to time.

Section 2. Amendments to the Pledge Agreement

(a) Section 4 of the Original Pledge Agreement is hereby amended by deleting Section 4 of the Original Pledge Agreement in its entirety and substituting the following in its place:

“**4. Collection of Dividend Payments.** During the term of this Agreement, and so long as there no Event of Default shall exist, Pledgor shall have the right to receive and retain any and all dividends and other distributions payable by any Company to such Pledgor on account of any of the Pledged Collateral except as otherwise provided in the Loan Documents. Upon or after the occurrence of any Event of Default, all dividends and other distributions payable by any Company on account of any of the Pledged Collateral shall be paid to Agent and any such sum received by Pledgor shall be deemed to be held by such Pledgor in trust for the benefit of Agent and the other Lender Parties and shall be forthwith turned over to Agent for application by Agent to the Secured Obligations in the manner authorized by the Credit Agreement.”

(b) Section 7 of the Original Pledge Agreement is hereby amended by deleting Section 7 of the Original Pledge Agreement in its entirety and substituting the following in its place:

“**7. Negative Covenants of Pledgor.** Until Payment in Full of the Secured Obligations and termination of the Credit Agreement, Pledgor covenants that it will not, without the prior written consent of Agent, (a) sell, convey or otherwise dispose of any of the Pledged Collateral or any interest therein other than as permitted under the Credit Agreement; (b) grant or permit to exist any Lien whatsoever upon or with respect to any of the Pledged Collateral or the proceeds thereof, other than the security interest created hereby; (c) consent to the issuance by any Company of any new Equity Interests; (d) consent to any merger or other consolidation of any Company with or into any corporation or other entity other than as permitted under the Credit Agreement; (e) cause any Pledged Collateral to be held or maintained in the form of a security entitlement or credited to any securities account; (f) designate, or cause any Company to designate, any of the Pledged Collateral constituting membership interests in a limited liability company or general or limited partnership interests in a limited partnership or limited liability partnership as a “security” under Article 8 of the UCC, unless such Company has caused such Pledged Collateral to become certificated and has complied with the requirements of Section 6(e) hereof with respect to such Pledged Collateral; (g) evidence, or permit any Company to evidence, any of the Pledged Collateral that is not currently certificated, with any certificates, instruments or other writings, unless such Company has complied with the provisions of Section 6(e) of this Agreement; or (h) consent to or permit any amendment of the Organizational Documents of any Company that would restrict such Pledgor’s right to vote, pledge or grant a security interest in or otherwise transfer its respective portion of the Pledged Collateral.”

Section 3. Representations and Warranties. The Pledgor hereby represents and warrants to the Agent as follows:

(a) The Pledgor has all requisite power and authority, corporate or otherwise, to execute and deliver this Amendment. This Amendment has been duly and validly executed and delivered to the Agent by the Pledgor, and this Amendment, the Pledge Agreement as amended hereby and the other Loan Documents constitute the Pledgor's legal, valid and binding obligations enforceable in accordance with their respective terms.

(b) The execution, delivery and performance by the Pledgor of this Amendment, and the performance of the Pledge Agreement as amended hereby, have been duly authorized by all necessary corporate action and do not and will not (i) require any authorization, consent or approval by any Governmental Authority, (ii) violate the Pledgor's Organizational Documents or any provision of any law, rule, regulation or order presently in effect having applicability to the Pledgor, (iii) result in a breach of or constitute a default under any indenture or agreement to which the Pledgor is a party or by which the Pledgor or its properties may be bound or affected, or (iv) result in, or require, the creation or imposition of any Lien of any nature upon or with respect to any of the properties now owned or hereafter acquired by the Pledgor (other than as required under the Loan Documents in favor of the Agent).

Section 5. Miscellaneous. This Amendment is a Loan Document. This Amendment shall be governed by, and construed in accordance with, the laws of the State of Colorado (other than its conflicts of laws rules). This Amendment, together with the Pledge Agreement amended hereby and the other Loan Documents, comprise the final and complete integration of all prior expressions by the parties hereto with respect to the subject matter hereof and shall constitute the entire agreement among the parties hereto with respect to such subject matter, superseding all prior oral or written understandings. In the event of any conflict between this Amendment and Amendment No. 7 to the PEP Credit Agreement, such Amendment No. 7 shall control. This Amendment is subject to the provisions of the PEP Credit Agreement relating to submission to jurisdiction, venue, service of process and waiver of right to trial by jury, the provisions which are by this reference incorporated herein in full. Any provision of this Amendment which is prohibited or unenforceable shall be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof. Section headings in this Amendment are included herein for convenience of reference only and shall not constitute a part of this Amendment for any other purpose. This Amendment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed to be an original and all of which counterparts, taken together, shall constitute but one and the same instrument. Delivery of an executed counterpart of a signature page to this Amendment by facsimile or by e-mail transmission of a PDF or similar copy shall be equally as effective as delivery of an original executed counterpart of this Amendment. Any party delivering an executed counterpart signature page by facsimile or by e-mail transmission shall also deliver an original executed counterpart, but the failure to deliver an original executed counterpart shall not affect the validity, enforceability or binding effect of this Amendment. The Pledgor hereby authorizes the Agent to amend any previously filed UCC-1 financing statements to reflect the changes to the grant of security interest made effective by this Amendment.

[Signature pages follow]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed as of the date first above written.

PACIFIC ETHANOL CENTRAL, LLC, as the Pledgor

By: /s/ Bryon T. McGregor

Name: Bryon T. McGregor

Title: Chief Financial Officer

Signature Page to First Amendment to Pledge Agreement

COBANK, ACB, as the Agent

By: /s/ Janet Downs

Name: Janet Downs

Title: Sr. Officer

Signature Page to First Amendment to Pledge Agreement

This instrument was prepared by: Jason Berne, Esq. Bryan Cave Leighton Paisner LLP 161 N. Clark, Suite 4300 Chicago, IL 60601 Phone: (312) 602-5000	After recording return to:
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AMENDMENT TO ILLINOIS FUTURE ADVANCE REAL ESTATE MORTGAGE

This Amendment to Illinois Future Advance Real Estate Mortgage (the "**Amendment**"), dated as of December 20, 2019, is entered into by and between ILLINOIS CORN PROCESSING, LLC, a limited liability company organized and existing under the laws of Delaware (the "**Mortgagor**"), and COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States (the "**Mortgagee**").

WHEREAS, the Mortgagor and the Mortgagee have entered into that certain Illinois Future Advance Real Estate Mortgage dated September 15, 2017 (as the same may from time to time be amended, restated, modified or otherwise supplemented, the "**Mortgage**") and recorded on September 19, 2017 in the real estate or mortgage records of Tazewell County, Illinois as Document No. 201700014103;

WHEREAS, Mortgagor, Mortgagee and CoBank, ACB are parties to a Credit Agreement dated as of September 15, 2017, (as amended, restated, supplemented or otherwise modified from time to time) including by that certain Amendment No. 1 to Credit Agreement and Waiver (the "**ICP Amendment**") of even date herewith;

WHEREAS, PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized under the laws of Delaware and affiliate of Mortgagor ("**PEP**"), Mortgagee and CoBank, ACB are parties to a Credit Agreement dated as of December 15, 2016, (as amended, restated, supplemented or otherwise modified from time to time (the "**PEP Credit Agreement**") including by that certain Amendment No. 7 to Credit Agreement and Waiver (the "**PEP Amendment**") of even date herewith;

WHEREAS, in connection with the ICP Amendment and the PEP Amendment, Mortgagor executed a Guaranty even dated herewith (**‘PEP Guaranty’**) in favor of the Mortgagee, guarantying, among other things, PEP’s Obligations as such term is defined under the PEP Credit Agreement;

WHEREAS, the Mortgagor has requested that the Mortgage be amended as herein provided; and

WHEREAS, the Mortgagee is willing, subject to the terms and conditions hereinafter set forth, to make such amendments;

NOW, THEREFORE, in consideration of the agreements herein contained, the parties hereby agree as follows:

1. The definition of “Obligations” contained in Section 1.01 of the Mortgage is hereby amended by deleting the first sentence of the definition in its entirety and replacing it with the following:

“**Obligations** shall mean;

(i) all Obligations (as such term is defined in that certain Credit Agreement dated as of September 15, 2017, by and among the Mortgagor, the Mortgagee, and CoBank, ACB) and all other indebtedness and other obligations of the Mortgagor to the Mortgagee and CoBank, ACB of every type and description, whether now or hereafter arising, fixed or contingent, as primary obligor or as guarantor or surety, acquired directly or by assignment or otherwise, liquidated or unliquidated, regardless of how they arise or by what agreement or instrument they may be evidenced, including without limitation, all future advances, future obligations, indebtedness under all loans, advances and other extensions of credit made to or for the account of the Mortgagor, including, without limitation, the promissory note(s) that are more particularly identified on Exhibit “B-1” hereto (as such promissory notes may be amended, restated, modified, supplemented, replaced, refinanced, or renewed from time to time), and including, without limitation, obligations under Interest Rate Agreements (as defined below), and all covenants, agreements, and provisions contained in this Mortgage and in any of the Credit Agreements, and

(ii) all Obligations (as such term is defined in that certain Guaranty dated as of December 20, 2019, executed by the Mortgagor in favor of the Mortgagee and CoBank, ACB) (the “ICP Guaranty”); provided that, upon payment in full of the Guaranteed Amount (as defined in the PEP Guaranty), this clause (ii) shall be automatically deleted and thereafter, the defined term “Obligations” as set forth herein shall mean as defined in above clause (i), and the promissory notes referenced on Exhibit B shall only include those promissory notes made by Mortgagor.”

2. Exhibit B of the Mortgage is hereby amended by deleting it in its entirety and replacing it with Exhibit B attached hereto.

3. The Mortgage, as amended hereby, continues to serve as security for all past, current and future Obligations (as defined in the Mortgage) of every kind and nature which currently exist or may exist in the future.

4. This Amendment shall not be construed as a novation of the promissory note(s) or other obligations secured by the Mortgage.

5. All terms and conditions of the Mortgage shall remain in full force and effect except as amended by this Amendment, and in all other respects are fully confirmed and ratified, and the Mortgage shall continue as a lien upon all the real property described in Exhibit A attached hereto and Exhibit A to the Mortgage.

6. This Amendment relates only to the specific matters covered herein and shall not constitute a consent to or waiver or modification of any other provision term or condition of the Mortgage.

7. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original but all of which shall together constitute one and the same instrument.

[Signatures follow on next page.]

IN WITNESS WHEREOF, Illinois Corn Processing, LLC, as Mortgagor, has caused this Amendment to be signed in its name, all as of the day and year first above written.

Illinois Corn Processing, LLC, Mortgagor

By: /s/ Michael Kramer

Printed Name: Michael Kramer

Title: Vice President & Treasurer

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

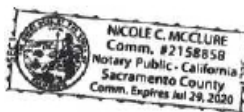
STATE OF CALIFORNIA)
COUNTY OF SACRAMENTO)

On December 26, 2019 before me, Nicole C. McClure, Notary Public, personally appeared Michael Kramer, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: /s/ Nicole C. McClure (seal)



[Amendment to Mortgage Signature Page]

LENDER:

COMPEER FINANCIAL, PCA

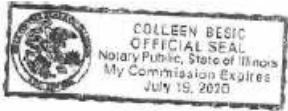
By: /s/ Kevin Buente
Name: Kevin Buente
Title: Principal Credit Officer

STATE OF ILLINOIS)
)
COUNTY OF DUPAGE)

The foregoing instrument was acknowledged before me this 26th day of December, 2019, by Kevin Buente, as Principal Credit Officer of Compeer Financial, PCA, a federally-chartered instrumentality of the United States.

Witness my hand and official seal.

(SEAL)



By: /s/ Colleen Besic
Notary Public: State of Illinois

My commission expires: 7-19-20

[Amendment to Mortgage Signature Page]

EXHIBIT A

1. Legal descriptions of real property in which the Mortgagor has a fee estate:

TRACT I

A PART OF THE NORTHEAST QUARTER OF FRACTIONAL SECTION 9, AND A PART OF LOTS 6 AND

8 IN THE SOUTHEAST QUARTER OF FRACTIONAL SECTION 4, SAID LOTS 6 AND 8 BEING SHOWN ON PLAT RECORDED ON PAGE 57 OF PLAT BOOK "B", IN THE RECORDER'S OFFICE OF TAZEWELL COUNTY, ILLINOIS, ALL BEING IN TOWNSHIP 24 NORTH, RANGE 5 WEST OF THE THIRD PRINCIPAL MERIDIAN, TAZEWELL COUNTY, ILLINOIS, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID NORTHEAST QUARTER OF FRACTIONAL SECTION 9; THENCE SOUTH 89 DEGREES 29 MINUTES 14 SECONDS WEST, ALONG THE NORTH LINE OF SAID FRACTIONAL SECTION 9, A DISTANCE OF 1,629.48 FEET TO THE PLACE OF BEGINNING; THENCE FROM SAID PLACE OF BEGINNING SOUTH 20 DEGREES 05 MINUTES 14 SECONDS WEST A DISTANCE OF 13.41 FEET; THENCE SOUTH 86 DEGREES 48 MINUTES 22 SECONDS EAST A DISTANCE OF 267.42 FEET; THENCE SOUTH 00 DEGREES 56 MINUTES 03 SECONDS WEST A DISTANCE OF 159.82 FEET TO THE NORTH LINE OF THE QUAKER OATS COMPANY BY DEED RECORDED IN BOOK 2045, PAGE 72, OF THE TAZEWELL COUNTY RECORDER'S OFFICE; THENCE SOUTH 89 DEGREES 27 MINUTES 16 SECONDS WEST ALONG SAID NORTH LINE A DISTANCE OF 104.33 FEET; THENCE SOUTH 00 DEGREES 56 MINUTES 03 SECONDS WEST ALONG THE WEST LINE OF THE QUAKER OATS COMPANY PROPERTY AS DESCRIBED IN AFOREMENTIONED DEED, A DISTANCE OF 253.00 FEET TO THE SOUTH LINE OF THE AMERICAN DISTILLING COMPANY PROPERTY; THENCE SOUTH 89 DEGREES 27 MINUTES 16 SECONDS WEST ALONG THE SOUTH LINE OF THE AMERICAN DISTILLING PROPERTY, A DISTANCE OF 850.76 FEET TO THE SOUTHEAST CORNER OF A PARCEL CONVEYED BY THE AMERICAN DISTILLING COMPANY TO PEKIN RIVER AND WAREHOUSE TERMINAL, INC. BY DEED RECORDED IN BOOK 2351, PAGE 208, OF THE TAZEWELL COUNTY RECORDER'S OFFICE; THENCE NORTH 25 DEGREES 40 MINUTES 22 SECONDS WEST ALONG EASTERLY LINE OF SAID PARCEL, A DISTANCE OF 371.70 FEET, THENCE NORTH 00 DEGREES 02 MINUTES 54 SECONDS WEST ALONG EASTERLY LINE OF SAID PARCEL, A DISTANCE OF 106.63 FEET TO THE SOUTH LINE OF SAID FRACTIONAL SECTION 9; THENCE CONTINUING NORTH 00 DEGREES 02 MINUTES 54 SECONDS ALONG EASTERLY LINE OF SAID PARCEL 77.64 FEET TO THE NORTHERLY CORNER OF PEKIN RIVER AND WAREHOUSE TERMINAL INC. PROPERTY, AND ALSO BEING A POINT ON THE NORTHWESTERLY LINE OF LOT 8 AS RECORDED IN PLAT BOOK "B", PAGE 57, OF THE TAZEWELL COUNTY RECORDER'S OFFICE; THENCE NORTH 46 DEGREES 59 MINUTES 11 SECONDS EAST ALONG THE NORTHWESTERLY LINE, OF SAID LOT 8 A DISTANCE OF 1,110.92 FEET; THENCE SOUTH 43 DEGREES 00 MINUTES 54 SECONDS EAST A

DISTANCE OF 280.47 FEET; THENCE SOUTH 42 DEGREES 00 MINUTES 08 SECONDS WEST, A DISTANCE OF 188.94 FEET; THENCE SOUTH 19 DEGREES 51 MINUTES 12 SECONDS WEST, A DISTANCE OF 276.07 FEET; THENCE SOUTH 69 DEGREES 54 MINUTES 46 SECONDS EAST, A DISTANCE OF 148.90 FEET; THENCE SOUTH 20 DEGREES 05 MINUTES 14 SECONDS WEST, A DISTANCE OF 182.59 FEET TO THE PLACE OF BEGINNING; SITUATE, LYING AND BEING IN THE COUNTY OF TAZEWELL AND STATE OF ILLINOIS.

TRACT II:

A PART OF THE NORTHEAST QUARTER OF FRACTIONAL SECTION 9, AND A PART OF LOTS 6 AND 8 IN THE SOUTHEAST QUARTER OF FRACTIONAL SECTION 4, SAID LOTS 6 AND 8 BEING SHOWN ON PLAT RECORDED IN PAGE 57 OF PLAT BOOK "B" IN THE RECORDER'S OFFICE OF TAZEWELL COUNTY, ILLINOIS, ALL BEING IN TOWNSHIP 24 NORTH, RANGE 5 WEST OF THE THIRD PRINCIPAL MERIDIAN, TAZEWELL COUNTY, ILLINOIS AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF THE SOUTHEAST QUARTER OF SAID FRACTIONAL SECTION 4; THENCE SOUTH 89 DEGREES 29 MINUTES 14 SECONDS WEST, ALONG THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SAID FRACTIONAL SECTION 4, A DISTANCE OF 1,020.92 FEET TO A CONCRETE MONUMENT BEING THE PLACE OF BEGINNING FOR THE TRACT HEREIN BEING DESCRIBED; THENCE NORTH 37 DEGREES 03 MINUTES 04 SECONDS EAST A DISTANCE OF 1013.11 FEET; THENCE NORTH 57 DEGREES 55 MINUTES WEST A DISTANCE OF 292.65 FEET TO THE NORTHWESTERLY RIGHT-OF-WAY LINE OF SOUTH FRONT STREET; THENCE NORTH 29 DEGREES 56 MINUTES 48 SECONDS EAST, ALONG THE NORTHEASTERLY RIGHT-OF-WAY LINE OF SOUTH FRONT STREET, A DISTANCE OF 481.39 FEET TO A CONCRETE MONUMENT; THENCE NORTH 46 DEGREES 54 MINUTES 36 SECONDS WEST A DISTANCE OF 263.31 FEET TO A POINT ON THE NORTHEASTERLY LINE OF LOT 6 AS RECORDED IN PLAT BOOK "B", PAGE 57, OF THE TAZEWELL COUNTY RECORDER'S OFFICE; THENCE NORTH 24 DEGREES 46 MINUTES 48 SECONDS WEST, ALONG THE NORTHEASTERLY LINE OF SAID LOT 6 A DISTANCE OF 35.6 FEET; THENCE NORTH 87 DEGREES 04 MINUTES 48 SECONDS WEST A DISTANCE OF 214.55 FEET TO A POINT ON THE NORTHWESTERLY LINE OF SAID LOT 6; SAID POINT BEING 200 FEET FROM THE NORTHERLY CORNER OF SAID LOT 6; THENCE SOUTH 46 DEGREES 59 MINUTES 11 SECONDS WEST, ALONG THE NORTHWESTERLY LINE OF SAID LOT 6 AND LOT 8 AS RECORDED IN PLAT BOOK "B", PAGE 57 OF THE TAZEWELL COUNTY RECORDER'S OFFICE, A DISTANCE OF 1,146.23 FEET TO THE NORTHERLY CORNER OF TRACT I PREVIOUSLY DESCRIBED; THENCE SOUTH 43 DEGREES 00 MINUTES 54 SECONDS EAST, ALONG SAID TRACT I, A DISTANCE OF 280.47 FEET; THENCE SOUTH 42 DEGREES 00 MINUTES 08 SECONDS WEST, A DISTANCE OF 188.94 FEET; THENCE SOUTH 19 DEGREES 51 MINUTES 12 SECONDS WEST, ALONG SAID TRACT I, A DISTANCE OF 276.07 FEET; THENCE SOUTH 69 DEGREES 54 MINUTES 46 SECONDS EAST, ALONG SAID TRACT I, A DISTANCE OF 148.90 FEET; THENCE SOUTH 20 DEGREES 05 MINUTES 14 SECONDS WEST, ALONG SAID TRACT I, A DISTANCE OF 196.00 FEET; THENCE SOUTH 86 DEGREES 48

MINUTES 22 SECONDS EAST, ALONG SAID TRACT 1, A DISTANCE OF 267.42 FEET; THENCE SOUTH 00 DEGREES 56 MINUTES 03 SECONDS WEST, ALONG SAID TRACT I, A DISTANCE OF 159.82 FEET TO THE PROPERTY LINE OF QUAKER OATS COMPANY; THENCE NORTH 89 DEGREES 27 MINUTES 16 SECONDS EAST, ALONG SAID PROPERTY LINE A DISTANCE OF 345.67 FEET; THENCE NORTH 00 DEGREES 56 MINUTES 03 SECONDS EAST, ALONG SAID PROPERTY LINE, A DISTANCE OF 189.47 FEET TO THE PLACE OF BEGINNING, SITUATE, LYING AND BEING IN THE COUNTY OF TAZEWELL AND STATE OF ILLINOIS.

BEING THE SAME TRACT OF LAND DESCRIBED IN A TITLE REPORT PREPARED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY, COMMITMENT NO. C25653421 DATED August 21, 2017.

B. Legal descriptions of real property in which the Mortgagor has a leasehold estate:

None.

C. Permitted Encumbrances:

1. THAT PART OF TRACT 2 FALLING IN SOUTH FRONT STREET AS REFLECTED ON THE TAZEWELL COUNTY GIS MAP (WHICH MAY BE SOUTH FRONT STREET AS SHOWN ON PLAT RECORDED ON PAGE 57 OF PLAT BOOK "B") IS NOT ASSESSED FOR REAL ESTATE TAXES AND WE NOTE THE POSSIBLE LIEN OF BACK TAXES WHICH MAY BE LEVIED THEREON.

NOTE: PURSUANT TO 35 ILCS 200/9-260 THE LIEN OF SUCH BACK TAXES WOULD BE LIMITED TO THE YEAR IN WHICH NOTICE THEREOF IS GIVEN BY THE COUNTY ASSESSOR AND NOT MORE THAN 3 YEARS PRIOR TO SUCH YEAR.

EXCEPT AS TO SAID SOUTH FRONT STREET, THE LAND DESCRIBED IN THE LEGAL DESCRIPTION IN SCHEDULE A IS ASSESSED UNDER THE FOLLOWING TAX PARCEL NUMBERS, AND NO OTHERS:

04-10-04-400-002 (AFFECTS PART OF TRACT 1 AND OTHER PROPERTY, PART OF TRACT 2 AND OTHER PROPERTY)

10-10-09-200-001 (AFFECTS REMAINDER OF TRACT 1, AND OTHER PROPERTY)

10-10-09-200-010 (AFFECTS REMAINDER OF TRACT 2)

2. TAXES FOR THE YEAR 2017.

2017 TAXES NOT YET DUE AND PAYABLE.

PERMANENT INDEX NUMBER(S): 04-10-04-400-002

NOTE: 2016 FIRST INSTALLMENT IN THE AMOUNT OF \$50,019.59 IS PAID.

NOTE: 2016 FINAL INSTALLMENT IN THE AMOUNT OF \$50,019.59 IS PAID.

3. TAXES FOR THE YEAR 2017.

2017 TAXES NOT YET DUE AND PAYABLE.

PERMANENT INDEX NUMBER(S): 10-10-09-200-001

NOTE: 2016 FIRST INSTALLMENT IN THE AMOUNT OF \$1,470.68 IS PAID.

NOTE: 2016 FINAL INSTALLMENT IN THE AMOUNT OF \$1,470.68 IS PAID.

4. TAXES FOR THE YEAR 2017.

2017 TAXES NOT YET DUE AND PAYABLE.

PERMANENT INDEX NUMBER(S): 10-10-09-200-010

NOTE: 2016 FIRST INSTALLMENT IN THE AMOUNT OF \$344.16 IS PAID.

NOTE: 2016 FINAL INSTALLMENT IN THE AMOUNT OF \$344.16 IS PAID.

5. EASEMENT IN FAVOR OF CENTRAL ILLINOIS LIGHT COMPANY, AND ITS/THEIR RESPECTIVE SUCCESSORS AND ASSIGNS, TO INSTALL, OPERATE AND MAINTAIN ALL EQUIPMENT NECESSARY FOR THE PURPOSE OF SERVING THE LAND AND OTHER PROPERTY, TOGETHER WITH THE RIGHT OF ACCESS TO SAID EQUIPMENT, AND THE PROVISIONS RELATING THERETO CONTAINED IN THE GRANT RECORDED/FILED MARCH 5, 1964 IN VOLUME 700, PAGE 383.

(SEE DOCUMENT FOR EXACT LOCATION)

6. EASEMENT IN FAVOR OF CENTRAL ILLINOIS LIGHT COMPANY, AND ITS/THEIR RESPECTIVE SUCCESSORS AND ASSIGNS, TO INSTALL, OPERATE AND MAINTAIN ALL EQUIPMENT NECESSARY FOR THE PURPOSE OF SERVING THE LAND AND OTHER PROPERTY, TOGETHER WITH THE RIGHT OF ACCESS TO SAID EQUIPMENT, AND THE

PROVISIONS RELATING THERETO CONTAINED IN THE GRANT RECORDED/FILED MARCH 10, 1964 IN VOLUME 700, PAGE 619.

(SEE DOCUMENT FOR EXACT LOCATION)

7. EASEMENT IN FAVOR OF THE PEORIA AND EASTERN RAILWAY COMPANY FOR THE PURPOSE OF CONSTRUCTION, MAINTENANCE, REPAIR, RENEWAL, OPERATION AND USE OF A RAILWAY TRACK OR TRACKS RECORDED/FILED SEPTEMBER 2, 1964 IN VOLUME 711, PAGE 241, AND THE TERMS AND PROVISIONS CONTAINED THEREIN.

(SEE DOCUMENT FOR EXACT LOCATION)

8. EASEMENT IN FAVOR OF CENTRAL ILLINOIS LIGHT COMPANY, AND ITS/THEIR RESPECTIVE SUCCESSORS AND ASSIGNS, TO INSTALL, OPERATE AND MAINTAIN ALL EQUIPMENT NECESSARY FOR THE PURPOSE OF SERVING THE LAND AND OTHER PROPERTY, TOGETHER WITH THE RIGHT OF ACCESS TO SAID EQUIPMENT, AND THE PROVISIONS RELATING THERETO CONTAINED IN THE GRANT RECORDED/FILED DECEMBER 2, 1970 IN BOOK 853, PAGE 474.

(SEE DOCUMENT FOR EXACT LOCATION)

9. EASEMENT IN FAVOR OF CENTRAL ILLINOIS LIGHT COMPANY, AND ITS/THEIR RESPECTIVE SUCCESSORS AND ASSIGNS, TO INSTALL, OPERATE AND MAINTAIN ALL EQUIPMENT NECESSARY FOR THE PURPOSE OF SERVING THE LAND AND OTHER PROPERTY, TOGETHER WITH THE RIGHT OF ACCESS TO SAID EQUIPMENT, AND THE PROVISIONS RELATING THERETO CONTAINED IN THE GRANT RECORDED/FILED DECEMBER 12, 1986 IN BOOK 2901, PAGE 109.

(SEE DOCUMENT FOR EXACT LOCATION)

10. EASEMENT IN FAVOR OF CENTRAL ILLINOIS LIGHT COMPANY, AND ITS/THEIR RESPECTIVE SUCCESSORS AND ASSIGNS, TO INSTALL, OPERATE AND MAINTAIN ALL EQUIPMENT NECESSARY FOR THE PURPOSE OF SERVING THE LAND AND OTHER PROPERTY, TOGETHER WITH THE RIGHT OF ACCESS TO SAID EQUIPMENT, AND THE PROVISIONS RELATING THERETO CONTAINED IN THE GRANT RECORDED/FILED AUGUST 7, 1996 AS DOCUMENT NO. 9615914.

(SEE DOCUMENT FOR EXACT LOCATION)

11. RIGHTS OF WAY FOR RAILROADS, SWITCH TRACKS OR SPUR TRACKS, IF ANY, AND RIGHT OF THE RAILROAD COMPANY TO THE USE, OPERATION, MAINTENANCE AND REPAIR OF SAME.
12. RIGHT OF THE UNITED STATES OF AMERICA, THE STATE OF ILLINOIS, THE MUNICIPALITY AND THE PUBLIC IN AND TO THAT PART OF THE LAND, IF ANY, FALLING WITHIN THE BED OF THE ILLINOIS RIVER; ALSO, RIGHTS OF PROPERTY OWNERS IN AND TO THE FREE AND UNOBSTRUCTED FLOW OF THE WATERS OF SAID RIVER.
13. ENCROACHMENTS AS DISCLOSED BY PLAT OF SURVEY OF THE LAND DATED JULY 17, 2017, LAST REVISED SEPTEMBER 13, 2017 (FIELD WORK JUNE 13, 2017) PERFORMED BY XCEL CONSULTANTS, INC. (MKA ASSOCIATES, INC. PROJECT NO. 6064-17-4573):
 - (a) FENCE ENCROACHES UP TO 53.0 FEET WESTERLY OF THE SUBJECT PROPERTY.
 - (b) FENCE ENCROACHES UP TO 13.6 FEET WESTERLY OF THE SUBJECT PROPERTY.
 - (c) STORAGE STRUCTURE ENCROACHES UP TO 16.6 FEET WESTERLY OF THE SUBJECT PROPERTY.
 - (d) CONCRETE ENCROACHES UP TO 21.4 FEET WESTERLY OF THE SUBJECT PROPERTY.
 - (e) STORAGE STRUCTURE ENCROACHES UP TO 14.9 FEET WESTERLY OF THE SUBJECT PROPERTY.
 - (f) CONCRETE ENCROACHES UP TO 17.9 FEET WESTERLY OF THE SUBJECT PROPERTY.
 - (g) WALL ENCROACHES UP TO 23.4 FEET WESTERLY OF THE SUBJECT PROPERTY.
 - (h) CONCRETE ENCROACHES UP TO 27.2 FEET WESTERLY OF THE SUBJECT PROPERTY.
 - (i) WALL ENCROACHES UP TO 44.0 FEET WESTERLY OF THE SUBJECT PROPERTY.
 - (j) FENCE ENCROACHES UP TO 9.4 FEET WESTERLY OF THE SUBJECT PROPERTY.

- (k) FENCE ENCROACHES UP TO 25.6 FEET WESTERLY OF THE SUBJECT PROPERTY.
- (l) DOCK ENCROACHES UP TO 271.0 FEET WESTERLY OF THE SUBJECT PROPERTY.
- (m) CONCRETE ENCROACHES UP TO 9.6 FEET WESTERLY OF THE SUBJECT PROPERTY.
- (n) WALL ENCROACHES UP TO 67.3 FEET NORTHWEST OF THE SUBJECT PROPERTY.
- (o) FENCE ENCROACHES UP TO 24.5 FEET SOUTH, FOR A DISTANCE OF 299.5 FEET, OF THE SUBJECT PROPERTY.

SEE SAID PLAT OF SURVEY FOR DETAILS.

- 14. UNRECORDED TRACK LEASE DATED APRIL 1, 2008 BY AND BETWEEN TAZEWELL & PEORIA RAILROAD, INC., AS LESSOR, AND MGP INGREDIENTS, INC., AS LESSEE, AS DISCLOSED BY DEED FROM MGP INGREDIENTS, INC. TO ILLINOIS CORN PROCESSING, LLC, RECORDED DECEMBER 4, 2009 AS DOCUMENT NO. 200900028004.
- 15. RIGHTS OF THE PUBLIC, THE STATE OF ILLINOIS, THE MUNICIPALITY, AND PUBLIC AND QUASI-PUBLIC UTILITIES IN AND TO THAT PART OF TRACT II FALLING IN DISTILLERY ROAD AND THE INTERSECTION OF DISTILLERY ROAD AND SOUTH FRONT STREET, AS SHOWN ON PLAT OF SURVEY OF THE LAND DATED JULY 17, 2017, LAST REVISED SEPTEMBER 13, 2017 (FIELD WORK JUNE 13, 2017) PERFORMED BY XCEL CONSULTANTS, INC. (MKA ASSOCIATES, INC. PROJECT NO. 6064-17-4573).
- 16. RIGHTS OF THE PUBLIC, THE STATE OF ILLINOIS, THE MUNICIPALITY, AND PUBLIC AND QUASI-PUBLIC UTILITIES IN AND TO THAT PART OF TRACT II FALLING IN SOUTH FRONT STREET, SHOWN AS A PUBLIC WAY AS REFLECTED ON THE TAZEWELL COUNTY GIS MAP (WHICH MAY BE SOUTH FRONT STREET AS SHOWN ON PLAT RECORDED ON PAGE 57 OF PLAT BOOK "B").

Property Address:

1301 South Front Street
Pekin, Illinois 61555

Tax parcel numbers:

04-10-04-400-002
10-10-09-200-001
10-10-09-200-010

EXHIBIT B

- a) That certain Term Note made by Mortgagor in favor of Mortgagee, dated September 15, 2017, in the principal amount of \$24,000,000, as amended and restated on December 20, 2019, in the principal amount of \$12,000,000, as such note may be amended, modified or restated from time to time.
- b) That certain Revolving Term Note made by Mortgagor in favor of Mortgagee, dated September 15, 2017, in the principal amount of \$18,000,000, as amended and restated on December 20, 2019, in the principal amount of \$18,000,000 as such note may be amended, modified or restated from time to time.
- c) That certain Term Note made by PEP in favor of Mortgagee, dated December 15, 2016, in the principal amount of \$64,000,000, as amended and restated on March 30, 2018, in the principal sum of \$64,000,000, as amended and restated on March 20, 2019 in the principal amount of \$64,000,000, as amended and restated on December 20, 2019, in the principal amount of \$39,500,000 as such note may be amended, modified or restated from time to time.
- d) That certain Revolving Term Note made by PEP in favor of Mortgagee, dated December 15, 2016, in the principal amount of \$32,000,000, as amended and restated on March 20, 2019 in the principal amount of \$32,000,000, as amended and restated on December 20, 2019, in the principal amount of \$32,000,000as such note may be amended, modified or restated from time to time.

This instrument was prepared by: Jason Berne, Esq. Bryan Cave Leighton Paisner LLP 161 N. Clark, Suite 4300 Chicago, IL 60601 Phone: (312) 602-5000	After recording return to: Rebecca Floren Bryan Cave Leighton Paisner LLP 161 N. Clark, Suite 4300 Chicago, IL 60601 Phone: (312) 602-5000
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THIRD AMENDMENT TO ILLINOIS FUTURE ADVANCE REAL ESTATE MORTGAGE

This Third Amendment to Illinois Future Advance Real Estate Mortgage (the "**Third Amendment**"), dated as of December 20, 2019, is entered into by and between PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized and existing under the laws of Delaware (the "**Mortgagor**"), and COMPEER FINANCIAL, PCA, a federally-chartered instrumentality of the United States, successor by merger to 1ST FARM CREDIT SERVICES, PCA (the "**Mortgagee**").

WHEREAS, the Mortgagor and the Mortgagee have entered into that certain Illinois Future Advance Real Estate Mortgage dated December 15, 2016 (as the same may from time to time be amended, restated, modified or otherwise supplemented, the "**Mortgage**") and recorded on December 19, 2016 in the real estate or mortgage records of Tazewell County, Illinois as Document No. 201600020386;

WHEREAS, the Mortgagor and the Mortgagee have amended the Mortgage pursuant to: (i) that certain Amendment to Illinois Future Advance Real Estate Mortgage dated March 1, 2017 (the "**First Amendment**") and recorded on March 29, 2017 in the real estate or mortgage records of Tazewell County, Illinois as Document No. 201700004376 and (ii) that certain Second Amendment to Illinois Future Advance Real Estate Mortgage dated March 20, 2019 (the "**Second Amendment**") and recorded on April 4, 2019 in the real estate or mortgage records of Tazewell County, Illinois as Document No. 201900003825;

WHEREAS, Mortgagor, Mortgagee and CoBank, ACB are parties to a Credit Agreement dated as of December 15, 2016, (as amended, restated, supplemented or otherwise modified from time to time) including by that certain Amendment No. 7 to the Credit Agreement and Waiver (the "**PEP Amendment**") of even date herewith;

WHEREAS, ILLINOIS CORN PROCESSING, LLC, a Illinois limited liability company organized under the laws of Delaware and affiliate of Mortgagor ("**ICP**"), Mortgagee and CoBank, ACB are parties to a Credit Agreement dated as of September 15, 2017, (as amended, restated, supplemented or otherwise modified from time to time (the "**ICP Credit Agreement**") including by that certain Amendment No. 1 to Credit Agreement and Waiver (the "**ICP Amendment**") of even date herewith.

WHEREAS, in connection with the PEP Amendment and the ICP Amendment, Mortgagor executed a Guaranty even dated herewith (the "**ICP Guaranty**") in favor of the Mortgage, guarantying, among other things, ICP's Obligations as such term is defined under the ICP Credit Agreement;

WHEREAS, the Mortgagor has requested that the Mortgage be further amended as herein provided; and

WHEREAS, the Mortgagee is willing, subject to the terms and conditions hereinafter set forth, to make such amendments;

NOW, THEREFORE, in consideration of the agreements herein contained, the parties hereby agree as follows:

1. The definition of "Obligations" contained in Section 1.01 of the Mortgage is hereby amended by deleting the first sentence of the definition in its entirety and replacing it with the following:

"**Obligations** shall mean;

(i) all Obligations (as such term is defined in that certain Credit Agreement dated as of December 15, 2016, by and among the Mortgagor, the Mortgagee, and CoBank, ACB) and all other indebtedness and other obligations of the Mortgagor to the Mortgagee and CoBank, ACB of every type and description, whether now or hereafter arising, fixed or contingent, as primary obligor or as guarantor or surety, acquired directly or by assignment or otherwise, liquidated or unliquidated, regardless of how they arise or by what agreement or instrument they may be evidenced, including without limitation, all future advances, future obligations, indebtedness under all loans, advances and other extensions of credit made to or for the account of the Mortgagor, including, without limitation, the promissory note(s) that are more particularly identified on Exhibit "B" hereto (as such promissory notes may be amended, restated, modified, supplemented, replaced, refinanced, or renewed from time to time), and including, without limitation, obligations under Interest Rate Agreements (as defined below), and all covenants, agreements, and provisions contained in this Mortgage and in any of the Credit Agreements, and

(ii) all Obligations (as such term is defined in that certain Guaranty dated as of December 20, 2019, executed by the Mortgagor in favor of the Mortgagee and CoBank, ACB) (the "PEP Guaranty"); provided that, upon payment in full of the Guaranteed Amount (as defined in the PEP Guaranty), this clause (ii) shall be automatically deleted and thereafter, the defined term "Obligations" as set forth herein shall mean as defined in above clause (i), and the promissory notes referenced on Exhibit B shall only include those promissory notes made by Mortgagor."

2. Exhibit B of the Mortgage is hereby amended by deleting it in its entirety and replacing it with Exhibit B attached hereto.

3. The Mortgage, as amended hereby, continues to serve as security for all past, current and future Obligations (as defined above) of every kind and nature which currently exist or may exist in the future.

4. This Third Amendment shall not be construed as a novation of the promissory note(s) or other obligations secured by the Mortgage.

5. All terms and conditions of the Mortgage shall remain in full force and effect except as amended by this Third Amendment, and in all other respects are fully confirmed and ratified, and the Mortgage shall continue as a lien upon all the real property described in Exhibit A attached hereto and Exhibit A to the Mortgage.

6. This Third Amendment relates only to the specific matters covered herein and shall not constitute a consent to or waiver or modification of any other provision term or condition of the Mortgage.

7. This Third Amendment may be executed in two or more counterparts, each of which shall be deemed an original but all of which shall together constitute one and the same instrument.

[Signatures follow on next page.]

IN WITNESS WHEREOF, Pacific Ethanol Pekin, LLC, as Mortgagor, has caused this Third Amendment to be signed in its name, all as of the day and year first above written.

Pacific Ethanol Pekin, LLC, Mortgagor

By: /s/ Michael Kramer

Printed Name: Michael Kramer

Title: Vice President & Treasurer

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

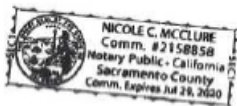
STATE OF CALIFORNIA)
COUNTY OF SACRAMENTO)

On December 26, 2019 before me, Nicole C. McClure, Notary Public, personally appeared Michael Kramer, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: /s/ Nicole C. McClure (seal)



[Amendment to Mortgage Signature Page]

LENDER:

COMPEER FINANCIAL, PCA

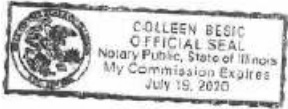
By: /s/ Kevin Buente
Name: Kevin Buente
Title: Principal Credit Officer

STATE OF ILLINOIS)
)
COUNTY OF DUPAGE)

The foregoing instrument was acknowledged before me this 26th day of December, 2019, by Kevin Buente, as Principal Credit Officer of Compeer Financial, PCA, a federally-chartered instrumentality of the United States.

Witness my hand and official seal.

(SEAL)



By: /s/ Colleen Besic
Notary Public: State of Illinois

My commission expires: 7-19-20

[Amendment to Mortgage Signature Page]

EXHIBIT A -- REAL PROPERTY

1. Legal descriptions of real property in which the Mortgagor has a fee estate:

TRACT I

LOT 5 AND PART OF LOTS 3, 4, 7, 10 AND 11 IN THE SOUTHEAST QUARTER OF FRACTIONAL SECTION 4, AS SHOWN IN PLAT BOOK "C", PAGE 57 OF THE TAZEWELL COUNTY RECORDER'S OFFICE, AND LOTS 1, 2, 3 AND 5 IN THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF FRACTIONAL SECTION 3, AS SHOWN IN PLAT BOOK "A", PAGE 40, OF THE TAZEWELL COUNTY RECORDER'S OFFICE, AND LOTS 35 AND 38, AND PART OF LOTS 24, 27 AND 34 OF THE WEST HALF OF FRACTIONAL SECTION 3, AS SHOWN IN PLAT BOOK "B", PAGE 58, IN THE TAZEWELL COUNTY RECORDER'S OFFICE, ALL IN TOWNSHIP 24 NORTH, RANGE 5 WEST OF THE THIRD PRINCIPAL MERIDIAN, IN TAZEWELL COUNTY, ILLINOIS, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER OF SAID FRACTIONAL SECTION 3; THENCE NORTH $00^{\circ}-22'-40''$ WEST ALONG THE WEST LINE OF SAID SOUTHWEST QUARTER, A DISTANCE OF 499.39 FEET TO THE INTERSECTION WITH THE NORTHEASTERLY RIGHT-OF-WAY LINE OF DISTILLERY ROAD, BEING THE PLACE OF BEGINNING; THENCE SOUTH $45^{\circ}-49'-35''$ EAST ALONG SAID NORTHEASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 491.47 FEET TO A POINT 35.5 FEET PERPENDICULAR DISTANCE FROM THE CENTERLINE OF THE MAIN TRACK OF CHICAGO AND ILLINOIS MIDLAND RAILWAY COMPANY; THENCE NORTH $38^{\circ}-36'-18''$ EAST PARALLEL WITH SAID CENTERLINE OF MAIN TRACK, A DISTANCE OF 1474.59 FEET TO THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID FRACTIONAL SECTION 3; THENCE SOUTH $89^{\circ}-31'-30''$ EAST ALONG AFOREMENTIONED LINE, A DISTANCE OF 13.39 FEET TO A POINT 25.0 FEET PERPENDICULAR DISTANCE FROM SAID CENTERLINE OF MAIN TRACK; THENCE NORTH $38^{\circ}-36'-18''$ EAST PARALLEL WITH SAID CENTERLINE OF MAIN TRACK, A DISTANCE OF 397.27 FEET; THENCE NORTH $31^{\circ}-55'-12''$ EAST, A DISTANCE OF 179.64 FEET; THENCE NORTH $19^{\circ}-17'-36''$ EAST, A DISTANCE OF 387.34 FEET; THENCE NORTH $25^{\circ}-24'-03''$ EAST, A DISTANCE OF 56.24 FEET; THENCE NORTH $19^{\circ}-26'-57''$ EAST, A DISTANCE OF 999.63 FEET; THENCE NORTH $06^{\circ}-30'-57''$ EAST, A DISTANCE OF 270.34 FEET TO A POINT ON THE NORTHERNMOST LINE OF SAID LOT 27; THENCE NORTH $89^{\circ}-56'-24''$ WEST ALONG SAID NORTHERNMOST LINE A DISTANCE OF 218.01 FEET TO THE EAST LINE OF SAID LOT 24; THENCE SOUTH $00^{\circ}-03'-36''$ WEST ALONG THE EAST LINE OF SAID LOT 24, A DISTANCE OF 60.00 FEET TO THE SOUTHEAST CORNER OF SAID LOT 24; THENCE NORTH $89^{\circ}-56'-24''$ WEST ALONG THE SOUTH LINE OF SAID LOT 24, A DISTANCE OF 218.78 FEET TO THE NORTHEAST CORNER OF LOT 1 OF SAID LOT 27 AS SHOWN IN PLAT BOOK "G", PAGE 84, OF THE TAZEWELL COUNTY RECORDER'S OFFICE; THENCE SOUTH $41^{\circ}-12'-26''$ WEST ALONG THE SOUTHEASTERLY LINE OF SAID LOT A OF LOT 27, A DISTANCE OF 181.82 FEET; THENCE NORTH $48^{\circ}-00'-45''$ WEST A DISTANCE OF 479.50 FEET TO A POINT ON THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF SOUTH FRONT STREET; THENCE SOUTH $41^{\circ}-12'-26''$ WEST ALONG SAID SOUTHEASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1204.58 FEET; THENCE SOUTH $39^{\circ}-18'-41''$ WEST ALONG SAID SOUTHEASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 345.02 FEET; THENCE SOUTH $29^{\circ}-45'-52''$ WEST ALONG SAID SOUTHEASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1609.32 FEET TO THE INTERSECTION WITH THE NORTHEASTERLY RIGHT-OF-WAY LINE OF DISTILLERY ROAD; THENCE SOUTH $57^{\circ}-54'-35''$ EAST ALONG SAID NORTHEASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 250.93 FEET; THENCE CONTINUING SOUTHEASTERLY ALONG SAID

NORTHEASTERLY RIGHT-OF-WAY LINE, ON A CURVE TO THE RIGHT HAVING A RADIUS OF 1449.19 FEET FOR AN ARC DISTANCE OF 305.63 FEET, AND A CHORD OF SOUTH 51°-52'-05" EAST, A DISTANCE OF 305.06 FEET; THENCE SOUTH 45°-49'-35" EAST ALONG SAID NORTHEASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 183.44 FEET TO THE PLACE OF BEGINNING.

TRACT II

A PART OF LOT 10 OF THE SOUTHEAST QUARTER OF FRACTIONAL SECTION 4, AS SHOWN IN PLAT BOOK "B", PAGE 57, OF THE TAZEWELL COUNTY RECORDER'S OFFICE, TOWNSHIP 24 NORTH, RANGE 5 WEST OF THE THIRD PRINCIPAL MERIDIAN, IN TAZEWELL COUNTY, ILLINOIS, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF THE SOUTHEAST QUARTER OF SAID FRACTIONAL SECTION 4; THENCE SOUTH 89°-29'-14" WEST ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER, A DISTANCE OF 458.50 FEET TO THE SOUTHEAST CORNER OF SAID LOT 10, SAID CORNER OF LOT 10 BEING ALSO THE PLACE OF BEGINNING; THENCE NORTH 37°-12'-47" EAST ALONG THE SOUTHEASTERLY LINE OF SAID LOT 10, A DISTANCE OF 650.22 FEET TO THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF 33 FEET WIDE DISTILLERY ROAD; THENCE NORTH 45°-49'-35" WEST ALONG SAID SOUTHWESTERLY RIGHT-OF-WAY LINE A DISTANCE OF 129.14 FEET; THENCE CONTINUING ALONG SAID RIGHT-OF-WAY LINE ON A CURVE TO THE LEFT HAVING A RADIUS OF 1416.19 FEET FOR AN ARC DISTANCE OF 298.67 FEET, AND A CHORD OF NORTH 51°-52'-05" WEST, A DISTANCE OF 298.11 FEET; THENCE NORTH 57°-54'-35" WEST ALONG SAID RIGHT-OF-WAY, A DISTANCE OF 21.54 FEET; THENCE SOUTH 37°-03'-04" WEST, A DISTANCE OF 1012.87 FEET TO THE SOUTH LINE OF SAID SOUTHEAST QUARTER; THENCE NORTH 89°-29'-14" EAST ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER, A DISTANCE OF 562.42 FEET TO THE PLACE OF BEGINNING.

TRACT III

LOTS 1 AND 2, AND PART OF LOTS 3 AND 6 OF THE SOUTHEAST QUARTER OF FRACTIONAL SECTION 4 AS SHOWN IN PLAT BOOK "B", PAGE 57, OF THE TAZEWELL COUNTY RECORDER'S OFFICE, AND LOTS 26, 36 AND 37, AND PART OF LOT 25 OF THE WEST HALF OF FRACTIONAL SECTION AS SHOWN IN PLAT BOOK "B", PAGE 58, OF THE TAZEWELL COUNTY RECORDER'S OFFICE ALL IN TOWNSHIP 24 NORTH, RANGE 5 WEST OF THE THIRD PRINCIPAL MERIDIAN, IN TAZEWELL COUNTY, ILLINOIS, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF THE SOUTHEAST QUARTER OF FRACTIONAL SECTION 4; THENCE NORTH 00°-22'-40" WEST ALONG THE EAST LINE OF SAID SOUTHEAST QUARTER, A DISTANCE OF 2079.16 FEET TO THE INTERSECTION WITH THE NORTHWESTERLY RIGHT-OF-WAY LINE OF SOUTH FRONT STREET, BEING THE PLACE OF BEGINNING; THENCE NORTH 29°-45'-52" EAST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 290.38 FEET; THENCE NORTH 41°-12'-26" EAST ALONG SAID RIGHT-OF-WAY LINE, A DISTANCE OF 1613.87 FEET; THENCE NORTH 48°-48'-45" WEST, A DISTANCE OF 160.70 FEET TO THE NORTHWESTERLY LINE OF SAID LOT 25; THENCE SOUTH 50°-35'-38" WEST ALONG SAID LINE OF LOT 25, A DISTANCE OF 397.75 FEET; THENCE SOUTH 40°-27'-47" WEST ALONG THE NORTHWESTERLY LINES OF SAID LOTS 25 AND 26, A DISTANCE OF 726.00 FEET; THENCE SOUTH 44°-45'-52" WEST ALONG THE NORTHWESTERLY LINES OF SAID LOTS 26 AND 36, A DISTANCE OF 441.54 FEET TO THE EAST LINE OF THE SOUTHEAST QUARTER OF SAID FRACTIONAL SECTION 4, SAID

POINT BEING ALSO THE NORTHERLY CORNER OF LOT 1 OF SAID SOUTHEAST QUARTER; THENCE SOUTH 39°-14'-11" WEST ALONG THE NORTHWESTERLY LINES OF SAID LOTS 1 AND 2, A DISTANCE OF 719.06 FEET TO THE SOUTHWEST CORNER OF SAID LOT 2; THENCE SOUTH 42°-14'-11" WEST ALONG THE NORTHWESTERLY LINE OF SAID LOT 3, A DISTANCE OF 330.00 FEET TO THE WESTERNMOST CORNER OF SAID LOT 3, BEING ALSO THE NORTHERNMOST CORNER OF SAID LOT 6 AND FURTHER KNOWN AS WILKEY CORNER; THENCE SOUTH 46°-59'-11" WEST ALONG THE NORTHWESTERLY LINE OF SAID LOT 6, A DISTANCE OF 200.00 FEET; THENCE SOUTH 87°-04'-48" EAST, A DISTANCE OF 214.55 FEET TO THE NORTHEASTERLY LINE OF SAID LOT 6; THENCE SOUTH 24°-46'-48" EAST ALONG SAID LINE OF LOT 6, A DISTANCE OF 35.60 FEET TO THE CENTERLINE OF A RAILROAD EASEMENT AS RECORDED IN BOOK 229, PAGE 72, OF THE TAZEWELL COUNTY RECORDER'S OFFICE; THENCE SOUTH 46°-54'-36" EAST, A DISTANCE OF 263.31 FEET TO THE NORTHWESTERLY RIGHT-OF-WAY LINE OF SOUTH FRONT STREET; THENCE NORTH 29°-45'-52" EAST ALONG SAID RIGHT-OF-WAY LINE, A DISTANCE OF 814.59 FEET TO THE PLACE OF BEGINNING.

AREA "A"

A PART OF THE SOUTHEAST QUARTER OF FRACTIONAL SECTION 4, TOWNSHIP 24 NORTH, RANGE 5 WEST OF THE THIRD PRINCIPAL MERIDIAN, IN TAZEWELL COUNTY, ILLINOIS, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHERNMOST CORNER OF LOT 6 AS SHOWN IN PLAT BOOK "B", PAGE 57, OF THE TAZEWELL COUNTY RECORDER'S OFFICE; THENCE SOUTH 46°-59'-11" WEST ALONG THE NORTHWESTERLY LINE OF SAID LOT 6, A DISTANCE OF 200.00 FEET; THENCE NORTH 43°-00'-49" WEST PERPENDICULAR TO THE SAID NORTHWESTERLY LINE TO THE THREAD OF THE ILLINOIS RIVER; THENCE NORTHEASTERLY ALONG THE THREAD OF THE ILLINOIS RIVER, TO THE INTERSECTION WITH THE EXTENSION (TO THE NORTHWEST) OF THE NORTHEASTERLY LINE OF SAID LOT 6; THENCE SOUTHEASTERLY ALONG PREVIOUSLY MENTIONED LINE OF EXTENSION TO THE PLACE OF BEGINNING.

EXCEPTING FROM TRACT 1 AFORESAID THE FOLLOWING DESCRIBED PARCEL:

A PART OF LOTS 10 AND 11 OF THE SOUTHEAST QUARTER OF FRACTIONAL SECTION 4 AND OF LOTS 2, 3 AND 5 OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF FRACTIONAL SECTION 3 ALL IN TOWNSHIP 24 NORTH, RANGE 5 WEST OF THE THIRD PRINCIPAL MERIDIAN, IN TAZEWELL COUNTY, ILLINOIS, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER OF SAID SECTION 3, THENCE NORTH 00°-22'-40" WEST ALONG THE WEST LINE OF SAID SOUTHWEST QUARTER, A DISTANCE OF 499.39 FEET TO THE NORTHERLY LINE OF DISTILLERY ROAD; THENCE SOUTH 45°-49'-35" EAST ALONG THE NORTH LINE OF DISTILLERY ROAD, A DISTANCE OF 21.54' TO THE PLACE OF BEGINNING, THENCE CONTINUING ALONG SAID NORTH LINE, A DISTANCE OF 288.79 FEET; THENCE NORTH 36°-37'-57" EAST, A DISTANCE OF 126.02 FEET; THENCE NORTH 53°-22'-03" WEST, A DISTANCE OF 28.55 FEET; THENCE NORTH 36°-37'-57" EAST, A DISTANCE OF 40.00 FEET; THENCE NORTH 53°-22'-03" WEST, A DISTANCE OF 82.54 FEET TO THE MONUMENTED (EAST-2000) GRID LINE FOR CONSTRUCTION OF 1980; THENCE SOUTH 36°-37'-57" WEST ALONG SAID GRID LINE, A DISTANCE OF 28.59 FEET; THENCE NORTH 53°-13'-55" WEST FOLLOWING THE LINE OF THE SOUTHERLY SIDE OF BUILDING #29, A DISTANCE OF 86.58 FEET TO THE SOUTHWESTERLY CORNER OF BUILDING #29; THENCE NORTH 36°-41'-43" EAST ALONG THE WESTERLY SIDE OF BUILDING #29, A DISTANCE OF 146.15 FEET TO THE NORTHWESTERLY CORNER OF BUILDING #29; THENCE SOUTH 53°-21'-21" EAST

FOLLOWING THE LINE OF THE NORTHERLY SIDE OF BUILDING #29, A DISTANCE OF 86.42 FEET TO SAID GRID LINE; THENCE NORTH 36°-37'-57" EAST ALONG SAID GRID LINE, A DISTANCE OF 369.80 FEET; THENCE NORTH 53°-10'-21" WEST, A DISTANCE OF 74.00 FEET; THENCE SOUTH 36°-43'-22" WEST, A DISTANCE OF 59.26 FEET TO THE INTERSECTION WITH THE EXTENSION OF THE SOUTHWESTERLY SIDE OF BUILDING #3; THENCE NORTH 53°-00'-54" WEST FOLLOWING THE LINE OF THE SOUTHWESTERLY SIDE OF BUILDING #3, A DISTANCE OF 123.23 FEET TO THE SOUTHWESTERLY CORNER OF BUILDING #3; THENCE NORTH 47°-45'-13" WEST, A DISTANCE OF 103.19 FEET; THENCE NORTH 53°-22'-07" WEST, A DISTANCE OF 430.00 FEET; THENCE SOUTH 36°-37'-57" WEST, A DISTANCE OF 536.32 FEET TO THE NORTHERLY LINE OF DISTILLERY ROAD; THENCE SOUTH 57°-54'-35" EAST ALONG SAID NORTHERLY LINE, A DISTANCE OF 46.80 FEET; THENCE CONTINUING SOUTHEASTERLY ALONG SAID NORTHERLY LINE, ON A CURVE TO THE RIGHT, HAVING A RADIUS OF 1449.19 FEET, FOR AN ARC DISTANCE OF 305.63 FEET (WHICH HAS A CHORD OF SOUTH 51°-52'-05" EAST, A DISTANCE OF 305.06 FEET); THENCE SOUTH 45°-49'-35" EAST ALONG SAID NORTH LINE, A DISTANCE OF 36.32 FEET; THENCE NORTH 36°-32'-53" EAST ALONG THE CENTERLINE OF A RAILROAD TRACK, A DISTANCE OF 379.60 FEET; THENCE SOUTH 53°-23'-24" EAST, A DISTANCE OF 82.72 FEET; THENCE SOUTH 36°-22'-20" WEST, A DISTANCE OF 40.98 FEET; THENCE SOUTH 00°-09'-51" WEST, A DISTANCE OF 120.77 FEET; THENCE SOUTH 22°-17'-31" WEST, A DISTANCE OF 46.75 FEET; THENCE SOUTH 36°-14'-27" WEST, A DISTANCE OF 218.38 FEET TO THE NORTH LINE OF DISTILLERY ROAD, BEING ALSO THE PLACE OF BEGINNING.

AND EXCEPTING FROM TRACT III AFORESAID THE FOLLOWING TWO TRACTS:

A PART OF PARCEL 3 IN THE SOUTHWEST QUARTER OF SECTION 4, TOWNSHIP 24 NORTH, RANGE 5 WEST OF THE THIRD PRINCIPAL MERIDIAN, IN TAZEWELL COUNTY, ILLINOIS, AS SHOWN BY PLAT OF SURVEY RECORDED ON PAGE 99 OF PLAT BOOK "A" IN THE RECORDERS OFFICE OF SAID COUNTY, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE WESTERNMOST CORNER OF SAID PARCEL 3, SAID WESTERN MOST CORNER BEING AN IRON PIN IN THE CENTERLINE OF THE C.C.C. AND ST. L. R.R.'S TRACK INTO AMERICAN DISTILLING COMPANY; THENCE NORTH 43°-09' EAST ALONG THE NORTHWESTERLY LINE OF SAID PARCEL 3 AND THE CENTERLINE OF SAID TRACK FOR A DISTANCE OF 371.8 FEET TO THE PLACE OF BEGINNING: FROM SAID PLACE OF BEGINNING CONTINUING NORTH 43°-09' EAST ALONG SAID NORTHWESTERLY LINE A DISTANCE OF 317 FEET; THENCE SOUTH 46°-51' EAST FOR A DISTANCE OF 100.25 FEET, MORE OR LESS, TO THE WESTERLY LINE OF SOUTH FRONT STREET; THENCE SOUTH 29°-43' WEST ALONG SAID WESTERLY LINE OF SOUTH FRONT STREET, A DISTANCE OF 325.92 FEET; THENCE NORTH 46°-51' WEST, A DISTANCE OF 175.96 FEET, MORE OR LESS, TO THE PLACE OF BEGINNING; AND A PART OF PARCEL 4 IN THE SOUTHEAST QUARTER OF SECTION 4, TOWNSHIP 24 NORTH, RANGE 5 WEST OF THE THIRD PRINCIPAL MERIDIAN, IN TAZEWELL COUNTY, ILLINOIS, AS SHOWN BY PLAT OF SURVEY RECORDED ON PAGE 99 OF PLAT BOOK "A" IN THE RECORDERS OFFICE OF SAID COUNTY, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHERNMOST CORNER OF SAID PARCEL 4, SAID SOUTHERNMOST CORNER BEING THE WESTERN MOST CORNER OF PARCEL 3 SHOWN ON THE SAME PLAT OF SURVEY AND AN IRON PIN IN THE CENTERLINE OF THE C.C.C. AND ST. L. R.R. TRACK INTO AMERICAN DISTILLING COMPANY; THENCE NORTH 43°-09' EAST ALONG THE SOUTHEASTERLY LINE OF SAID PARCEL 4 AND THE CENTERLINE OF SAID TRACK FOR A DISTANCE OF 141 FEET TO THE PLACE OF BEGINNING: FROM THE PLACE OF BEGINNING CONTINUING NORTH 43°-09' EAST ALONG SAID SOUTHEASTERLY LINE, A DISTANCE OF 159 FEET; THENCE NORTH 46°-51' WEST, A DISTANCE OF 186.96 FEET, MORE OR LESS, TO THE MEANDER LINE

ALONG THE ILLINOIS RIVER; THENCE SOUTH 42°-14'-48" WEST ALONG SAID MEANDER LINE, A DISTANCE OF 159.02 FEET; THENCE SOUTH 46°-51' EAST, A DISTANCE OF 184.45 FEET, MORE OR LESS, TO THE PLACE OF BEGINNING.

TRACT IV

A PART OF LOTS 10 AND 11 OF THE SOUTHEAST QUARTER OF FRACTIONAL SECTION 4 AND OF LOTS 2, 3, AND 5 OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF FRACTIONAL SECTION 3 ALL IN TOWNSHIP 24 NORTH, RANGE 5 WEST OF THE THIRD PRINCIPAL MERIDIAN, IN TAZEWELL COUNTY, ILLINOIS, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER OF SAID SECTION 3; THENCE NORTH 00 DEGREES 22 MINUTES 40 SECONDS WEST ALONG THE WEST LINE OF SAID SOUTHWEST QUARTER, A DISTANCE OF 499.39 FEET TO THE NORTHERLY LINE OF DISTILLERY ROAD; THENCE SOUTH 45 DEGREES 49 MINUTES 35 SECONDS EAST ALONG THE NORTH LINE OF DISTILLERY ROAD; A DISTANCE OF 21.54 FEET TO THE PLACE OF BEGINNING; THENCE CONTINUING ALONG SAID NORTH LINE, A DISTANCE OF 288.79 FEET; THENCE NORTH 36 DEGREES 37 MINUTES 57 SECONDS EAST A DISTANCE OF 126.02 FEET; THENCE NORTH 53 DEGREES 22 MINUTES 03 SECONDS WEST, A DISTANCE OF 28.55 FEET; THENCE NORTH 36 DEGREES 37 MINUTES 57 SECONDS EAST, A DISTANCE OF 40.00 FEET; THENCE NORTH 53 DEGREES 22 MINUTES 03 SECONDS WEST, A DISTANCE OF 82.54 FEET TO THE MONUMENTED (EAST-2000) GRID LINE FOR CONSTRUCTION OF 1980; THENCE SOUTH 36 DEGREES 37 MINUTES 57 SECONDS WEST ALONG SAID GRID LINE, A DISTANCE OF 28.59 FEET; THENCE NORTH 53 DEGREES 13 MINUTES 55 SECONDS WEST FOLLOWING THE LINE OF THE SOUTHERLY SIDE OF BUILDING #29, A DISTANCE OF 86.58 FEET TO THE SOUTHWESTERLY CORNER OF BUILDING #29, THENCE NORTH 36 DEGREES 41 MINUTES 43 SECONDS EAST ALONG THE WESTERLY SIDE OF BUILDING #29, A DISTANCE OF 146.15 FEET TO THE NORTHWESTERLY CORNER OF BUILDING #29, THENCE SOUTH 53 DEGREES 21 MINUTES 21 SECONDS EAST FOLLOWING THE LINE OF THE NORTHERLY SIDE OF BUILDING #29, A DISTANCE OF 86.42 FEET TO SAID GRID LINE, THENCE NORTH 36 DEGREES 37 MINUTES 57 SECONDS EAST ALONG SAID GRID LINE, A DISTANCE OF 369.80 FEET; THENCE NORTH 53 DEGREES 10 MINUTES 21 SECONDS WEST, A DISTANCE OF 74.00 FEET; THENCE SOUTH 36 DEGREES 43 MINUTES 22 SECONDS WEST, A DISTANCE OF 59.26 FEET TO THE INTERSECTION WITH THE EXTENSION OF THE SOUTHWESTERLY SIDE OF BUILDING #3; THENCE NORTH 53 DEGREES 00 MINUTES 54 SECONDS WEST FOLLOWING THE LINE OF THE SOUTHWESTERLY SIDE OF BUILDING #3, A DISTANCE OF 123.23 FEET TO THE SOUTHWESTERLY CORNER OF BUILDING #3; THENCE NORTH 47 DEGREES 45 MINUTES 13 SECONDS WEST, A DISTANCE OF 103.19 FEET; THENCE NORTH 53 DEGREES 22 MINUTES 07 SECONDS WEST, A DISTANCE OF 430.00 FEET; THENCE SOUTH 36 DEGREES 37 MINUTES 57 SECONDS WEST, A DISTANCE OF 536.32 FEET TO THE NORTHERLY LINE OF DISTILLERY ROAD; THENCE SOUTH 57 DEGREES 54 MINUTES 35 SECONDS EAST ALONG SAID NORTH LINE, A DISTANCE OF 46.80 FEET; THENCE CONTINUING SOUTHEASTERLY ALONG SAID NORTH LINE ON A CURVE TO THE RIGHT HAVING A RADIUS 1449.19 FEET AN ARC DISTANCE OF 305.63 FEET (WHICH HAS A CHORD OF SOUTH 51 DEGREES 52 MINUTES 05 SECONDS EAST, A DISTANCE OF 305.06 FEET); THENCE SOUTH 45 DEGREES 49 MINUTES 35 SECONDS EAST ALONG SAID NORTH LINE, A DISTANCE OF 36.32 FEET; THENCE NORTH 36 DEGREES 32 MINUTES 53 SECONDS EAST ALONG THE CENTER LINE OF A RAILROAD TRACK, A DISTANCE OF 379.60 FEET; THENCE SOUTH 53 DEGREES 23 MINUTES 24 SECONDS EAST, A DISTANCE OF 82.72 FEET, THENCE SOUTH 36 DEGREES 22 MINUTES 20

SECONDS WEST, A DISTANCE OF 40.98 FEET; THENCE SOUTH 00 DEGREES 09 MINUTES 51 SECONDS WEST, A DISTANCE OF 120.77 FEET; THENCE SOUTH 22 DEGREES 17 MINUTES 31 SECONDS WEST, A DISTANCE OF 46.75 FEET; THENCE SOUTH 36 DEGREES 14 MINUTES 27 SECONDS WEST, A DISTANCE OF 218.38 FEET TO THE NORTH LINE OF DISTILLERY ROAD BEING ALSO THE PLACE OF BEGINNING.

TRACT IV ABOVE BEING THE SAME LAND CONVEYED FROM CPC INTERNATIONAL, INC., TO PEKIN ENERGY COMPANY BY WARRANTY DEED DATED DECEMBER 16, 1980, RECORDED MAY 4, 1981 IN BOOK 2471, AT PAGE 278.

BEING THE SAME TRACT OF LAND DESCRIBED IN A TITLE REPORT PREPARED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY, COMMITMENT NO. 15-001017 DATED JULY 13, 2015.

Property Address: 1300 S. Second Street, Pekin, Illinois

Permanent Index Numbers: 04-10-03-100-005;
04-10-03-100-006;
04-10-03-300-001;
04-10-03-300-002;
04-10-03-300-004;
04-10-04-400-001;
04-10-04-400-006;
04-10-04-400-009;
04-10-04-400-010;
04-10-04-400-011;
04-10-04-400-013; and
50-99-47-104-002.

EXHIBIT B

The "Obligations" as described in the Definitions section above include without limitation the following promissory note(s):

- a) That certain Term Note made by Mortgagor in favor of Mortgagee, dated December 15, 2016, in the principal amount of \$64,000,000, as amended and restated on March 30, 2018, in the principal sum of \$64,000,000, as amended and restated on March 20, 2019 in the principal amount of \$64,000,000, as amended and restated on December 20, 2019, in the principal amount of \$39,500,000, as such note may be amended, modified or restated from time to time.
- b) That certain Revolving Term Note made by Mortgagor in favor of Mortgagee, dated December 15, 2016, in the principal amount of \$32,000,000, as amended and restated on March 20, 2019 in the principal amount of \$32,000,000, as amended and restated on December 20, 2019, in the principal amount of \$32,000,000, as such note may be amended, modified or restated from time to time.
- c) That certain Term Note made by ICP in favor of Mortgagee, dated September 15, 2017, in the principal amount of \$24,000,000, as amended and restated on December 20, 2019, in the principal amount of \$12,000,000, as such note may be amended, modified or restated from time to time.
- d) That certain Revolving Term Note made by ICP in favor of Mortgagee, dated September 15, 2017, in the principal amount of \$18,000,000, as amended and restated on December 20, 2019, in the principal amount of \$18,000,000, as such note may be amended, modified or restated from time to time.

AMENDED AND RESTATED TERM NOTE

\$12,000,000

Greenwood Village, Colorado
December 20, 2019

FOR VALUE RECEIVED, ILLINOIS CORN PROCESSING, LLC, a limited liability company organized and existing under the laws of Delaware (the “**Company**”), hereby promises to pay to the order of COMPEER FINANCIAL, PCA (which, together with its endorsees, successors, and assigns, is referred to herein as the “**Bank**”), at the office of CoBank, ACB (the “**Agent**”) located at 6340 S. Fiddlers Green Circle, Greenwood Village, Colorado 80111 (or at such other place of payment designated by the holder hereof to the Company), the principal sum of TWELVE MILLION DOLLARS (\$12,000,000) (such amount, the “**Term Loan Amount**”) (each loan and any one or more portions of any loan being referred to herein as a “**Loan**”), and to pay interest, as set forth below, from the date hereof until Payment in Full on the principal amount remaining from time to time outstanding at the rates set forth below, in lawful money of the United States of America in immediately available funds, payable with interest thereon, as set forth below, without presentment, demand, protest or notice of any kind, all of which are hereby expressly waived by the Company, and without set-off, counterclaim or other deduction of any nature. This Term Note (as amended, restated, modified, supplemented, replaced, refinanced or renewed from time to time, this “**Note**”) is given pursuant to that Credit Agreement, dated as of September 15, 2017, between the Company, the Bank and the Agent (as amended, restated, modified or supplemented from time to time, the “**Agreement**”). Capitalized terms not otherwise defined in this Note shall have the respective meanings ascribed to them by the Agreement, including Annex A thereto, and the Rules of Construction set forth in such Annex A shall apply to this Note. This Note amends and restates, but does not constitute payment of the indebtedness, evidenced by, the Term Note, dated as of September 15, 2017, by the Company to the order of the Bank.

1. *Borrowing Availability.* If not sooner borrowed, the Term Loan Amount shall be borrowed in a single advance no later than 12:00 noon on November 1, 2017 (the “**Term Loan Availability Expiration Date**”).

2. *Purpose of Term Loan.* The proceeds of the Term Loan shall be used to refinance the existing indebtedness of the Company, and the Company shall use the Term Loan for no other purpose.

3. *Principal Payments.* Principal hereunder shall be due and payable in six (6) equal consecutive quarterly installments of \$1,500,000 each, beginning on March 20, 2020, and continuing on the twentieth (20th) day of each June, September, December, and March thereafter until September 20, 2021 (the “**Maturity Date**”), at which time the entire remaining indebtedness evidenced by this Note, if not sooner paid in accordance with the terms of the Agreement and this Note, shall be due and payable.

4. *Interest Payments.* The Company hereby further promises to pay to the order of the Agent, at the times and on the dates provided in the Agreement, interest on the unpaid principal amount of the Loans from the date hereof until the Payment in Full of all of the Loans at the rate or rates comprising the Interest Rate Option(s) (defined below), which the Company shall select in accordance with the terms hereof to apply to each Loan, it being understood that, subject to the provisions of this Note and the Agreement, the Company may select different Interest Rate Options to apply to the Loans and may convert to or renew one or more Interest Rate Options with respect to any one or more of the Loans; provided that in the event the Company shall fail to timely select an Interest Rate Option to apply to any one or more Loans, such Loans shall bear interest at the LIBOR Index Option, and provided further that if an Event of Default or Default exists and is continuing, the Company may not request, convert to, or renew the Quoted Rate Option for any Loans, and the Agent may demand that all existing Loans bearing interest under the Quoted Rate Option shall be converted immediately to the LIBOR Index Option, and the Company shall be obligated to pay the Agent any indemnity, costs, and expenses arising in connection with such conversion.

5. *Interest Rate Options.* The Company shall have the right to select from the following interest rate options with respect to the Loans (each, an “**Interest Rate Option**”): (a) upon the selection of a LIBOR Index Option, the LIBOR Index Rate with a LIBOR Index Spread of 5.00% per annum (the “**LIBOR Index Spread**”) or (b) upon the selection of a Quoted Rate Option, the Quoted Rate with such Quoted Rate to remain fixed for such period as is confirmed to the Company by the Agent.

6. *Loan Requests.* Subject to the terms and conditions of this Note and the Agreement, the Company may prior to the Term Loan Availability Expiration Date request the Bank to make the Term Loan and the Company may from time to time prior to the Maturity Date request the Agent to renew or convert the Interest Rate Option applicable to an existing Loan, by delivering, in accordance with the notice provisions of the Agreement, to the Agent not later than 12:00 noon (Denver time),

(a) the same Business Day as the proposed Business Day of borrowing with respect to a Loan to which the LIBOR Index Option will apply, and (b) the same Business Day as the proposed Business Day of borrowing with respect to a Loan to which the Quoted Rate Option will apply or the last day of the preceding Quoted Rate period with respect to the conversion to or renewal of the Quoted Rate Option for a Loan,

a duly completed request therefor substantially in the form of Exhibit A hereto (or a request made by CoBank or by telephone, but subject to the same deadline and containing substantially the same information, and in the case of a telephone request, immediately confirmed in writing substantially in the form of Exhibit A and delivered in accordance with the terms hereof) by physical delivery, facsimile, or electronic mail (each such request, whether telephonic or written and regardless how delivered, a “**Loan Request**”), it being understood that the Agent may rely on the authority of any individual making such a telephonic request without the necessity of receipt of such written confirmation. Each Loan Request shall be irrevocable and shall specify the amount of the proposed Loan, the Interest Rate Option to be applicable thereto, and, if applicable, the Quoted Rate period therefor (each Quoted Rate applicable to a Loan shall remain fixed for such period as is confirmed to the Company by the Agent), which amounts shall be in integral multiples of \$500,000 for each Loan under the Quoted Rate Option. All notices and requests hereunder shall be given, and all borrowings and all conversions or renewals of Interest Rate Options shall occur, only on Business Days.

7. *Loans; Limitations.* Under the Quoted Rate Option, a Quoted Rate may be fixed on such balance and for such period, and shall be subject to such rules and requirements as may be established by the Agent in its sole discretion in each instance, provided that: (1) the minimum fixed period hereunder shall be 365 days; (2) at no time shall more than 10 Loans to which the Quoted Rate Option applies be outstanding at any one time; and (3) amounts may be fixed in increments of \$500,000 or integral multiples thereof. The Agent’s determination of the Quoted Rate shall be conclusive and binding upon the Company absent manifest error.

8. *Incomplete Loan Requests; Consequences.* If no Interest Rate Option is timely selected when a Loan is requested or with respect to the end of any applicable Quoted Rate period for a Loan or prior to a requested conversion to a Quoted Rate Option for a Loan previously subject to a different Interest Rate Option, the Company shall be deemed to have selected a LIBOR Index Option for such Loan. In no event shall the interest rate(s) applicable to principal outstanding hereunder exceed the maximum rate of interest allowed by applicable Law, as amended from time to time; any payment of interest or in the nature of interest in excess of such limitation shall be credited as a payment of principal unless the Company requests the return of such amount.

9. *Miscellaneous.*

(a) This Note is the Term Note referred to in, and is entitled to the benefits of, the Agreement and the other Loan Documents referred to therein. Reference is made to the Agreement for a description of the relative rights and obligations of the Company, the Bank and the Agent, including rights and obligations of prepayment, collateral securing payment hereof, Events of Default, and rights of acceleration of maturity upon the occurrence of an Event of Default.

(b) No delay on the part of the holder hereof in exercising any of its options, powers, or rights, or partial or single exercise thereof, shall constitute a waiver thereof. The options, powers, and rights specified herein of the holder hereof are in addition to those otherwise created or permitted by Law, the Agreement, and the other Loan Documents. There are no claims, set-offs, or deductions of any nature as of the date hereof that could be made or asserted by the Company against the Bank and / or the Agent or against any amount due or to become due under this Note; all such claims, set-offs, or deductions are hereby waived by the Company.

(c) Delivery of an executed signature page of this Note by telecopy or email (as a *pdf* attachment thereto or otherwise) shall be as effective as delivery of a manually executed counterpart of this Note, but shall in any event be promptly followed by delivery of the original manually executed signature page (provided, however, that the failure to do so shall in no event adversely affect the rights of the Bank and / or the Agent hereunder whatsoever). THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF COLORADO, WITHOUT GIVING EFFECT TO CONFLICT OF LAWS PRINCIPLES.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF and intending to be legally bound hereby, the Company has executed this Note as of the date hereof by its duly Authorized Officer.

ILLINOIS CORN PROCESSING, LLC

By: /s/ Bryon T. McGregor
Name: Bryon T. McGregor
Title: Chief Financial Officer

AGREED AND ACCEPTED:

COBANK, ACB

By: /s/ Janet Downs
Name: Janet Downs
Title: Vice President

[Amended and Restated Term Note Signature Page]

EXHIBIT A

FORM OF TERM LOAN REQUEST

[____], 20[]

To: CoBank, ACB (the "Agent")

From: Illinois Corn Processing, LLC (the "Company")

Re: Credit Agreement (as amended, restated, modified or supplemented from time to time, the "Credit Agreement"), dated as of September 15, 2017, between the Company, Compeer Financial, PCA, as Lender, and the Agent

Pursuant to Section 2.1 of the Credit Agreement, the Company hereby gives notice of its desire to receive a Term Loan in accordance with the terms set forth below (all capitalized terms used herein and not defined herein shall have the meaning given them in the Credit Agreement):

- (a) The Term Loan requested pursuant to this Loan Request shall be made on [____], 20[].
- (b) The aggregate principal amount of the Term Loan requested hereunder is [____] Dollars (\$[____]).
- (c) The Term Loan requested hereunder shall initially bear interest at the *[select one]*:
 - LIBOR Index Option; or
 - Quoted Rate Option.

ILLINOIS CORN PROCESSING, LLC

By: _____
Name: _____
Title: _____

AMENDED AND RESTATED REVOLVING TERM NOTE

\$18,000,000

Greenwood Village, Colorado
December 20, 2019

FOR VALUE RECEIVED, ILLINOIS CORN PROCESSING, LLC, a limited liability company organized and existing under the laws of Delaware (the “**Company**”), hereby promises to pay to the order of COMPEER FINANCIAL, PCA (which, together with its endorsees, successors, and assigns, is referred to herein as the “**Bank**”), at the office of CoBank, ACB (the “**Agent**”) located at 6340 S. Fiddlers Green Circle, Greenwood Village, Colorado 80111 (or at such other place of payment designated by the holder hereof to the Company), the lesser of (i) the principal sum of EIGHTEEN MILLION DOLLARS (\$18,000,000) as reduced from time to time pursuant to Section 1 below (as so reduced, the “**Revolving Term Commitment**”), or (ii) the aggregate unpaid principal balance of all loans made under the Revolving Term Commitment by the Bank to or for the benefit of the Company (each loan and any one or more portions of any loan being referred to herein as a “**Loan**”) pursuant to that Credit Agreement, dated as of September 15, 2017, between the Company, the Bank and the Agent (as amended, restated, modified or supplemented from time to time, the “**Agreement**”), in lawful money of the United States of America in immediately available funds, payable together with interest thereon, as set forth below, without presentment, demand, protest or notice of any kind, all of which are hereby expressly waived by the Company, and without set-off, counterclaim or other deduction of any nature at the earlier of September 1, 2022 (the “**Revolving Term Facility Expiration Date**”), or as otherwise set forth below or in the Agreement. Capitalized terms not otherwise defined in this Revolving Term Note (as amended, restated, modified, supplemented, replaced, refinanced or renewed from time to time, this “**Note**”) shall have the respective meanings ascribed to them by the Agreement, including Annex A thereto, and the Rules of Construction set forth in such Annex A shall apply to this Note. This Note amends and restates, but does not constitute payment of the indebtedness, evidenced by, the Revolving Term Note, dated as of September 15, 2017, by the Company to the order of the Bank.

1. Commitment Reductions. The Company shall have the right, in its sole discretion, to permanently reduce the Revolving Term Commitment by giving the Agent ten (10) days prior written notice; provided that no Event of Default or Default has occurred or would result therefrom. Any such permanent reduction by the Company shall be made in increments of \$500,000.

2. Principal Payments and Prepayments. Payments and prepayments of principal shall be due and payable as set forth in the Agreement and this Note. The entire remaining indebtedness evidenced by this Note, if not sooner paid in accordance with the terms of the Agreement or this Note, shall be due and payable on the Revolving Term Facility Expiration Date. If at any time, the aggregate principal amount of Loans outstanding exceeds the Revolving Term Commitment at such time, the Company shall immediately notify the Agent and shall immediately prepay the principal amount of the outstanding Loans in an amount sufficient to eliminate such excess.

3. Purpose of Revolving Term Facility. The proceeds of the Revolving Term Facility shall be used to refinance the existing indebtedness of the Company and provide Working Capital for the Company, and the Company shall use the Loans for no other purpose.

4. Unused Commitment Fee. Accruing from the date hereof until the Revolving Term Facility Expiration Date, the Company agrees to pay to the Agent a nonrefundable commitment fee (the “**Unused Commitment Fee**”) equal to 0.75% per annum (computed on the basis of a year of 360 days for the actual number of days elapsed) multiplied by the average daily positive difference between the amount of (i) the Revolving Term Commitment minus (ii) the aggregate principal amount of all Loans then outstanding. All Unused Commitment Fees shall accrue to the first day of each month and be payable monthly in arrears on the 20th day of each month hereafter, commencing on October 20, 2017, and on the Revolving Term Facility Expiration Date.

5. *Interest Payments.* The Company hereby further promises to pay to the order of the Agent, at the times and on the dates provided in the Agreement, interest on the unpaid principal amount of the Loans from the date hereof until the Payment in Full of all of the Loans at the rate or rates comprising the Interest Rate Option(s) (defined below), which the Company shall select in accordance with the terms hereof to apply to each Loan, it being understood that, subject to the provisions of this Note and the Agreement, the Company may select different Interest Rate Options to apply to the Loans and may convert to or renew one or more Interest Rate Options with respect to any one or more of the Loans; provided that in the event the Company shall fail to timely select an Interest Rate Option to apply to any one or more Loans, such Loans shall bear interest at the LIBOR Index Option, and provided further that if an Event of Default or Default exists and is continuing, the Company may not request, convert to, or renew the Quoted Rate Option for any Loans, and the Agent may demand that all existing Loans bearing interest under the Quoted Rate Option shall be converted immediately to the LIBOR Index Option, and the Company shall be obligated to pay the Agent any indemnity, costs, and expenses arising in connection with such conversion.

6. *Interest Rate Options.* The Company shall have the right to select from the following interest rate options with respect to the Loans (each, an **Interest Rate Option**): (a) upon the selection of a LIBOR Index Option, the LIBOR Index Rate with a LIBOR Index Spread of 5.00% per annum (the "**LIBOR Index Spread**") or (b) upon the selection of a Quoted Rate Option, the Quoted Rate with such Quoted Rate to remain fixed for such period as is confirmed to the Company by the Agent.

7. *Loans; Limitations.* Under the Quoted Rate Option, a Quoted Rate may be fixed on such balance and for such period, and shall be subject to such rules and requirements as may be established by the Agent in its sole discretion in each instance, provided that: (1) the minimum fixed period hereunder shall be 365 days; (2) at no time shall more than 10 Loans to which the Quoted Rate Option applies be outstanding at any one time; and (3) amounts may be fixed in increments of \$500,000 or integral multiples thereof. The Agent's determination of the Quoted Rate shall be conclusive and binding upon the Company absent manifest error.

8. *Loan Requests.* Subject to the terms and conditions of this Note and the Agreement, the Company may prior to the Revolving Term Facility Expiration Date request the Bank to make Loans and the Company may from time to time prior to the Revolving Term Facility Expiration Date request the Agent to renew or convert the Interest Rate Option applicable to an existing Loan, by delivering, in accordance with the notice provisions of the Agreement, to the Agent not later than 12:00 noon (Denver time),

(a) the same Business Day as the proposed Business Day of borrowing with respect to a Loan to which the LIBOR Index Option will apply, and (b) the same Business Day as the proposed Business Day of borrowing with respect to a Loan to which the Quoted Rate Option will apply or the last day of the preceding Quoted Rate period with respect to the conversion to or renewal of the Quoted Rate Option for a Loan,

a duly completed request therefor substantially in the form of Exhibit A hereto (or a request made by CoLink or by telephone, but subject to the same deadline and containing substantially the same information, and in the case of a telephone request, immediately confirmed in writing substantially in the form of Exhibit A and delivered in accordance with the terms hereof) by physical delivery, facsimile, or electronic mail (each such request, whether telephonic or written and regardless how delivered, a "**Loan Request**"), it being understood that the Agent may rely on the authority of any individual making such a telephonic request without the necessity of receipt of such written confirmation. Each Loan Request shall be irrevocable and shall specify the amount of the proposed Loan, the Interest Rate Option to be applicable thereto, and, if applicable, the Quoted Rate period therefor (each Quoted Rate applicable to a Loan shall remain fixed for such period as is confirmed to the Company by the Agent), which amounts shall be in integral multiples of \$500,000 for each Loan under the Quoted Rate Option. All notices and requests hereunder shall be given, and all borrowings and all conversions or renewals of Interest Rate Options shall occur, only on Business Days.

9. *Incomplete Loan Requests; Consequences.* If no Interest Rate Option is timely selected when a Loan is requested or with respect to the end of any applicable Quoted Rate period for a Loan or prior to a requested conversion to a Quoted Rate Option for a Loan previously subject to a different Interest Rate Option, the Company shall be deemed to have selected a LIBOR Index Option for such Loan. In no event shall the interest rate(s) applicable to principal outstanding hereunder exceed the maximum rate of interest allowed by applicable Law, as amended from time to time; any payment of interest or in the nature of interest in excess of such limitation shall be credited as a payment of principal unless the Company requests the return of such amount.

10. *Miscellaneous.*

(a) This Note is the Revolving Term Note referred to in, and is entitled to the benefits of, the Agreement and the other Loan Documents referred to therein. Reference is made to the Agreement for a description of the relative rights and obligations of the Company, the Bank and the Agent, including rights and obligations of prepayment, collateral securing payment hereof, Events of Default, and rights of acceleration of maturity upon the occurrence of an Event of Default.

(b) No delay on the part of the holder hereof in exercising any of its options, powers, or rights, or partial or single exercise thereof, shall constitute a waiver thereof. The options, powers, and rights specified herein of the holder hereof are in addition to those otherwise created or permitted by Law, the Agreement, and the other Loan Documents. There are no claims, set-offs, or deductions of any nature as of the date hereof that could be made or asserted by the Company against the Bank and / or the Agent or against any amount due or to become due under this Note; all such claims, set-offs, or deductions are hereby waived by the Company.

(c) Delivery of an executed signature page of this Note by telecopy or email (as a *pdf* attachment thereto or otherwise) shall be as effective as delivery of a manually executed counterpart of this Note, but shall in any event be promptly followed by delivery of the original manually executed signature page (provided, however, that the failure to do so shall in no event adversely affect the rights of the Bank and / or the Agent hereunder whatsoever). THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF COLORADO, WITHOUT GIVING EFFECT TO CONFLICT OF LAWS PRINCIPLES.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF and intending to be legally bound hereby, the Company has executed this Note as of the date hereof by its duly Authorized Officer.

ILLINOIS CORN PROCESSING, LLC

By: /s/ Bryon T. McGregor
Name: Bryon T. McGregor
Title: Chief Financial Officer

AGREED AND ACCEPTED:

COBANK, ACB

By: /s/ Janet Downs
Name: Janet Downs
Title: Vice President

[Amended and Restated Revolving Term Note Signature Page]

EXHIBIT A

FORM OF REVOLVING TERM LOAN REQUEST

[____], 20[__]

To: CoBank, ACB (the "Agent")

From: Illinois Corn Processing, LLC (the "Company")

Re: Credit Agreement (as amended, restated, modified or supplemented from time to time, the "Credit Agreement"), dated as of September 15, 2017, between the Company, Compeer Financial, PCA, as Lender, and the Agent

Pursuant to Section 2.2(a) of the Credit Agreement, the Company hereby gives notice of its desire to receive a Revolving Term Loan in accordance with the terms set forth below (all capitalized terms used herein and not defined herein shall have the meaning given them in the Credit Agreement):

(a) The Revolving Term Loan requested pursuant to this Revolving Term Loan Request shall be made on [____], 20[__].

(b) The aggregate principal amount of the Revolving Term Loan requested hereunder is [____] Dollars (\$[____]).

(c) The Revolving Term Loan requested hereunder shall initially bear interest at the *[select one]*:

LIBOR Index Option; or

Quoted Rate Option.

ILLINOIS CORN PROCESSING, LLC

By: _____
Name: _____
Title: _____

THIRD AMENDED AND RESTATED
REVOLVING TERM NOTE

\$32,000,000

Greenwood Village, Colorado
December 20, 2019

FOR VALUE RECEIVED, PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized and existing under the laws of Delaware (the “**Company**”), hereby promises to pay to the order of COMPEER FINANCIAL, PCA, successor by merger to 1st Farm Credit Services, PCA (which, together with its endorsees, successors, and assigns, is referred to herein as the “**Bank**”), at the office of CoBank, ACB (the “**Agent**”) located at 6340 S. Fiddlers Green Circle, Greenwood Village, Colorado 80111 (or at such other place of payment designated by the holder hereof to the Company), the lesser of (i) the principal sum of THIRTY-TWO MILLION DOLLARS (\$32,000,000) as reduced on the dates set forth in Section 1 below (as so reduced, the “**Revolving Term Commitment**”), or (ii) the aggregate unpaid principal balance of all loans made under the Revolving Term Commitment by the Bank to or for the benefit of the Company (each loan and any one or more portions of any loan being referred to herein as a “**Loan**”) pursuant to that Credit Agreement, dated as of December 15, 2016, between the Company, the Bank and the Agent (as amended, restated, modified or supplemented from time to time, the “**Agreement**”), in lawful money of the United States of America in immediately available funds, payable together with interest thereon, as set forth below, without presentment, demand, protest or notice of any kind, all of which are hereby expressly waived by the Company, and without set-off, counterclaim or other deduction of any nature at the earlier of February 1, 2022 (the “**Revolving Term Facility Expiration Date**”), or as otherwise set forth below or in the Agreement. Capitalized terms not otherwise defined in this Second Amended and Restated Revolving Term Note (as amended, restated, modified, supplemented, replaced, refinanced or renewed from time to time, this “**Note**”) shall have the respective meanings ascribed to them by the Agreement, including Annex A thereto, and the Rules of Construction set forth in such Annex A shall apply to this Note. This Note amends and restates, but does not constitute payment of the indebtedness, evidenced by, the Second Amended and Restated Revolving Term Note, dated as of March 20, 2019, by the Company to the order of the Bank.

1. Commitment Reductions. The Company shall have the right, in its sole discretion, to permanently reduce the Revolving Term Commitment by giving the Agent ten (10) days prior written notice; provided that no Event of Default or Default has occurred or would result therefrom. Any such permanent reduction by the Company shall be made in increments of \$500,000.

2. Principal Payments and Prepayments. Payments and prepayments of principal shall be due and payable as set forth in the Agreement and this Note. The entire remaining indebtedness evidenced by this Note, if not sooner paid in accordance with the terms of the Agreement or this Note, shall be due and payable on the Revolving Term Facility Expiration Date. If at any time, the aggregate principal amount of Loans outstanding exceeds the Revolving Term Commitment at such time, the Company shall immediately notify the Agent and shall immediately prepay the principal amount of the outstanding Loans in an amount sufficient to eliminate such excess.

3. Purpose of Revolving Term Facility. The proceeds of the Revolving Term Facility shall be used to refinance the existing indebtedness of the Company and provide Working Capital for the Company, and the Company shall use the Loans for no other purpose.

4. Unused Commitment Fee. Accruing from the date hereof until the Revolving Term Facility Expiration Date, the Company agrees to pay to the Agent a nonrefundable commitment fee (the “**Unused Commitment Fee**”) equal to 0.75% per annum (computed on the basis of a year of 360 days for the actual number of days elapsed) multiplied by the average daily positive difference between the amount of (i) the Revolving Term Commitment minus (ii) the aggregate principal amount of all Loans then outstanding. All Unused Commitment Fees shall accrue to the first day of each month and be payable monthly in arrears on the 20th day of each month hereafter and on the Revolving Term Facility Expiration Date.

5. *Interest Payments.* The Company hereby further promises to pay to the order of the Agent, at the times and on the dates provided in the Agreement, interest on the unpaid principal amount of the Loans from the date hereof until the Payment in Full of all of the Loans at the rate or rates comprising the Interest Rate Option(s) (defined below), which the Company shall select in accordance with the terms hereof to apply to each Loan, it being understood that, subject to the provisions of this Note and the Agreement, the Company may select different Interest Rate Options to apply to the Loans and may convert to or renew one or more Interest Rate Options with respect to any one or more of the Loans; provided that in the event the Company shall fail to timely select an Interest Rate Option to apply to any one or more Loans, such Loans shall bear interest at the LIBOR Index Option, and provided further that if an Event of Default or Default exists and is continuing, the Company may not request, convert to, or renew the Quoted Rate Option for any Loans, and the Agent may demand that all existing Loans bearing interest under the Quoted Rate Option shall be converted immediately to the LIBOR Index Option, and the Company shall be obligated to pay the Agent any indemnity, costs, and expenses arising in connection with such conversion.

6. *Interest Rate Options.* The Company shall have the right to select from the following interest rate options with respect to the Loans (each, an **Interest Rate Option**): (a) upon the selection of a LIBOR Index Option, the LIBOR Index Rate with a LIBOR Index Spread of 7.00% per annum (the "**LIBOR Index Spread**") or (b) upon the selection of a Quoted Rate Option, the Quoted Rate with such Quoted Rate to remain fixed for such period as is confirmed to the Company by the Agent.

7. *Loans; Limitations.* Under the Quoted Rate Option, a Quoted Rate may be fixed on such balance and for such period, and shall be subject to such rules and requirements as may be established by the Agent in its sole discretion in each instance, provided that: (1) the minimum fixed period hereunder shall be 365 days; (2) at no time shall more than 10 Loans to which the Quoted Rate Option applies be outstanding at any one time; and (3) amounts may be fixed in increments of \$500,000 or integral multiples thereof. The Agent's determination of the Quoted Rate shall be conclusive and binding upon the Company absent manifest error.

8. *Loan Requests.* Subject to the terms and conditions of this Note and the Agreement, the Company may prior to the Revolving Term Facility Expiration Date request the Bank to make Loans and the Company may from time to time prior to the Revolving Term Facility Expiration Date request the Agent to renew or convert the Interest Rate Option applicable to an existing Loan, by delivering, in accordance with the notice provisions of the Agreement, to the Agent not later than 12:00 noon (Denver time),

(a) the same Business Day as the proposed Business Day of borrowing with respect to a Loan to which the LIBOR Index Option will apply, and (b) the same Business Day as the proposed Business Day of borrowing with respect to a Loan to which the Quoted Rate Option will apply or the last day of the preceding Quoted Rate period with respect to the conversion to or renewal of the Quoted Rate Option for a Loan,

a duly completed request therefor substantially in the form of Exhibit A hereto (or a request made by CoLink or by telephone, but subject to the same deadline and containing substantially the same information, and in the case of a telephone request, immediately confirmed in writing substantially in the form of Exhibit A and delivered in accordance with the terms hereof) by physical delivery, facsimile, or electronic mail (each such request, whether telephonic or written and regardless how delivered, a "**Loan Request**"), it being understood that the Agent may rely on the authority of any individual making such a telephonic request without the necessity of receipt of such written confirmation. Each Loan Request shall be irrevocable and shall specify the amount of the proposed Loan, the Interest Rate Option to be applicable thereto, and, if applicable, the Quoted Rate period therefor (each Quoted Rate applicable to a Loan shall remain fixed for such period as is confirmed to the Company by the Agent), which amounts shall be in integral multiples of \$500,000 for each Loan under the Quoted Rate Option. All notices and requests hereunder shall be given, and all borrowings and all conversions or renewals of Interest Rate Options shall occur, only on Business Days.

9. *Incomplete Loan Requests; Consequences.* If no Interest Rate Option is timely selected when a Loan is requested or with respect to the end of any applicable Quoted Rate period for a Loan or prior to a requested conversion to a Quoted Rate Option for a Loan previously subject to a different Interest Rate Option, the Company shall be deemed to have selected a LIBOR Index Option for such Loan. In no event shall the interest rate(s) applicable to principal outstanding hereunder exceed the maximum rate of interest allowed by applicable Law, as amended from time to time; any payment of interest or in the nature of interest in excess of such limitation shall be credited as a payment of principal unless the Company requests the return of such amount.

10. *Miscellaneous.*

(a) This Note is the Revolving Term Note referred to in, and is entitled to the benefits of, the Agreement and the other Loan Documents referred to therein. Reference is made to the Agreement for a description of the relative rights and obligations of the Company, the Bank and the Agent, including rights and obligations of prepayment, collateral securing payment hereof, Events of Default, and rights of acceleration of maturity upon the occurrence of an Event of Default.

(b) No delay on the part of the holder hereof in exercising any of its options, powers, or rights, or partial or single exercise thereof, shall constitute a waiver thereof. The options, powers, and rights specified herein of the holder hereof are in addition to those otherwise created or permitted by Law, the Agreement, and the other Loan Documents. There are no claims, set-offs, or deductions of any nature as of the date hereof that could be made or asserted by the Company against the Bank and / or the Agent or against any amount due or to become due under this Note; all such claims, set-offs, or deductions are hereby waived by the Company.

(c) Delivery of an executed signature page of this Note by telecopy or email (as a *pdf* attachment thereto or otherwise) shall be as effective as delivery of a manually executed counterpart of this Note, but shall in any event be promptly followed by delivery of the original manually executed signature page (provided, however, that the failure to do so shall in no event adversely affect the rights of the Bank and / or the Agent hereunder whatsoever). THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF COLORADO, WITHOUT GIVING EFFECT TO CONFLICT OF LAWS PRINCIPLES.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF and intending to be legally bound hereby, the Company has executed this Note as of the date hereof by its duly Authorized Officer.

PACIFIC ETHANOL PEKIN, LLC

By: /s/ Bryon T. McGregor
Name: Bryon T. McGregor
Title: Chief Financial Officer

AGREED AND ACCEPTED:

COBANK, ACB

By: /s/ Janet Downs
Name: Janet Downs
Title: Vice President

[Third Amended and Restated Revolving Term Note Signature Page]

EXHIBIT A

FORM OF REVOLVING TERM LOAN REQUEST

[_____] , 20[__]

To: CoBank, ACB (the “**Agent**”)
Attn: Loan Administration
Email: cobankloanaccounting@cobank.com

From: Pacific Ethanol Pekin, LLC (the “**Company**”)

Re: Credit Agreement (as amended, restated, modified or supplemented from time to time, the “**Credit Agreement**”), dated as of December 15, 2016, between the Company, Compeer Financial, PCA, successor by merger to 1st Farm Credit Services, PCA, as Lender, and the Agent

Pursuant to Section 2.2(a) of the Credit Agreement, the Company hereby gives notice of its desire to receive a Revolving Term Loan in accordance with the terms set forth below (all capitalized terms used herein and not defined herein shall have the meaning given them in the Credit Agreement):

- (a) The Revolving Term Loan requested pursuant to this Revolving Term Loan Request shall be made on [_____] , 20[__].
- (b) The aggregate principal amount of the Revolving Term Loan requested hereunder is [_____] Dollars (\$[_____]).
- (c) The Revolving Term Loan requested hereunder shall initially bear interest at the ~~select one~~:

- LIBOR Index Option; or
- Quoted Rate Option.

PACIFIC ETHANOL PEKIN, LLC

By: _____
Name: _____
Title: _____

FOURTH AMENDED AND RESTATED
TERM NOTE

\$39,500,000

Greenwood Village, Colorado
December 20, 2019

FOR VALUE RECEIVED, PACIFIC ETHANOL PEKIN, LLC, a limited liability company organized and existing under the laws of Delaware (the “**Company**”), hereby promises to pay to the order of COMPEER FINANCIAL, PCA, successor by merger to 1st Farm Credit Services, PCA (which, together with its endorsees, successors, and assigns, is referred to herein as the “**Bank**”), at the office of CoBank, ACB (the “**Agent**”), located at 6340 S. Fiddlers Green Circle, Greenwood Village, Colorado 80111 (or at such other place of payment designated by the holder hereof to the Company), the principal sum of THIRTY NINE MILLION FIVE HUNDRED THOUSAND DOLLARS (\$39,500,000) (such amount, the “**Term Loan Amount**”) (each loan and any one or more portions of any loan being referred to herein as a “**Loan**”), and to pay interest, as set forth below, from the date hereof until Payment in Full on the principal amount remaining from time to time outstanding at the rates set forth below, in lawful money of the United States of America in immediately available funds, payable with interest thereon, as set forth below, without presentment, demand, protest or notice of any kind, all of which are hereby expressly waived by the Company, and without set-off, counterclaim or other deduction of any nature. This Fourth Amended and Restated Term Note (as amended, restated, modified, supplemented, replaced, refinanced or renewed from time to time, this “**Note**”) is given pursuant to that Credit Agreement, dated as of December 15, 2016, between the Company, the Bank and the Agent (as amended, restated, modified or supplemented from time to time, the “**Agreement**”). Capitalized terms not otherwise defined in this Note shall have the respective meanings ascribed to them by the Agreement, including Annex A thereto, and the Rules of Construction set forth in such Annex A shall apply to this Note. This Note amends and restates, but does not constitute payment of the indebtedness, evidenced by, the Third Amended and Restated Term Note, dated as of March 20, 2019, by the Company to the order of the Bank in the original principal amount of the Term Loan Amount.

1. *Borrowing Availability.* The Term Loan Amount was advanced on or before January 31, 2017 (the “**Term Loan Availability Expiration Date**”), and no additional advances shall be permitted under this Note.

2. *Purpose of Term Loan.* The proceeds of the Term Loan shall be used to refinance the existing indebtedness of the Company, and the Company shall use the Term Loan for no other purpose.

3. *Principal Payments.* As of the date hereof, the remaining principal balance of the Loan is \$39,500,000. The remaining principal hereunder shall be due and payable in four (4) equal consecutive installments of \$3,500,000 each, beginning on September 20, 2020, and continuing on the twentieth (20th) day of each December, March, and June thereafter until August 20, 2021 (the “**Maturity Date**”), at which time the entire remaining indebtedness evidenced by this Note, if not sooner paid in accordance with the terms of the Agreement and this Note, shall be due and payable.

4. *Interest Payments.* The Company hereby further promises to pay to the order of the Agent, at the times and on the dates provided in the Agreement, interest on the unpaid principal amount of the Loans from the date hereof until the Payment in Full of all of the Loans at the rate or rates comprising the Interest Rate Option(s) (defined below), which the Company shall select in accordance with the terms hereof to apply to each Loan, it being understood that, subject to the provisions of this Note and the Agreement, the Company may select different Interest Rate Options to apply to the Loans and may convert to or renew one or more Interest Rate Options with respect to any one or more of the Loans; provided that in the event the Company shall fail to timely select an Interest Rate Option to apply to any one or more Loans, such Loans shall bear interest at the LIBOR Index Option, and provided further that if an Event of Default or Default exists and is continuing, the Company may not request, convert to, or renew the Quoted Rate Option for any Loans, and the Agent may demand that all existing Loans bearing interest under the Quoted Rate Option shall be converted immediately to the LIBOR Index Option, and the Company shall be obligated to pay the Agent any indemnity, costs, and expenses arising in connection with such conversion.

5. *Interest Rate Options.* The Company shall have the right to select from the following interest rate options with respect to the Loans (each, an **Interest Rate Option**): (a) upon the selection of a LIBOR Index Option, the LIBOR Index Rate with a LIBOR Index Spread of 7.00% per annum (the "**LIBOR Index Spread**") or (b) upon the selection of a Quoted Rate Option, the Quoted Rate with such Quoted Rate to remain fixed for such period as is confirmed to the Company by the Agent.

6. *Loan Requests.* Subject to the terms and conditions of this Note and the Agreement, the Company may prior to the Term Loan Availability Expiration Date request the Bank to make the Term Loan and the Company may from time to time prior to the Maturity Date request the Agent to renew or convert the Interest Rate Option applicable to an existing Loan, by delivering, in accordance with the notice provisions of the Agreement, to the Agent not later than 12:00 noon (Denver time),

(a) the same Business Day as the proposed Business Day of borrowing with respect to a Loan to which the LIBOR Index Option will apply, and (b) the same Business Day as the proposed Business Day of borrowing with respect to a Loan to which the Quoted Rate Option will apply or the last day of the preceding Quoted Rate period with respect to the conversion to or renewal of the Quoted Rate Option for a Loan,

a duly completed request therefor substantially in the form of Exhibit A hereto (or a request made by CoLink or by telephone, but subject to the same deadline and containing substantially the same information, and in the case of a telephone request, immediately confirmed in writing substantially in the form of Exhibit A and delivered in accordance with the terms hereof) by physical delivery, facsimile, or electronic mail (each such request, whether telephonic or written and regardless how delivered, a "**Loan Request**"), it being understood that the Agent may rely on the authority of any individual making such a telephonic request without the necessity of receipt of such written confirmation. Each Loan Request shall be irrevocable and shall specify the amount of the proposed Loan, the Interest Rate Option to be applicable thereto, and, if applicable, the Quoted Rate period therefor (each Quoted Rate applicable to a Loan shall remain fixed for such period as is confirmed to the Company by the Agent), which amounts shall be in integral multiples of \$500,000 for each Loan under the Quoted Rate Option. All notices and requests hereunder shall be given, and all borrowings and all conversions or renewals of Interest Rate Options shall occur, only on Business Days.

7. *Loans; Limitations.* Under the Quoted Rate Option, a Quoted Rate may be fixed on such balance and for such period, and shall be subject to such rules and requirements as may be established by the Agent in its sole discretion in each instance, provided that: (1) the minimum fixed period hereunder shall be 365 days; (2) at no time shall more than 10 Loans to which the Quoted Rate Option applies be outstanding at any one time; and (3) amounts may be fixed in increments of \$500,000 or integral multiples thereof. The Agent's determination of the Quoted Rate shall be conclusive and binding upon the Company absent manifest error.

8. *Incomplete Loan Requests; Consequences.* If no Interest Rate Option is timely selected when a Loan is requested or with respect to the end of any applicable Quoted Rate period for a Loan or prior to a requested conversion to a Quoted Rate Option for a Loan previously subject to a different Interest Rate Option, the Company shall be deemed to have selected a LIBOR Index Option for such Loan. In no event shall the interest rate(s) applicable to principal outstanding hereunder exceed the maximum rate of interest allowed by applicable Law, as amended from time to time; any payment of interest or in the nature of interest in excess of such limitation shall be credited as a payment of principal unless the Company requests the return of such amount.

9. *Miscellaneous.*

(a) This Note is the Term Note referred to in, and is entitled to the benefits of, the Agreement and the other Loan Documents referred to therein. Reference is made to the Agreement for a description of the relative rights and obligations of the Company, the Bank and the Agent, including rights and obligations of prepayment, collateral securing payment hereof, Events of Default, and rights of acceleration of maturity upon the occurrence of an Event of Default.

(b) No delay on the part of the holder hereof in exercising any of its options, powers, or rights, or partial or single exercise thereof, shall constitute a waiver thereof. The options, powers, and rights specified herein of the holder hereof are in addition to those otherwise created or permitted by Law, the Agreement, and the other Loan Documents. There are no claims, set-offs, or deductions of any nature as of the date hereof that could be made or asserted by the Company against the Bank and / or the Agent or against any amount due or to become due under this Note; all such claims, set-offs, or deductions are hereby waived by the Company.

(c) Delivery of an executed signature page of this Note by telecopy or email (as a *pdf* attachment thereto or otherwise) shall be as effective as delivery of a manually executed counterpart of this Note, but shall in any event be promptly followed by delivery of the original manually executed signature page (provided, however, that the failure to do so shall in no event adversely affect the rights of the Bank and / or the Agent hereunder whatsoever). THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF COLORADO, WITHOUT GIVING EFFECT TO CONFLICT OF LAWS PRINCIPLES.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF and intending to be legally bound hereby, the Company has executed this Note as of the date hereof by its duly Authorized Officer.

PACIFIC ETHANOL PEKIN, LLC

By: /s/ Bryon T. McGregor
Name: Bryon T. McGregor
Title: Chief Financial Officer

AGREED AND ACCEPTED:

COBANK, ACB

By: /s/ Janet Downs
Name: Janet Downs
Title: Vice President

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the use in this Registration Statement on Form S-1 of Pacific Ethanol, Inc. of our reports dated March 18, 2019, relating to the consolidated financial statements and the effectiveness of internal control over financial reporting of Pacific Ethanol, Inc., appearing in the Prospectus, which is part of this Registration Statement.

We also consent to the reference to our firm under the caption "Experts" in such Prospectus.

/s/ RSM US LLP

Sioux Falls, South Dakota
January 21, 2020