FutureFuel Corp.
Form 10-K
March 15, 2019

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2018

or

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

For the transition period from _____ to _____

Commission file number: 0-52577

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**20-3340900**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)

8235 Forsyth Blvd., 4th Floor

Clayton, Missouri 63105

(Address of Principal Executive Offices, including Zip Code)

(314) 854-8352

(Registrant's telephone number, including area code)

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

Title of each class	Name of each exchange on which registered
Common stock, par value $0.0001	New York Stock Exchange

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

None

(Title of class)

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

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

Note —Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Exchange Act from their obligations under those Sections.

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

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

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

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

Large accelerated filer	Accelerated filer	√
Non-accelerated filer	Smaller reporting company	Emerging growth company

(Do not check if a smaller reporting company)

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

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

State the aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold, or the average bid and asked price of such common equity, as of the last business day of the registrant's most recently completed second fiscal quarter.

$358,626,929

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date: 43,743,243

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PART I

Item 1. Business

General Development of the Business

The Company

FutureFuel Corp. (sometimes referred to as the "Company," "we," "us," or "our," and includes our wholly owned subsidiaries) is a Delaware corporation. Trading of our common stock on the New York Stock Exchange ("NYSE") commenced on March 23, 2011 under the symbol "FF".

We are headquartered in St. Louis, Missouri and our sole manufacturing operations are conducted through our wholly-owned subsidiary, FutureFuel Chemical Company, at our facility in Batesville, Arkansas. Our business is managed in two segments: chemicals and biofuels. The chemicals segment manufactures a diversified listing of chemical products that are sold to third party customers. The biofuels segment primarily produces and sells biodiesel to our customers.

During 2018, we distributed normal quarterly cash dividends of $0.06 per share on our common stock. Additionally, we have declared normal quarterly cash dividends of $0.06 per share on our common stock for the calendar year 2019.

FutureFuel Chemical Company

FutureFuel Chemical Company, a wholly-owned subsidiary of FutureFuel Corp., is a Delaware corporation that manufactures diversified chemical products, bio-based products comprised of biofuels, and bio-based specialty chemical products.

The majority of the revenues from the chemicals segment are derived from the custom manufacturing of specialty chemicals for specific customers. We have actively worked to develop our chemicals business with new customers in more diversified growth markets.

Our specialty chemicals business is based on a solid reputation as a technology-driven, highly reliable, and globally competitive specialty chemicals producer. We retain a strong emphasis on operational excellence, cost control, and efficiency improvements to enable us to compete in the worldwide chemical industry.

With respect to our biofuels segment, our plant has a demonstrated capacity in excess of 58 million gallons per year. The plant ran at a slightly reduced rate during 2018 without the reinstatement of the blenders' tax credit ("BTC") which weakened market conditions for renewable fuel. The BTC was retroactively reinstated for fiscal year 2017 in February of 2018, however, the BTC has not been extended past 2017. The future production of biodiesel is uncertain and will depend on various factors including: (i) changes in feedstock prices relative to biodiesel prices (ii) whether government mandates with respect to biodiesel usage remain in effect (iii) whether certain tax credits with respect to biodiesel production remain in effect and (iv) competitiveness and availability of foreign imports. See the discussion below, including "Risk Factors" beginning at page 16 below.

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Narrative Description of Our Business

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Principal Executive Offices

Our principal executive offices are located at 8235 Forsyth Blvd., 4th Floor, Clayton, Missouri 63105. Our telephone number is (314) 854-8352. FutureFuel Chemical Company's principal executive offices are located at 2800 Gap Road, Highway 394 South, Batesville, Arkansas 72501-9680. Its telephone number is (870) 698-3000.

Plant Location

We own approximately 2,200 acres of land six miles southeast of Batesville in north central Arkansas fronting the White River. Approximately 500 acres of the site are occupied with batch and continuous manufacturing facilities, laboratories, and associated infrastructure, including on-site liquid waste treatment. Land and infrastructure are available to support expansion and business growth.

Operations

For the year ended December 31, 2018, approximately 60% of our revenue was derived from biofuels, 33% from manufacturing specialty chemicals for specific customers ("custom manufacturing"), and 7% of revenues from multi-customer specialty chemicals ("performance chemicals").

Our biofuels business segment primarily involves the production and sale of biodiesel and petrodiesel blends and the buying, selling, and shipping of refined petroleum products on common carrier pipelines. Custom chemicals manufacturing involves producing unique products for strategic customers, generally under long-term contracts. Our custom chemicals manufacturing portfolio includes agrochemicals and intermediates, detergent additives, biocides intermediates, specialty polymers, dyes, stabilizers, and chemicals intermediates. Our performance chemicals product portfolio includes polymer modifiers that enhance stain resistance and dye-ability to nylon and polyester fibers, in addition to several small-volume specialty chemicals and solvents for diverse applications.

We are committed to growing our biofuels and chemical businesses. For the biofuels business segment, we will continue to leverage our technical capabilities and quality certifications, secure local and regional markets, and expand marketing efforts to fleets and regional/national customers. For our chemicals segment, we intend to pursue

commercialization of other products, including building block chemicals. While pursuing this strategy, we will continue our efforts to establish a name identity for both segments.

Biofuels Business Segment

Biofuel Products

Our biofuels business segment began in 2005 and primarily produces and sells biodiesel. In addition, we sell petrodiesel in blends with our biodiesel and, from time to time, with no biodiesel added. Finally, we are a shipper of refined petroleum products on common carrier pipelines, and we buy and sell petroleum products to maintain our active shipper status on these pipelines.

Biodiesel is a renewable energy product consisting of mono-alkyl esters of fatty acids. The mono-alkyl esters are typically produced from vegetable oil, fat, or grease feedstocks. Biodiesel is used primarily as a blend with petrodiesel (usually 5% (commonly referenced as “B5”) to 20% (commonly referenced as “B20”) by volume). A major advantage of biodiesel is that it can be used in most existing diesel engines and fuel injection equipment in blends up to B20 with no material impact to engine performance. As an additional benefit, biodiesel is the only alternative fuel to meet all testing requirements of the Clean Air Act. In 1998, Congress approved the use of biodiesel as an Energy Policy Act compliance strategy, which allowed federal, state, and public fleets covered by this Act to meet their alternative fuel vehicle purchase requirements by simply buying biodiesel and burning it in new or existing diesel vehicles in a minimum B20 blend. Finally, biodiesel also benefits from favorable properties compared to petrodiesel (e.g., negligible sulfur content, lower particulate matter, lower greenhouse gas emissions, and a higher cetane number leading to better engine performance and lubrication). See http://www.biodiesel.org/using-biodiesel/market-segments/general-interest.

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Our technical and operational competency acquired as a supplier of specialty chemicals enabled the development of a flexible manufacturing process which can utilize a broad range of feedstock oils, including, but not limited to, soy oil, cottonseed oil, pork lard, poultry fat, crude corn oil, yellow grease, inedible tallow, choice white grease, and beef tallow. Our Batesville plant produces biodiesel, which is sometimes referenced as “B100.” A biodiesel blend is currently used in the facility’s diesel fleet and is available for retail sale at the site. We offer B100 and biodiesel blended with petrodiesel (B2, B5, B10, B20, and B50 blends) at our leased storage facility in Little Rock, Arkansas. In addition, we deliver blended product to a small group of customers within our region.

Biodiesel Production/Capacity

While biodiesel can be made from various renewable sources, the choice of feedstock to be used at any particular facility is determined primarily by the price and availability of each feedstock variety, the yield loss of lower quality feedstock, and the capabilities of the producer’s biodiesel production facility. In addition, the chemical properties of the biodiesel (e.g., cloud point, pour point, and cetane number) depend on the type of feedstock. EIA, Monthly Biodiesel Production Report, http://www.eia.gov/biofuels/biodiesel/production.

In the United States, the majority of biodiesel historically has been made from domestically produced crude soybean oil due to its wide spread availability and ease of processing. Since we started our biodiesel production, the cost of crude soybean oil has increased due in part to its use in biodiesel production and competing food demands. As a result, the biodiesel feedstock market in the United States continues a transition from this expensive first-generation soy feedstock to alternative second-generation lower-cost, non-food feedstocks such as waste vegetable oil, tallow, and algae. See http://www.emerging-markets.com/biodiesel/index.html . Our continuous production line produces biodiesel from these second-generation lower-cost feedstocks with high-free fatty acids. Our plant has demonstrated a production capacity in excess of 58 million gallons of biodiesel per year.

Legislative Incentives

Biodiesel production and use in the United States continues to be driven in large part by legislative initiatives at both the federal and state levels.

Federal Renewable Fuels Mandate

The largest incentive at this time is the federal mandate enacted by Congress as part of the Energy Policy Act of 2005 (the “2005 Act”). The 2005 Act included a number of provisions intended to spur the production and use of biodiesel. In

particular, the 2005 Act's provisions included biodiesel as part of the minimum volume (i.e., a mandate) of renewable fuels (the "renewable fuels standard" or "RFS") to be included in the nationwide gasoline and diesel pool. The volume increased each year, from 4 billion gallons per year in 2006 to 16.55 billion gallons per year in 2013. The 2005 Act required the Environmental Protection Agency (the "USEPA") to publish "renewable fuel obligations" applicable to refiners, blenders, and importers in the contiguous 48 states. The renewable fuel obligations are expressed in terms of a volume percentage of gasoline sold or introduced into commerce and consist of a single applicable percentage that applies to all categories of refiners, blenders, and importers. The renewable fuel obligations are based on estimates that the Energy Information Association provides to the USEPA on the volumes of gasoline it expects will be sold or introduced into commerce. The USEPA released the final rules to implement the RFS on April 10, 2007. Under those rules, the RFS compliance period began on September 1, 2007. No differentiation was made among the various types of renewable fuels (e.g., biodiesel or ethanol).

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On December 19, 2007, the Energy Independence and Security Act of 2007 (the "2007 Act") was enacted which, among other things, expanded the RFS (the "RFS2"). Prior to the enactment of the 2007 Act, the RFS requirement was mostly filled by ethanol. In contrast to its predecessor, the 2007 Act provided a renewable fuel standard carve- out specifically applicable to biodiesel. On July 1, 2010, RFS2's biodiesel requirement became effective, thus requiring that a certain percentage of the diesel fuel consumed in the United States be made from renewable sources. The biomass-based diesel mandate rose annually and reached 2.10 billion gallons per year in 2018. Currently, the mandate is determined by the USEPA in coordination with the U.S. Secretaries of Energy and Agriculture. The last update to the mandate was issued on November 30, 2018, when the USEPA finalized the volume requirements and percentage standards under the RFS2 program for 2019 for cellulosic biofuel, biomass based diesel, advanced biofuel, and total renewable fuel.

The following table shows the finalized volume requirement by the USEPA with a modest grow rate in biomass-based diesel.

	Final Renewable Fuel Volumes [a][c]				
	2017	**2018**	**2019**		**2020**
Cellulosic biofuel (million gallons)	311	288	418		n/a
Biomass-based diesel (billion gallons)	2.00	2.10	2.10	[b]	2.43
Advanced biofuel (billion gallons)	4.28	4.29	4.92		n/a
Renewable fuel (billion gallons)	19.28	19.29	19.92		n/a

(a) Units for all volumes are ethanol-equivalent, except for biomass-based diesel volumes, which are expressed as physical gallons.

(b) The 2019 biomass-based diesel volume requirement was established in the 2018 final rule (82 FR 58486, December 12, 2017)

(c) See https://www.epa.gov/renewable-fuel-standard-program/final-renewable-fuel-standards-2019-and-biomass-based-diesel-volu

U.S. biomass-based diesel production, of which biodiesel represents a significant amount, exceeded the federal mandate from 2014 through 2018 as shown in the following chart:

Biomass Production Source : Total U.S. production of renewable fuels in the RFS2 program broken out by fuel type and category is reported by the USEPA at

https://www.epa.gov/fuels-registration-reporting-and-compliance-help/rins-generated-transactions

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Federal Blenders' and Producers' Credits

Biodiesel tax incentives have been provided through various federal statutes, including the 2005 Act and the American Jobs Creation Act, and later, the Emergency Economic Stabilization Act of 2008. The most important of these is the one dollar per gallon BTC applicable to all biodiesel. This credit has lapsed and been reinstated numerous times over the last decade. In late 2015, the BTC was reinstated retroactively to January 1, 2015 and expired on December 31, 2016. The BTC was not in place during 2017, however, in February of 2018, the BTC was retroactively reinstated for 2017. The BTC has not been extended past 2017.

We also benefit from a "small" agri-biodiesel producers' tax credit for production in capacity not in excess 60 million gallons per year. This credit of $0.10 per gallon applies to the first 15 million gallons of agri-biodiesel sold. See https://www.irs.gov/pub/irs-pdf/i8864.pdf. Like the BTC, the small agri-biodiesel credit expired on December 31, 2016, but in February 2018, this credit was also retroactively reinstated for 2017. This credit has not been extended past 2017.

State Incentives

Many states follow the federal government's lead and are offering similar programs and incentives to spur biodiesel production and use. For example, Arkansas offers a tax refund of $0.50 for each gallon of biodiesel used by a supplier to produce a biodiesel/petrodiesel mixture of not more than 2% biodiesel. In April 2007, Arkansas passed legislation that provided for a $0.20 per gallon biodiesel producer credit and up to $50 in grants per site for biodiesel producers and distributors to install distribution infrastructure. The $0.20 per gallon Arkansas producer credit was capped at 10 million gallons of production, or $2 million, per defined time intervals. We applied for, and received, the credit for time intervals through June 30, 2009. No funding was available for this program in 2010 through 2018. However, we intend to apply for the credit in future years when and as such credit is available.

Our review of state statutes reveals that virtually all states provide user or producer incentives for biodiesel, several states provide both types of incentives, and more than 35 states provide incentives to biodiesel producers to build facilities in their states, typically offering tax credits, grants, and other financial incentives. We also are registered in the states of California and Oregon fuel programs which incentivize the use of low carbon fuels specific to biomass-based diesel. Washington is in the process of implementing a similar program. As we expand our business, we will assess these and other state incentives and determine if we qualify. We will also stay abreast of regulations and update registrations if eligible.

Summary

We will continue to identify and pursue other legislative incentives to support our business. However, no assurances can be given that we will qualify for any such incentives or, if we do qualify, what the amount of such incentives will be or whether such incentives will continue to be available.

Quality

For quality specification purposes, and to qualify for the federal mandate, biodiesel must meet the requirements of American Society for Testing and Materials ("ASTM") D6751. This specification ensures that blends up to B20 are compatible with diesel engines and associated fuel system hardware. See *Status and Issues for Biodiesel in the United States*, National Renewable Energy Laboratory, R.L. McCormick et. al., Oct. 2009. All biodiesel manufactured at our Batesville plant is tested in on-site quality control laboratories and confirmed to meet, and typically exceed, the ASTM D6751 standard. Because our biodiesel exceeds industry standard specifications, we appeal to a broader customer base than our competitors.

Commercially available biodiesels can contain small amounts of unreacted or partially reacted oils and fats as well as other minor impurities. The unreacted or partially reacted oils and fats are called glycerides. In rare instances the glycerides and other minor components and impurities can clog engine filters. To address this issue, ASTM D6751 was amended in February 2012 to create two new grades of biodiesel. Grade No. 2 is essentially the specifications in effect before the amendment. Grade No. 1 provides for a maximum total monoglyceride content and a maximum cold soak filterability time and in theory would be used where the No. 2 biodiesel does not operate down to its cloud point. Both grades of biodiesel qualify as "biodiesel" for purposes of the RFS2 mandate. FutureFuel continues to operate under the most recently published version of ASTM D6751, Standard Specifications for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels. All biodiesel made in our continuous process meets the specifications for No. 1 biodiesel.

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The U.S. biodiesel industry created the BQ-9000 program to address quality issues that arose during the early years of the industry. This program is run by the National Biodiesel Accreditation Committee, which is a cooperative and voluntary program for the accreditation of biodiesel producers and marketers. The program is a quality system-oriented program that includes standards for storage, sampling, testing, blending, shipping, distribution, and fuel management practices. Since the creation and adoption of the BQ-9000 program, the quality of biodiesel in the U.S. market has markedly improved. Our plant has operated as a BQ-9000 accredited production facility since 2006.

The ISO 9000 family of standards represents an international consensus on good quality management practices. It consists of standards and guidelines relating to quality management systems and related supporting standards. ISO 9001 provides a set of standardized requirements for a quality management system, regardless of what the user organization does, its size, or whether it is in the private or public sector. It is the only international standard against which organizations can be certified, although certification is not a compulsory requirement of the standard. Our plant is an ISO 9001 accredited production facility for both chemicals and biofuels.

Renewable Identification Numbers

As noted above, the RFS2 mandates levels of various types of renewable fuels that are to be blended with U.S. gasoline and diesel fuel by U.S. refiners, blenders, and importers. Renewable Identification Numbers (“RINs”) are the mechanism for ensuring that the prescribed levels of blending are reached. As ethanol and biodiesel is produced or imported, the producer or importer has the responsibility to report the activity in the USEPA’s Moderated Transaction System (“EMTS”) where a series of numbers (i.e., a RIN) is assigned to their product. Assignment is made according to guidelines established by the USEPA. Currently, 1½ RINs are assigned for each gallon of biodiesel produced. When biofuels change ownership to the refiners, importers, and blenders of the fuel, the RINs are also transferred. The RINs ultimately are separated from the renewable fuel generally at the time the renewable fuel is blended. The refiners, importers, and blenders generally use the RINs to establish that they have blended their applicable percentage of renewable fuels during the applicable reporting period. However, once the RINs are separated from the underlying biofuels (e.g., by blending the underlying biodiesel with petrodiesel), they can also be sold separate and apart from the underlying biofuel.

We generate RINs with our biodiesel. At times, we sell biodiesel with the RIN attached to the fuel. If we blend the biodiesel with petrodiesel in blends of B80 or less (e.g., B5 or B20), we can either sell the RINs with our blended biodiesel or we can sell them as a separate, free-standing instrument removed from the biodiesel. The decision of whether or not to separate the RINs from the blended biodiesel depends on the desires of the customer and market conditions for separated RINs, particularly, market prices. While biodiesel RINs continue to be traded through market makers, no assurances can be given that a separate market for RINs will be sustained or what value will be realized upon the sale of biodiesel RINs.

The USEPA issued a proposed rule on February 21, 2013 to establish a voluntary Quality Assurance Program ("QAP") to verify the validity of renewable identification numbers under the RFS Program. We voluntarily registered in the program as a QAP B participant in 2013. On July 18, 2014, the USEPA issued the final rule. All of our RINs have historically been verified in accordance with the final rule. See https://www.gpo.gov/fdsys/pkg/FR-2014-07-18/pdf/2014-16487.pdf.

Byproducts

Glycerin

A byproduct of the biodiesel process is crude glycerin, which is produced at the rate of approximately 10% by mass of the quantity of biodiesel produced. Countervailing duties levied in 2017 by the U.S. Commerce Department in on biodiesel imported from Argentina and Indonesia reduced excess supply of imported glycerin. The U.S glycerin market corrected in 2018 with supply/demand more in balance. See https://www.icis.com/explore/resources/news/2018/07/18/10242376/us-glycerine-market-finely-balanced-in-h2-2018/ . Crude glycerin (as generated from biodiesel production) is commonly sold into energy exploration and water treatment markets for limited value, the price of which is determined by energy prices, product supply, and corn commodity prices.

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Biodiesel producers may sell their crude glycerin to large refineries for upgrading. Because of the influx of crude glycerin into the market from biodiesel producers, producers currently are receiving only minimal value for this byproduct. Crude glycerin can be refined into a pure form and then used in higher value markets such as specialty chemical production, agricultural formulations, food, pharmaceutical, and/or cosmetic applications. In 2014, we added the capability to refine our crude glycerin to an industrial grade with higher value applications. We currently market both crude and industrial grade glycerin, with our product mix dependent upon refining capacity, product specifications, prices, and other market conditions.

Biodiesel Residue

An additional byproduct of the biodiesel production process is biodiesel residue. We utilize distillation columns in our biodiesel production process. Biodiesel residue accumulates in these columns as biodiesel is produced. This is a low-priced commodity that we aggregate and sell to multiple customers, primarily for use in Bunker C #6 oil and as an asphalt release agent.

Biodiesel Production Capacity

According to *Biodiesel Magazine*, *Fifteenth Edition,* (2019, January), the United States has a total combined annual capacity of 2,470.92 million gallons from 121 biodiesel plants. See https://www.directory.biodieselmagazine.com. Available plant capacity decreased 43 million gallons from 2017. However, a reported total of 10 plants with 190.5 million gallons of capacity are under construction (expansion, retrofit, and greenfield projects) in the U.S. Both current and anticipated biodiesel production capacities remain in excess of the federal mandate. We believe that the biodiesel industry will continue to be highly competitive given the excess capacity.

Customers and Markets

Biodiesel and biodiesel blends are currently used in nearly all of the end markets where petrodiesel is used. Most biodiesel in the United States is consumed in the on-road diesel fuel market, although some is used for off-road purposes such as farming, residential/commercial heating oil, and power generation.

We currently market our biodiesel products by truck, rail, and barge directly to customers in the United States. Through the utilization of liquid bulk storage facilities and barge loading capabilities, we are positioned to market biodiesel throughout the United States mainly for transportation. Although the regional market is still being developed, we estimate that the regional direct market available to us at maturity will be at least 30 million gallons per

year.

For the twelve months ended December 31, 2018, four of our customers represented approximately 58% of our biofuels revenues (35% of total revenues). For the twelve months ended December 31, 2017 and 2016, three and two of our customers represented approximately 44% and 29% of our biofuels revenues (27% and 17% of total revenues), respectively, with the remaining biofuels spread across multiple other customers. We do not have long term contracts with any biofuels customer, but rather sell on the basis of monthly or short-term, multi-month purchase orders at prices based upon then-prevailing market rates. We do not believe that the loss of any of these customers would have a material adverse effect on our biofuels segment or on us as a whole in that: (i) biofuels are a commodity with a large potential customer base (ii) we believe that we could readily sell biofuels to other customers (iii) the prices we receive from these customers are based upon then-market rates and (iv) our sales to the customers are not under fixed terms and the customers have no obligation to purchase any minimum quantities except as stipulated by short term purchase orders.

Renewable diesel is a rapidly growing competing biofuel to biodiesel. Renewable diesel is produced via hydrotreating a biomass-based feedstock. Hydrotreating is a process widely used in petroleum refineries in which hydrogen is used to replace sulfur, oxygen and nitrogen atoms. In production of renewable diesel, hydrotreating is used to convert the biomass triglyceride molecules into paraffinic hydrocarbons. The resultant renewable diesel has several advantages over conventional biodiesel including the ability to be blended into petroleum diesel at higher blend levels and the ability to be transported via conventional fuel pipelines.

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The primary manufactures of renewable biodiesel include Neste, Diamond Green, REG and ENI. Biofuels Digest's recently estimated that there is close to two billion dollars of new investments being made to expend capacity of renewable diesel.
https://www.biofuelsdigest.com/bdigest/2018/12/15/from-neste-fulcrum-others-making-renewable-diesel-a-dream-come-true/.
Jacobsen reported current renewable diesel capacity as 1.24 billion gals with an additional 1.08 billion gallons planned/under construction

https://conference.thejacobsen.com/wp-content/uploads/2018/05/John-Cusick-Renewables-Forward-Curve-1.pdf

Domestic Competition

We compete with other producers of biodiesel locally, regionally, nationally, and with foreign imports. The principal methods of competition in the biodiesel industry are price, supply reliability, biodiesel quality, and RIN integrity, i.e., the degree of confidence the market maintains in the validity of a biodiesel producer's RINs. The nine largest producers in terms of production capacity of biodiesel in the United States in 2018 were Renewable Energy Group, Inc., World Energy, RBF Port Neches LLC, Ag Processing Inc., Cargill Inc., Louis Dreyfus Agricultural Industries LLC, Archer Daniels Midland Co. - Velva, Cincinnati Renewable Fuels, and FutureFuel Chemical Company. See *Biodiesel Magazine, Fifteenth Edition*, (2019, January). These nine producers account for 57% of the total production capacity that was available in 2018. Additionally, we compete with numerous other smaller producers and evolving renewable diesel and cellulosic based biodiesel technologies.

Furthermore, the emergence of significant new supplies of natural gas in the U.S., primarily as a result of shale gas development, has increased the awareness of natural gas as a key component of the domestic U.S. energy supply and has lowered natural gas prices. Natural gas use in the transportation sector is likely to increase. See http://mitei.mit.edu/publications/reports-studies/future-natural-gas. Increased usage of natural gas may lead to declines in the demand for petrodiesel and biodiesel.

We cannot give any assurances that renewable diesel fuel, green diesel, natural gas or some other product produced by these or similar competing technologies will not supplant biodiesel as an alternative to conventional petrodiesel.

The biodiesel industry also is in competition with the petroleum-based diesel fuel industry. The biodiesel industry is small relative to the size of the petroleum-based diesel fuel industry and large petroleum companies have greater

resources than we do. Without government incentives and requirements, biodiesel would likely be more expensive than petroleum-based diesel, making it difficult for biodiesel to compete with petroleum-based diesel on price.

Supply and Distribution

As a result of our feedstock-flexible process, we are able to source feedstock from a broad supplier base, which includes crude corn oil producers, reclaimed used cooking oil, and pork, chicken, and beef rendering facilities from both national and regional suppliers. Crude corn oil has been sourced from several national and regional producers. All feedstocks are currently supplied by either rail or truck. We believe that an adequate supply of feedstocks can be sourced to support our anticipated production.

We sell biodiesel from our plant site as well as ship it to liquid bulk storage facilities for further distribution. Sales from our plant site are made by railcar and tank truck. Biodiesel is being delivered by Company-owned tank trucks and common carriers to a liquid bulk storage facility leased by us for distribution there and for further transportation by barge or tank truck.

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Cyclicality and Seasonality

Biodiesel producers have historically experienced seasonal fluctuations in demand for biodiesel. Biodiesel demand has tended to be lower during the winter in northern and Midwestern states due to concerns about biodiesel's ability to operate optimally in cold weather as compared to petrodiesel. This seasonal fluctuation has been strongest for biodiesel made from animal fats and used cooking oils. Biodiesel made from such feedstocks has a higher cloud point (which is the point at which a fuel begins to gel) than biodiesel produced from vegetable oils such as soybean, canola, or crude corn oil. This higher cloud point may cause cold weather performance issues. This historical seasonality appears to be decreasing as biodiesel blends are used in cold Midwestern states throughout the year.

The mandate for biodiesel usage as established by RFS2 may interject an additional seasonal fluctuation in our biodiesel business. Once the mandate for a calendar year is met, or is anticipated to be met, demand for biodiesel may decrease.

Outlook for the Biodiesel Industry/Our Future Strategy

The BTC was reinstated on December 18, 2015, and made retroactive to January 1, 2015, and expired on December 31, 2016. The BTC was not in place during 2017, however, in February 2018, the BTC was retroactively reinstated for 2017. Based on analysis from industry analysts, it is anticipated that the U.S. biodiesel market may transition to larger plants, alternative feedstocks and second-generation technologies, resulting in consolidation among smaller, first-generation producers accompanied by a series of mergers and acquisitions in the field. Although it is unclear whether this trend will occur, if it does, we believe that producers who are proactive in responding to these changes can compete with foreign imports and benefit in this emerging market. These responses include: new and improved technologies alternative feedstocks with higher yields production scalability and flexibility options supply chain, distribution and co-location strategies the sale of RINs separate from the underlying biodiesel and innovative risk management strategies. See http://www.emerging-markets.com/biodiesel/index.html.

Our future strategy for our biofuels segment is geared towards these responses. Notwithstanding our future strategy, our continued production of biodiesel may be severely limited or eliminated entirely in the event Congress eliminates the federal mandate of the RFS2. See "Risk Factors" beginning at page 15 below.

Chemicals Business Segment

Overview of the Segment

Our chemicals segment manufactures diversified chemical products that are sold to third party customers. This segment comprises two components: “custom manufacturing” (manufacturing specialty chemicals for specific customers) and “performance chemicals” (multi-customer specialty chemicals).

Chemical Products

Custom manufacturing involves producing unique products for strategic customers, generally under long-term contracts. Many of these products are produced under confidentiality agreements in order to protect each company’s intellectual property. This is a service-based business where customers value dependability, regulatory compliance, technical capabilities, responsiveness, product quality, process scale up and improvement, operational safety, and environmental protection. Our custom manufacturing products are manufactured by continuous production, dedicated batch or general purpose batch mode depending on the volumes required. We are recognized as a strategic production partner to our key customers in this segment and our engineering and technology teams collaboratively work together with our customers to further develop the processes and drive continued improvement.

Our plant’s custom manufacturing product portfolio includes products that are used in the agricultural chemical, coatings, chemical intermediates, industrial and consumer cleaning, oil and gas, and specialty polymers industries. We historically have produced two significant products, or product families, within this particular portfolio. One is our laundry detergent additive product, which is produced for a major detergent and consumer products manufacturer. The other was a proprietary herbicide and associated intermediates we produced for a former long-term Agro chemical customer. We ceased production for this latter customer in 2014 and began the process of transitioning the equipment used for the production of the proprietary herbicide and intermediates into use for a different customer desiring a different proprietary herbicide. Our current custom manufacturing product portfolio is diversified into multiple markets including agrochemicals, oilfield chemicals, industrial intermediates, polymer modifiers and fabric care markets.

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Performance chemicals comprise multi-customer products which are sold based upon specification and/or performance in the end-use application. This portfolio includes a family of polymer (nylon and polyester) modifiers, glycerin products, and several small-volume specialty chemicals and solvents for diverse applications. In addition, we have recently been successful in growing our performance chemical business through new product development. New products include a family of acetalbased solvents, including diethoxymethane, dimethoxymethane, dibutoxymethane, glycerol formal, and phenol sulfonic acid. In 2014, we added the capability to refine our crude glycerin to an industrial grade of glycerin for higher value specialty chemical applications.

Future Strategy

To build on and maintain our reputation as a technology-driven competitive chemical producer, we believe that we must continuously focus on customer relationship development, cost control, operational efficiency, capacity utilization, operational safety, and environmental protection to maximize earnings. The ability to utilize large-scale batch and continuous production processes and a continuous focus on process improvements allows us to compete effectively in the global custom manufacturing market and to remain cost competitive with, and for some products cost-advantaged over, our competitors. We intend to improve margins in this area of our business by careful management of product mix with regard to size of opportunity, timing to market, capital efficiency and matching of opportunities to assets and capabilities.

Customers and Markets

Our chemical products are used in a variety of markets and end uses, including detergent, agrochemical, automotive, oil and gas, coatings, nutrition, and polymer additives. Some of the chemical products can be cyclically driven by changes in energy and agricultural commodity prices. In the case of our custom manufacturing business, the customers are often the “brand owners” and therefore control factors related to demand, such as market development and external manufacturing strategy. In such cases, we may be unable to increase or maintain our level of sales revenue for these products.

We have agreed to extend the supply of our laundry detergent additive to our customer through 2020. However, there is no guarantee that this customer will purchase any laundry detergent additive after 2019. This customer had previously expressed its intent to terminate the supply arrangement effective December 31, 2015, but agreed to amended terms. Demand for the laundry detergent additive has continued to decrease. We continue to work collaboratively with our customer to assess their future demand, which may continue to decline. We are also working to find new customers for this product.

One of our chemical customers, DowDupont Inc. and its affiliates, represented 10% or more of our 2018 and 2017 consolidated sales revenues. This customer represented approximately 27% and 30% of our chemicals revenue (11% and 11% of total revenues) in 2018 and 2017, respectively. We sell multiple products to various affiliates of this customer under both long-term and short-term contracts. For this reason, we believe the loss of this customer is unlikely, but would have a material impact on our financials temporarily while we sought to source other custom chemical contracts for the equipment. For the twelve months ended December 31, 2016, none of our customers represented 10% or more of total revenues.

Competition

Historically, there have been significant barriers to entry for competitors with respect to specialty chemicals primarily due to the fact that the relevant technology and manufacturing capability has been held by a small number of companies. As technology and investment have increasingly moved outside of North America, competition from international multi-national chemical manufacturers has intensified, primarily from manufacturers in India and China. We compete with these and other producers primarily based on price, customer service, technology, quality, and reliability. Our major competitors in this segment include large multi-national companies with specialty chemical business units and smaller independent producers. The international multi-national competitors are often disadvantaged by poor responsiveness and customer service, while the small producers often have limited technology and financial resources. We believe that we are well positioned for growth due to the combination of our scale of operations, technical capabilities, reputation, and financial strength.

Supply and Distribution

Specialty chemicals are generally high unit value products sold in packaged, or low-volume bulk form, and for which distribution is a relatively minor component of cost. Most products are sold FOB the Batesville site for distribution globally. Similarly, raw materials for these products are comparatively higher-value components that are sourced globally. An exception is the biofuels co-products, which are recovered from local processing.

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Cyclicality and Seasonality

Some of the chemical products can be cyclical, driven by changes in energy prices and agricultural commodity prices. For example, demand for chemical products sold into energy exploration and transportation markets is influenced by oil prices. The use of chemical products in agricultural markets likewise is influenced by agricultural commodity prices. Supply and demand dynamics determine profitability at different stages of cycles and global economic conditions affect the length of each cycle. Despite sensitivity to cyclicality in these industries, many of the products in the chemical segment provide stable earnings.

Backlog

The majority of our revenues are derived under custom manufacturing agreements with specific customers. These customers generally provide us with forecasts of demand on a monthly or quarterly basis. These forecasts are intended to enable us to optimize the efficiency of our production processes and generally are not firm sales orders. As such, we do not monitor or report backlog.

Intellectual Property

We consider our intellectual property portfolio to be a valuable corporate asset which we intend to expand and protect globally through a combination of trade secrets, confidentiality and non-disclosure agreements, patents, trademarks and copyrights. As a producer of a broad and diverse portfolio of chemicals, our intellectual property relates to a wide variety of products and processes acquired through the development and manufacture of over 300 specialty chemicals during the history of the site. Our primary strategy regarding our intellectual property portfolio is to appropriately protect all innovations and know-how in order to provide our business segments with a technology-based competitive advantage wherever possible. In the chemicals business segment, custom manufacturing projects are primarily conducted within the framework of confidentiality agreements with each customer to ensure that intellectual property rights are defined and protected. In the biofuels business segment, innovations and process know-how are vigorously protected as appropriate.

As may be necessary, we will seek to license technologies from third parties that complement our strategic business objectives. Neither our business as a whole, nor any particular segment, is materially dependent upon any one particular patent, copyright, or trade secret. As the laws of many foreign countries do not protect intellectual property to the same extent as the laws of the United States, we can make no assurance that we will be able to adequately protect all of our intellectual property assets.

Research and Development

We devote considerable resources to our research and development programs, which are primarily targeted towards three objectives:

- innovating, developing and improving biofuels processes, in particular biodiesel and other biofuels, including value-up technology and applications for co-products
- developing and improving processes for custom manufacturing products and
- innovating, developing and improving performance chemical products and manufacturing processes.

Our research and development capabilities comprise analytical chemistry competencies to assay and characterize raw materials and products, organic chemistry expertise applied across a breadth of reaction chemistries and materials, design and process engineering capabilities for batch and continuous processing of both solid and liquid materials, and proficiency in process safety to design and scale-up safe chemical manufacturing processes. We believe that these core competencies, established in support of the legacy chemical business, are applicable to building a technology-based position in biofuels and associated bio-based specialty products and expanding our performance chemicals product line.

Research and development expense incurred by us for the years ended December 31, 2018, 2017, and 2016 were $3,524, $3,659, and $2,715, respectively. Substantially all of such research and development expense are related to the development of new products, services, and processes or the improvement of existing products, services, and processes.

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Environmental Matters

Various aspects of our operations are subject to regulation by state and federal agencies. Biofuel and chemical operations are subject to numerous, stringent and complex laws and regulations at the federal, state and local levels governing the discharge of materials into the environment or otherwise relating to environmental protection. These laws and regulations may:

- require acquisition of permits regarding discharges into the air and discharge of waste waters
- place restrictions on the handling and disposal of hazardous and other wastes and
- require capital expenditures to implement pollution control equipment.

Compliance with such laws and regulations can be costly and noncompliance can result in substantial civil and even criminal penalties. Some environmental laws impose strict liability for environmental contamination, rendering a person liable for environmental damages and cleanup costs without regard to negligence or fault. Moreover, there is strong public interest in the protection of the environment. Our operations could be adversely affected to the extent laws are enacted or other governmental action is taken that imposes environmental protection requirements that result in increased costs to the biofuels and/or chemical manufacturing industry in general. The following provides a general discussion of some of the significant environmental laws and regulations that impact our activities.

The federal Comprehensive Environmental Response, Compensation and Liability Act (or "CERCLA"), and analogous state laws, impose joint and several liability, without regard to fault or the legality of the original act, on certain classes of persons that contributed to the release of a hazardous substance into the environment. These persons include the owner and operator of the site where the release occurred, past owners and operators of the site, and companies that disposed of or arranged for the disposal of hazardous substances found at the site. Responsible parties under CERCLA may be liable for the costs of cleaning up hazardous substances that have been released into the environment and for damages to natural resources. Additionally, it is not uncommon for third parties to assert claims for personal injury and property damage allegedly caused by the release of hazardous substances or other pollutants into the environment.

The federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (or "RCRA"), is the principal federal statute governing the management of wastes, including the treatment, storage and disposal of hazardous wastes. RCRA imposes stringent operating requirements, and liability for failure to meet such requirements, on a person who is either a generator or transporter of hazardous waste or an owner or operator of a hazardous waste treatment, storage, or disposal facility. Many of the wastes generated in our manufacturing facility are governed by RCRA.

The federal Oil Pollution Act of 1990 (or "OPA") and regulations thereunder impose liability on responsible parties for damages resulting from oil spills into or upon navigable waters, adjoining shorelines, or in the exclusive economic zone of the United States. A responsible party includes the owner or operator of an onshore facility. Effective December 31, 2015, OPA increased its liability limit for onshore facilities from $350,000 to $633,850. These liability limits may not apply if a spill is caused by a party's gross negligence or willful misconduct, the spill resulted from violation of a federal safety, construction, or operating regulation, or if a party fails to report a spill or to cooperate fully in a clean-up. Failure to comply with OPA's requirements may subject a responsible party to civil, criminal, or administrative enforcement actions.

The federal Water Pollution Control Act (also referred to as the "Clean Water Act") imposes restrictions and controls on the discharge of pollutants into navigable waters. These controls have become more stringent over the years, and it is possible that additional restrictions may be imposed in the future. Permits must be obtained to discharge pollutants into state and federal waters. The Clean Water Act provides for civil, criminal, and administrative penalties for discharges of oil and other pollutants, and imposes liability on parties responsible for those discharges for the costs of cleaning up any environmental damage caused by the release and for natural resource damages resulting from the release. Comparable state statutes impose liability and authorize penalties in the case of an unauthorized discharge of petroleum or its derivatives, or other pollutants, into state waters.

The federal Clean Air Act and associated state laws and regulations restrict the emission of air pollutants from many sources, including facilities involved in manufacturing chemicals and biofuels. New facilities are generally required to obtain permits before operations can commence, and new or existing facilities may be required to incur certain capital expenditures to install air pollution control equipment in connection with obtaining and maintaining operating permits and approvals. Federal and state regulatory agencies can impose administrative, civil, and criminal penalties for non-compliance with permits or other requirements of the Clean Air Act and associated state laws and regulations.

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The federal Endangered Species Act, the federal Marine Mammal Protection Act, and similar federal and state wildlife protection laws prohibit or restrict activities that could adversely impact protected plant and animal species or habitats. Manufacturing activities could be prohibited or delayed in areas where such protected species or habitats may be located, or expensive mitigation may be required to accommodate such activities.

Our policy is to operate our plant and facilities in a manner that protects the environment and the health and safety of our employees and the public. We intend to continue to make expenditures for environmental protection and improvements in a timely manner consistent with our policies and with the technology available. In some cases, applicable environmental regulations such as those adopted under the Clean Air Act and RCRA, and related actions of regulatory agencies, determine the timing and amount of environmental costs incurred by us.

We establish reserves for closure/post-closure costs associated with the environmental and other assets we maintain. Environmental assets include waste management units such as chemical waste destructors, landfills, storage tanks, and boilers. When these types of assets are constructed or installed, a reserve is established for the future costs anticipated to be associated with the closure of the site based on the expected life of the environmental assets, the applicable regulatory closure requirements, and our environmental policies and practices. These expenses are charged into earnings over the estimated useful life of the assets. Currently, we estimate the useful life of each individual asset up to 39 years.

In addition to our general environmental policies and policies for asset retirement obligations and environmental reserves, we accrue environmental costs when it is probable that we have incurred a liability and the amount can be reasonably estimated. In some instances, the amount cannot be reasonably estimated due to insufficient data, particularly in the nature and timing of the future performance. In these cases, the liability is monitored until such time that sufficient data exists. With respect to a contaminated site, the amount accrued reflects our assumptions about remedial requirements at the site, the nature of the remedy, the outcome of discussions with regulatory agencies and other potentially responsible parties at multi-party sites, and the number and financial viability of other potentially responsible parties. Changes in the estimates on which the accruals are based, unanticipated government enforcement action, or changes in health, safety, environmental, chemical control regulations, and testing requirements could result in higher or lower costs.

Our cash expenditures related to environmental protection and improvement were approximately $10,940, $11,488, and $11,136 for the years ended December 31, 2018, 2017, and 2016, respectively. These amounts pertain primarily to operating costs associated with environmental protection equipment and facilities, but also include expenditures for construction and development. While we do not expect future environmental capital expenditures arising from requirements of environmental laws and regulations to materially increase our planned level of annual capital expenditures for environmental control facilities, we can give no assurances that such requirements will not materialize in the future.

We believe that we have obtained in all material respects the necessary environmental permits and licenses to carry on our operations as presently conducted. We have reviewed environmental investigations of the properties owned by us and believe, on the basis of the results of the investigations carried out to date, that there are no material environmental issues which adversely impact us. In connection with our acquisition of our warehouse in Batesville, the seller agreed to remediate certain environmental conditions existing at the facility on the date that we acquired it and to indemnify us with respect to those environmental conditions. We continue to monitor the seller's compliance with its remediation obligations.

Management Team and Workforce

Our executive management team at the Batesville plant consists of individuals with a combined 90 plus years of experience in the chemicals industry, comprising technical, operational, and business responsibilities. The members of the executive team also have international experience, including assignments in Europe. The operational and commercial management group at the Batesville site includes additional degreed professionals with an average experience of over 25 years in the chemical industry.

Our Batesville workforce comprises over 500 full-time employees, and includes degreed professionals including chemists (some with PhDs) and engineers (including licensed professional electrical, mechanical, and chemical engineers). Operations personnel have received extensive training and are highly skilled. Additionally, all site manufacturing and infrastructure is fully automated and computer-controlled. Due to the lack of locally-available process industry infrastructure, the workforce is substantially self-sufficient in the range of required operational skills and experience. Voluntary attrition at the site has averaged 5.8% over the past five years.

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Available Information

We file annual, quarterly, and other reports, proxy statements, and other information with the SEC. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers such as us that file electronically with the SEC. You may access that site at http://www.sec.gov.

Our Internet website address is www.futurefuelcorporation.com. We make available free of charge, through the "Investor Relations - SEC Filings" section of our Internet website (https://futurefuelcorporation.gcs-web.com/financial-information/sec-filings), our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports, filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (or the Exchange Act), as soon as reasonably practicable after electronically filing such material with, or furnishing it to, the SEC.

We also make available free of charge, through the "Investor Relations - Corporate Governance" section of our website (https://futurefuelcorporation.gcs-web.com/corporate-governance), the corporate governance guidelines of our board of directors, the charters of each of the committees of our board of directors, and the code of business conduct and ethics for our directors, officers, and employees. Such materials will be made available in print upon the written request of any shareholder to FutureFuel Corp., 8235 Forsyth Blvd., 4th Floor, Clayton, Missouri 63105, Attention: Investor Relations.

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Item 1A. Risk Factors.

An investment in us involves a high degree of risk and may result in the loss of all or part of your investment. You should consider carefully all of the information set out in this document and the risks attaching to an investment in us, including, in particular, the risks described below. The information below does not purport to be an exhaustive list and should be considered in conjunction with the contents of the rest of this document.

Risks Associated with Our Business Activities

The BTC for biodiesel expired on December 31, 2016 and it was not in place during 2017. However, in February 2018, the BTC was retroactively reinstated for 2017. The BTC has not been extended past December 31, 2017. If the credit is not renewed, our cost of producing biodiesel will be increased or our selling price could decrease, which could have an adverse effect on our financial position and results of operations.

In October 2004, Congress passed a biodiesel tax incentive, structured as a federal excise tax credit, as part of the American Jobs Creation Act of 2004. The credit amounted to one cent for each percentage point of vegetable oil or animal fat biodiesel that was blended with petrodiesel (and one-half cent for each percentage point of recycled oils and other non-agricultural biodiesel, subsequently amended and increased to one cent). For example, blenders that blended B20 made from soy, canola, and other vegetable oils and animal fats received a $0.20 per gallon excise tax credit. The tax incentive generally was taken by petroleum distributors and was passed on to the consumer. It was designed to lower the cost of biodiesel to consumers in both taxable and tax-exempt markets. The tax credit was scheduled to expire at the end of 2006, but was extended in the Energy Policy Act of 2005 to December 31, 2008. The Emergency Economic Stabilization Act of 2008 extended the biodiesel tax credit through December 31, 2009 and qualified all biodiesel for a BTC, including biodiesel made from non-virgin feedstocks such as yellow grease. On December 18, 2015, the BTC was reinstated retroactively to January 1, 2015 and expired on December 31, 2016. The BTC was not in place during 2017, however, in February 2018, the BTC was retroactively reinstated for 2017. The BTC has not been extended past December 31, 2017. There is no guarantee that the BTC will be reinstated, which could have a material adverse effect on us and the biodiesel industry in general.

If biodiesel feedstock costs do not decrease significantly relative to biodiesel prices, we could realize a negative gross margin on biodiesel. As a result, we could cease producing biodiesel, which could have an adverse effect on our financial condition.

Our biofuels operations may be harmed if the federal or state governments were to change current laws and regulations.

Alternative fuels businesses benefit from government subsidies and mandates. If any of the state or federal laws and regulations relating to the government subsidies and mandates change, including failure to reinstate the federal biodiesel BTC, our ability to benefit from our alternative fuels business could be harmed.

Our biofuels platform is subject to federal, state, and local laws and regulations governing the application and use of alternative energy products, including those related specifically to biodiesel. For instance, biodiesel products benefit from being the only alternative fuel certified by the USEPA that fulfills the requirements of Section 211(B) of the Clean Air Act. Also, portions of our biofuels may from time to time be registered in states where we obtain benefits from state specific subsidies, mandates or programs. If federal or state agency determinations, laws, and regulations relating to the application and use of alternative energy are changed, the marketability and sales of biodiesel production could be materially adversely affected.

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The industries in which we compete are highly competitive.

The biodiesel and specialty chemical industries are highly competitive. There is competition within these industries and also with other industries in supplying the energy, fuel, and chemical needs of industry and individual customers. We compete with other firms in the sale or purchase of various goods or services in many national and international markets. We compete with large national and multi-national companies that have longer operating histories, greater financial, technical, and other resources, and greater name recognition than we do. In addition, we compete with several smaller companies capable of competing effectively on a regional or local basis, and the number of these smaller companies is increasing. Our competitors may be able to respond more quickly to new or emerging technologies and services and changes in customer requirements. As a result of competition, we may lose market share or be unable to maintain or increase prices for our products and/or services or to acquire additional business opportunities, which could have a material adverse effect on our business, financial condition, results of operations, and cash flows. Although we will employ all methods of competition which are lawful and appropriate for such purposes, no assurances can be made that they will be successful. A key component of our competitive position, particularly given the commodity-based nature of many of our products, will be our ability to manage expenses successfully, which requires continuous management focus on reducing unit costs and improving efficiency. No assurances can be given that we will be able to successfully manage such expenses.

Our competitive position in the markets in which we participate is, in part, subject to external factors in addition to those that we can impact. Natural disasters, changes in laws or regulations, trade disputes, war or other outbreak of hostilities, or other political factors in any of the countries or regions in which we operate or do business, or in countries or regions that are key suppliers of strategic raw materials, could negatively impact our competitive position and our ability to maintain market share.

As to our biofuels segment, biodiesel produced in Canada, South America, Europe, Eastern Asia, the Pacific Rim, or other regions may be imported into the United States to compete with U.S. produced biodiesel. These regions may benefit from biodiesel production incentives or other financial incentives in their home countries that offset some of their biodiesel production costs and enable them to profitably sell biodiesel in the U.S. at lower prices than U.S.-based biodiesel producers. Under the RFS2, imported biodiesel may be eligible to satisfy an obligated party’s requirements and therefore may compete to meet the volumetric requirements of RFS2. This could make it more challenging for us to market or sell biodiesel in the United States, which would have a material adverse effect on our revenues.

The total production capacity is well in excess of the current 2.1 billion gallons per year RFS2 mandate for 2018 and 2019. The excess of production capacity over the 2019 and 2020 mandates could result in a decline in biodiesel prices and profitability, negatively impacting our ability to maintain the profitability of our biofuels segment and recover capital expenditures in this business segment.

Biodiesel is encountering increased competition from renewable diesel, which is produced via hydrotreating a biomass-based feedstock. Renewable diesel can be used interchangeably with conventional petroleum diesel and is not limited in blends and can be transported via existing fuel pipeline infrastructure.

The primary manufactures of renewable biodiesel include Neste, Diamond Green, REG and ENI. Biofuels Digest's recently estimated that there is close to two billion dollars of new investments being made to expend capacity of renewable diesel.
https://www.biofuelsdigest.com/bdigest/2018/12/15/from-neste-fulcrum-others-making-renewable-diesel-a-dream-come-true/.

Jacobsen reported current renewable diesel capacity as 1.24 billion gals with an additional 1.08 billion gallons planned/under construction.

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We are reliant upon a relatively small number of customers.

Our chemical business is concentrated with five large strategic customers covering multiple products representing greater than 81% of our chemicals segment product sales, or 33% of total revenues. Although this business is contracted in longer-term production agreements, the loss of any of these strategic customers could have a material adverse effect on our chemicals business.

Additionally, our biofuels segment has two large customers. Sales to these two biodiesel customers totaled approximately 20% of total revenues in 2018 (or $57,198), compared to one large customer with total revenue of 14% in 2017 (or $38,917) and 14% in 2016 (or $35,568). We do not have a contract with these customers, but rather sell based on monthly or short-term, multi-month purchase orders placed with us by the customers at prices based upon then-prevailing market rates.

Fluctuations in commodity prices may cause a reduction in the demand or profitability of the products or services we produce.

Prices for alternative fuels tend to fluctuate widely based on a variety of political and economic factors. These price fluctuations heavily influence the oil and gas industry. Lower energy prices for existing products tend to limit the demand for alternative forms of energy services and related products and infrastructure. Historically, the markets for alternative fuels have been volatile, and they are likely to continue to be volatile. Wide fluctuations in alternative fuel prices may result from relatively minor changes in the supply of and demand for oil and natural gas, market uncertainty, and other factors that are beyond our control, including:

- worldwide and domestic supplies of oil and gas
- the price and/or availability of biodiesel feedstocks
- weather conditions
- the level of consumer demand
- the price and availability of alternative fuels
- the availability of pipeline and refining capacity
- the price and level of foreign imports
- domestic and foreign governmental regulations and taxes
- the ability of the members of the Organization of Petroleum Exporting Countries (OPEC) to agree to and maintain oil price and production controls
- political instability or armed conflict in oil-producing regions and
- the overall economic environment.

These factors and the volatility of the commodity markets make it extremely difficult to predict future alternative fuel price movements with any certainty. There may be a decrease in the demand for our products or services and our profitability could be adversely affected.

We are reliant on certain strategic raw materials for our operations.

We are reliant on certain strategic raw materials (such as acetic anhydride, pelargonic acid, biodiesel feedstocks and methanol) for our operations. We have implemented certain risk management tools, such as multiple suppliers and hedging to mitigate short-term market fluctuations in raw material supply and costs. There can be no assurance, however, that such measures will result in cost savings or supply stability or that all market fluctuation exposure will be eliminated. In addition, natural disasters, changes in laws or regulations, war or other outbreak of hostilities, or other political factors in any of the countries or regions in which we operate or do business, or in countries or regions that are key suppliers of strategic raw materials, could affect availability and costs of raw materials.

While temporary shortages of raw materials may occasionally occur, these items have historically been sufficiently available to cover current requirements. However, their continuous availability and price are impacted by natural disasters, plant interruptions occurring during periods of high demand, domestic and world market and political conditions, changes in government regulation, and war or other outbreak of hostilities. In addition, as we increase our biodiesel capacity, we will require larger supplies of raw materials which have not yet been secured and may not be available for the foregoing reasons, or may be available only at prices higher than current levels. Our operations or products may, at times, be adversely affected by these factors.

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The European Commission has imposed anti-dumping and countervailing duties on biodiesel blends imported into Europe, which have effectively eliminated our ability to sell those biodiesel blends in Europe.

In March 2009, as a response to the federal BTC, the European Commission imposed anti-dumping and anti-subsidy tariffs on biodiesel produced in the United States. These tariffs have effectively eliminated European demand for B20 or higher blends imported from the United States. The European Commission extended these tariffs through 2020. In May 2011, the European Commission imposed similar anti-dumping and countervailing duties on biodiesel blends below B20. These duties significantly increase the price at which we and other United States biodiesel producers will be able to sell such biodiesel blends in European markets, making it difficult or impossible to compete in the European biodiesel market. These anti-dumping and countervailing duties therefore decrease the demand for biodiesel produced in the United States and increase the supply of biodiesel available in the United States market. Such market dynamics may negatively impact our revenues and profitability.

Changes in technology may render our products or services obsolete.

The alternative fuel and chemical industries may be substantially affected by rapid and significant changes in technology. Examples include competitive product technologies, such as green gasoline and renewable diesel produced from catalytic hydrotreating of renewable feedstock oils and competitive process technologies such as advanced biodiesel continuous reactor and washing designs that increase throughput. Additionally, new supplies of natural gas in the U.S., primarily as a result of shale gas development, have lowered natural gas prices. Lower natural gas prices may lead to increased use of natural gas as a transportation fuel. Increased usage of natural gas in the transportation market, or other markets which have traditionally utilized petrodiesel or biodiesel, may lead to declines in the demand for petrodiesel and biodiesel. Lastly, new and more active compounds may be discovered that require less volume or different manufacturing methods, or the end products may become obsolete and be replaced with differing materials.

These changes may render obsolete certain existing products, energy sources, services, and technologies currently used by us. We cannot provide assurances that the technologies used by or relied upon by us will not be subject to such obsolescence. While we may attempt to adapt and apply the services provided by us to newer technologies, we cannot provide assurances that we will have sufficient resources to fund these changes or that these changes will ultimately prove successful.

Failure to comply with governmental regulations could result in the imposition of penalties, fines or restrictions on operations and remedial liabilities.

The biofuel and chemical industries are subject to extensive federal, state, local, and foreign laws and regulations related to the general population's health and safety and those associated with compliance and permitting obligations (including those related to the use, storage, handling, discharge, emission, and disposal of municipal solid waste and other waste, pollutants or hazardous substances or waste, or discharges and air and other emissions) as well as land use and development. Existing laws also impose obligations to clean up contaminated properties or to pay for the cost of such remediation, often upon parties that did not actually cause the contamination. Compliance with these laws, regulations, and obligations could require substantial capital expenditures. Failure to comply could result in the imposition of penalties, fines, or restrictions on operations and remedial liabilities. These costs and liabilities could adversely affect our operations.

Changes in environmental laws and regulations occur frequently, and any changes that result in more stringent or costly waste handling, storage, transport, disposal, or cleanup requirements could require us to make significant expenditures to attain and maintain compliance and may otherwise have a material adverse effect on our business segments in general and on our results of operations, competitive position, or financial condition. We are unable to predict the effect of additional environmental laws and regulations which may be adopted in the future, including whether any such laws or regulations would materially adversely increase our cost of doing business or affect our operations in any area.

Under certain environmental laws and regulations, we could be held strictly liable for the removal or remediation of previously released materials or property contamination regardless of whether we were responsible for the release or contamination, or if current or prior operations were conducted consistent with accepted standards of practice. Such liabilities can be significant and, if imposed, could have a material adverse effect on our financial condition or results of operations.

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Market conditions or transportation impediments may hinder access to raw goods and distribution markets.

Market conditions, the unavailability of satisfactory transportation, or the location of our manufacturing complex from more lucrative markets may hinder our access to raw goods and/or distribution markets. The availability of a ready market for biodiesel depends on a number of factors, including the demand for and supply of biodiesel and the proximity of the plant to trucking and terminal facilities. The sale of large quantities of biodiesel necessitates that we transport our biodiesel to other markets since the Batesville, Arkansas regional market is not expected to absorb all of our contemplated production. Currently, common carrier pipelines are not transporting biodiesel or biodiesel/ petrodiesel blends. This leaves trucks, barges, and rail cars as the means of distribution of our product from the plant to these storage terminals for further distribution. However, the current availability of rail cars is limited and at times unavailable because of repairs or improvements, or as a result of priority transportation agreements with other shippers. Additionally, the current availability of barges is limited, particularly heated barges to transport biodiesel during winter months. If transportation is restricted or is unavailable, we may not be able to sell into more lucrative markets and consequently our cash flow from sales of biodiesel could be restricted.

The biodiesel industry also faces several challenges to wide biodiesel acceptance, including cold temperature limitations, storage stability, fuel quality standards, and exhaust emissions. If the industry does not satisfy consumers that these issues have been resolved or are being resolved, biodiesel may not gain widespread acceptance which may have an adverse impact on our cash flow from sales of biodiesel.

Our insurance may not protect us against our business and operating risks.

We maintain insurance for some, but not all, of the potential risks and liabilities associated with our business. For some risks, we may not obtain insurance if we believe the cost of available insurance is excessive relative to the risks presented. As a result of market conditions, premiums and deductibles for certain insurance policies can increase substantially and, in some instances, certain insurance policies may become unavailable or available only for reduced amounts of coverage. As a result, we may not be able to renew our existing insurance policies or procure other desirable insurance on commercially reasonable terms, if at all. Although we will maintain insurance at levels we believe are appropriate for our business and consistent with industry practice, we will not be fully insured against all risks which cannot be sourced on economic terms. In addition, pollution and environmental risks generally are not fully insurable. Losses and liabilities from uninsured and underinsured events and delay in the payment of insurance proceeds could have a material adverse effect on our financial condition and results of operations.

If a significant accident or other event resulting in damage to our operations (including severe weather, terrorist acts, war, civil disturbances, pollution, or environmental damage) occurs and is not fully covered by insurance or a recoverable indemnity from a customer, it could adversely affect our financial condition and results of operations.

We depend on key personnel, the loss of any of whom could materially adversely affect our future operations.

Our success depends to a significant extent upon the efforts and abilities of our executive officers and lead management team. The loss of the services of one or more of these key employees could have a material adverse effect on us. Our business is also dependent upon our ability to attract and retain qualified personnel. Acquiring or retaining these personnel could prove more difficult to hire or cost substantially more than estimated. This could cause us to incur greater costs.

If we are unable to effectively manage the commodity price risk of our raw materials or finished goods, we may have unexpected losses.

We hedge our raw materials and/or finished products for our biofuels segment to some degree to manage the commodity price risk of such items. This requires the purchase or sale of commodity futures contracts and/or options on those contracts or similar financial instruments. We may be forced to make cash deposits available to counterparties as they mark-to-market these financial hedges. This funding requirement may limit the level of commodity price risk management that we are prudently able to complete. If we do not manage or are not capable of managing the commodity price risk of our raw materials and/or finished products for our biofuels segment, we may incur losses as a result of price fluctuations with respect to these raw materials and/or finished products.

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In most cases, we are not capable of hedging raw material and/or finished products for our chemicals segment. Certain of our products are produced under manufacturing agreements with our customers which provide us the contractual ability to pass along raw material price increases. However, we do not have this protection for all product lines within the chemicals segment. If we do not manage or are not capable of managing escalating raw material prices and/or passing these increases along to our customers via increased prices for our finished products, we may incur losses.

If we are unable to acquire or renew permits and approvals required for our operations, we may be forced to suspend or cease operations altogether.

The operation of our manufacturing plant requires numerous permits and approvals from governmental agencies. We may not be able to obtain or renew all necessary permits (or modifications thereto) and approvals and, as a result, our operations may be adversely affected. In addition, obtaining all necessary renewal permits (or modifications to existing permits) and approvals for future expansions may necessitate substantial expenditures and may create a significant risk of expensive delays or loss of value if a project is unable to function as planned due to changing requirements.

Our indebtedness may limit our ability to borrow additional funds or capitalize on acquisition or other business opportunities.

We hold a $165 million revolving credit facility with a commercial bank. Although as of the date of this report we have no outstanding borrowings under this facility, if and when we do borrow the restrictions governing this indebtedness (such as total debt to EBITDA limitations) could reduce our ability to incur additional indebtedness, engage in certain transactions, or capitalize on acquisition or other business opportunities.

We expect to have capital expenditure requirements, and we may be unable to obtain needed financing on satisfactory terms.

We expect to make capital expenditures for the expansion of our biofuels and chemicals production capacity and complementary infrastructure. We intend to finance these capital expenditures primarily through cash flow from our operations, borrowings under our credit facility, and existing cash. However, if our capital requirements vary materially from those provided for in our current projections, we may require additional financing sooner than anticipated. A decrease in expected revenues or adverse change in market conditions could make obtaining this financing economically unattractive or impossible. As a result, we may lack the capital necessary to complete the projected expansions or capitalize on other business opportunities.

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We may be unable to successfully integrate future acquisitions with our operations or realize all of the anticipated benefits of such acquisitions.

Failure to successfully integrate future acquisitions, if any, in a timely manner may have a material adverse effect on our business, financial condition, results of operations, and cash flows. The difficulties of combining acquired operations include, among other things:

- operating a significantly larger combined organization
- consolidating corporate technological and administrative functions
- integrating internal controls and other corporate governance matters and
- diverting management's attention from other business concerns.

In addition, we may not realize all of the anticipated benefits from future acquisitions, such as increased earnings, cost savings, and revenue enhancements, for various reasons, including difficulties integrating operations and personnel, higher and unexpected acquisition and operating costs, unknown liabilities, and fluctuations in markets. If benefits from future acquisitions do not meet the expectations of financial or industry analysts, the market price of our shares of common stock may decline.

If we are unable to respond to changes in ASTM or customer standards, our ability to sell biodiesel may be harmed.

We currently produce biodiesel to conform to or exceed standards established by ASTM. ASTM standards for biodiesel and biodiesel blends may be modified in response to new observations from the industries involved with diesel fuel. New tests or more stringent standards may require us to make additional capital investments in, or modify, plant operations to meet these standards. In addition, some biodiesel customers have developed their own biodiesel standards which are stricter than the ASTM standards. If we are unable to meet new ASTM standards or our biodiesel customers' standards cost effectively or at all, our production technology may become obsolete, and our ability to sell biodiesel may be harmed, negatively impacting our revenues and profitability.

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

Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. The process of maintaining our internal controls may be expensive and time consuming and may require significant attention from

management. Although we have concluded as of December 31, 2018, that our internal control over financial reporting provides reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP, because of its inherent limitations, internal control over financial reporting may not prevent or detect fraud or misstatements. Failure to implement required new or improved controls, or difficulties encountered in their implementation, could harm our results of operations or cause us to fail to meet our reporting obligations. If we or our independent registered public accounting firm discover a material weakness, the disclosure of that fact could harm the value of our stock and our business.

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

We rely in part on trade secret protection to protect our confidential and proprietary information and processes. However, trade secrets are difficult to protect. We have taken measures to protect our trade secrets and proprietary information, but these measures may not be effective. For example, we require new custom manufacturing chemical customers to execute confidentiality agreements before we begin manufacturing custom chemicals for them. We also require employees and consultants to execute confidentiality agreements upon the commencement of their employment or consulting arrangement with us. These agreements generally require that all confidential information developed by the individual or made known to the individual by us during the course of the individual's relationship with us be kept confidential and not disclosed to third parties. These agreements also generally provide that know-how and inventions conceived by the individual in the course of rendering services to us are our exclusive property. Nevertheless, these agreements may be breached, or may not be enforceable, and our proprietary information may be disclosed. Further, despite the existence of these agreements, third parties may independently develop substantially equivalent proprietary information and techniques. Accordingly, it may be difficult for us to protect our trade secrets. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

Moreover, we cannot assure that our technology does not infringe upon any valid claims of patents that other parties own. In the future, if we were found to be infringing on a patent owned by a third party, we might have to seek a license from such third party to use the patented technology. We cannot assure that, if required, we would be able to obtain such a license on terms acceptable to us, if at all. If a third party brought a legal action against us or our licensors, we could incur substantial costs in defending ourselves, and we cannot assure that such an action would be resolved in our favor. If such a dispute were to be resolved against us, we could be subject to significant damages.

We depend on our ability to maintain relationships with industry participants, including our strategic partners.

Our ability to maintain commercial arrangements with chemical and biodiesel customers, raw material and feedstock suppliers, and transportation and logistics services providers may depend on maintaining close working relationships with industry participants. There can be no assurance that we will be able to maintain or establish additional necessary strategic relationships, in which case the opportunity to grow our business may be negatively affected.

If automobile manufacturers and other industry groups express reservations regarding the use of biodiesel, our ability to sell biodiesel will be negatively impacted.

Research on biodiesel use in automobiles is ongoing. Some industry groups have recommended that blends of no more than 5% biodiesel be used for automobile fuel due to concerns about fuel quality, engine performance problems, and possible detrimental effects of biodiesel on rubber components and other engine parts. Although some manufacturers have encouraged use of biodiesel fuel in their vehicles, cautionary pronouncements by other manufacturers or industry groups may impact our ability to market our biodiesel.

There is currently excess production capacity and low utilization in the biodiesel industry and if non-operational and underutilized facilities commence or increase operations, our results of operations may be negatively affected.

Many biodiesel plants in the United States do not operate at full capacity. Further, plants under construction and expansion in the United States as of December 31, 2018, if completed, would add additional biodiesel production capacity. The annual production capacity of existing plants and plants under construction far exceeds both historic consumption of biodiesel in the United States and required consumption under RFS2. If this excess production capacity was utilized for biodiesel production, it would increase competition for our feedstocks, increase the volume of biodiesel on the market, and may reduce biodiesel gross margins, harming our revenues and profitability.

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Perception about "food vs. fuel" could impact public policy which could impair our ability to operate at a profit and substantially harm our revenues and operating margins.

Some people believe that biodiesel may increase the cost of food, as some feedstocks such as soybean oil used to make biodiesel can also be used for food products. This debate is often referred to as "food vs. fuel." Though our biodiesel is sourced from non-food grade feedstocks, this is a concern to the biodiesel industry because biodiesel demand is heavily influenced by government policy and, if public opinion were to erode, it is possible that these policies would lose political support. These views could also negatively impact public perception of biodiesel. Such claims have led some, including members of Congress, to urge the modification of current government policies which affect the production and sale of biofuels in the United States.

Concerns regarding the environmental impact of biodiesel production could affect public policy which could impair our ability to operate at a profit and substantially harm our revenues and operating margins.

The environmental impacts associated with biodiesel production and use have not yet been fully analyzed. Under the 2007 Energy Independence and Security Act, the USEPA is required to produce a study every three years of the environmental impacts associated with current and future biofuel production and use, including effects on air and water quality, soil quality and conservation, water availability, energy recovery from secondary materials, ecosystem health and biodiversity, invasive species, and international impacts. The first such triennial report was published in January 2011. The second triennial report was published June 29, 2018. The 2018 report reaffirms the findings of the 2011 report and reflects the current understanding about biofuel production using data gathered through May 2017. See

https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=IO&dirEntryId=341491 .

To the extent that state or federal laws are modified or public perception turns against biodiesel, use requirements such as RFS2 may not continue, which could materially harm our ability to operate profitably.

Growth in the sale and distribution of biodiesel is dependent on the expansion of related infrastructure which may not occur on a timely basis, if at all, and our operations could be adversely affected by infrastructure limitations or disruptions.

Growth in the biodiesel industry depends on substantial development of infrastructure for the distribution of biodiesel. Substantial investment required for these infrastructure changes and expansions may not be made on a timely basis or at all. The scope and timing of any infrastructure expansion are generally beyond our control. Also, we compete with other biofuel companies for access to some of the key infrastructure components such as pipeline and terminal

capacity. As a result, increased production of biodiesel or other biofuels will increase the demand and competition for necessary infrastructure. Any delay or failure in expanding distribution infrastructure could hurt the demand for or prices of biodiesel, impede delivery of our biodiesel, and impose additional costs, each of which would have a material adverse effect on our results of operations and financial condition. Our business will be dependent on the continuing availability of infrastructure for the distribution of increasing volumes of biodiesel and any infrastructure disruptions could materially harm our business.

Nitrogen oxide emissions from biodiesel may harm its appeal as a renewable fuel and increase costs.

In some instances, biodiesel may increase emissions of nitrogen oxide as compared to petrodiesel, which could harm air quality. Nitrogen oxide is a contributor to ozone and smog. These emissions may decrease the appeal of biodiesel to environmental groups and agencies who have been historic supporters of the biodiesel industry, potentially harming our ability to market our biodiesel.

In addition, several states have acted to regulate potential nitrogen oxide emissions from biodiesel. Texas currently requires that biodiesel blends contain an additive to eliminate this perceived nitrogen oxide increase. California is in the process of formulating biodiesel regulations that may also require such an additive. In states where such an additive is required to sell biodiesel, the additional cost of the additive may make biodiesel less profitable or make biodiesel less cost competitive against petrodiesel or renewable diesel, which would negatively impact our ability to sell our products in such states and therefore have an adverse effect on our revenues and profitability.

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Several biofuels companies throughout the United States have filed for bankruptcy over the last several years due to industry and economic conditions.

Unfavorable worldwide economic conditions, lack of financing, and volatile biofuel prices and feedstock costs have likely contributed to the necessity of bankruptcy filings by biofuel producers. Our business may be negatively impacted by the industry conditions that influenced the bankruptcy proceedings of other biofuel producers, or we may encounter new competition from buyers of distressed biodiesel properties who enter the industry at a lower cost than original plant investors.

We are exposed to credit risk and fluctuations in market values of our investments

We could experience significant declines in the market value of our investment portfolio. Credit ratings and pricing of these investments can be negatively affected by liquidity, credit deterioration, financial results, economic risk, political risk, sovereign risk, or other factors. As a result, the value and liquidity of our cash, cash equivalents and marketable securities could decline and result in significant impairment.

We are exposed to operating risks

As a manufacturer of diversified chemical products and biofuels, our business is subject to operating risks common to chemical manufacturing, storage, handling, and transportation. These risks include, but are not limited to, fires, explosions, inclement weather, natural disasters, mechanical failure, unscheduled downtime, transportation interruptions, remediation, chemical spills, discharges or releases of toxic or hazardous substances or gases. Significant limitation on our ability to manufacture products due to disruption of manufacturing operations or related infrastructure could have a material adverse effect on our sales revenue, costs, results of operations, and financial condition.

Disruptions could also occur due to internal factors such as computer or equipment malfunction (accidental or intentional), operator error, or process failures or external factors such as computer or equipment malfunction at third-party service providers, natural disasters, pandemic illness, changes in laws or regulations, war or other outbreak of hostilities or terrorism, cyber-attacks, or breakdown or degradation of transportation infrastructure used for delivery of supplies to the Company or for delivery of products to customers. We have in the past experienced cyber-attacks and breaches of our computer information systems, and although none of these have had a material adverse effect on our operations, no assurances can be provided that any future disruptions due to these, or other, circumstances will not have a material effect on operations. Such disruptions could result in an unplanned event that could be significant in scale and could negatively impact operations, neighbors, and the environment, and could have a negative impact on our results of operations.

Risks Associated With Owning Our Shares

We may issue substantial amounts of additional shares without stockholder approval.

Our certificate of incorporation authorizes the issuance of 75,000,000 shares of common stock and 5,000,000 shares of preferred stock. As of the date of this report, 43,743,243 shares of our common stock currently are outstanding. The issuance of any additional shares of our common stock or preferred stock would dilute the percentage ownership of our company held by existing stockholders.

The market price of our common stock is highly volatile and may increase or decrease dramatically at any time.

The market price of our common stock is highly volatile and our shares are thinly traded. Our stock price may change dramatically as the result of: (i) announcements of new products or innovations by us or our competitors (ii) uncertainty regarding the viability of any of our product initiatives (iii) significant customer contracts (iv) significant litigation (v) the loss of or changes to the BTC or RFS2 mandate or (vi) other factors or events that would be expected to affect our business, financial condition, results of operations, and future prospects.

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The market price for our common stock may also be affected by various factors not directly related to our business or future prospects, including the following:

- a reaction by investors to trends in our stock rather than the fundamentals of our business
- a single acquisition or disposition, or several related acquisitions or dispositions, of a large number of our shares, including by short sellers covering their position
- the interest of the market in our business sector, without regard to our financial condition, results of operations, or business prospects
- positive or negative statements or projections about us or our industry by analysts and other persons
- the adoption of governmental regulations or government grant programs and similar developments in the United States or abroad that may enhance or detract from our ability to offer our products and services or affect our cost structure and
- economic and other external market factors, such as a general decline in market price due to poor economic conditions, investor distrust, or a financial crisis.

If securities or industry analysts issue an adverse or misleading opinion regarding our stock or do not publish research or reports about our business, our stock price and trading volume could decline.

The trading market for shares of our common stock will rely in part on the research and reports that equity research analysts publish about us and our business. The price of our common stock could decline if one or more equity research analysts downgrade our common stock or if those analysts issue other unfavorable commentary or cease publishing reports about us or our business.

If our founding shareholders and Mr. Novelly or his designees exercise their registration rights, such exercise may have an adverse effect on the market price of our shares of common stock.

Those shareholders holding shares of our common stock prior to our July 2006 offering (our founding shareholders see “Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters -- Founding Shares Owned by the Founding Shareholders” below) and Mr. Paul A. Novelly, our executive chairman of the board, or his designees, are entitled to demand that we register under the Securities Act of 1933, as amended (or the “Securities Act”), the resale of their shares of our common stock issued prior to our July 2006 offering (the founding shares) and their shares included in the units purchased in our initial public offering. The demand may be made at any time after the date on which we became a reporting company under the Exchange Act, and their founding shares have been released from escrow. This occurred on July 12, 2009. If our founding shareholders exercise their registration rights with respect to all of their shares of our common stock, there will be an additional 17,725,100 shares (which includes the 5,000,000 shares issued on exercise of their warrants) eligible for trading in the public market. The presence of this additional number of shares eligible for trading in the public market may have an adverse effect on the

market price of our shares.

We may be suspended or delisted from the New York Stock Exchange if we do not satisfy their continued listing requirements.

Our common stock commenced trading on the NYSE on March 23, 2011 under the symbol “FF”. Securities admitted to the NYSE may be suspended from dealing or delisted at any time the listed company fails to satisfy certain continued listing criteria. These criteria could be triggered if, among other things, the number of our publicly-held shares falls below 600,000, the average closing price of our common stock is less than $1.00 per share over a consecutive 30 trading-day period, or we fail to file certain reports with the SEC. As a matter of practice, the NYSE generally gives a listed company notice if any of these criteria are triggered, and generally provides the listed company with certain cure periods. If we suffer such an event but do not cure it, or if such event cannot be cured, trading of our common stock on the NYSE may be suspended from dealing or our stock may be delisted. Any such suspension or delisting may have an adverse effect on the market price of our common stock.

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Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our principal asset is a manufacturing plant situated on approximately 2,200 acres of land six miles southeast of Batesville in north central Arkansas fronting the White River. Approximately 500 acres of the site are occupied with batch and continuous manufacturing facilities, laboratories, and infrastructure, including on-site liquid waste treatment. Our subsidiary, FutureFuel Chemical Company, is the fee owner of this plant and the land upon which it is situated (which plant and land are not subject to any major encumbrances), and manufactures both biofuels and chemicals at the plant. Utilization of these facilities may vary with product mix and economic, seasonal, and other business conditions, but the plant is substantially utilized with the exception of facilities designated for capacity expansion of biodiesel. The plant, including approved expansions, has sufficient capacity for existing needs and expected near-term growth. We believe that the plant is generally well maintained, in good operating condition, and suitable and adequate for its uses.

Item 3. Legal Proceedings.

We are not a party to, nor is any of our property subject to, any material pending legal proceedings, other than ordinary routine litigation incidental to our business. From time to time, we may be parties to, or targets of, lawsuits, claims, investigations, and proceedings, including product liability, personal injury, asbestos, patent and intellectual property, commercial, contract, environmental, antitrust, health and safety, and employment matters, which we expect to be handled and defended in the ordinary course of business. While we are unable to predict the outcome of any matters currently pending, we do not believe that the ultimate resolution of any such pending matters will have a material adverse effect on our overall financial condition, results of operations, or cash flows.

Item 4. Mine Safety Disclosures.

Not applicable.

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PART II

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

Market Information

The shares of our common stock are traded on the NYSE under the trading symbol "FF". As of March 15, 2019, there are 43,743,243 shares of our common stock outstanding.

Holders

The shares of our common stock were held by approximately 273 holders of record on March 15, 2019 as recorded on our transfer agents' register. We believe that the number of beneficial owners of our common stock is substantially greater than the number of holders of record.

Dividends

The payment of cash dividends by us is dependent upon our existing cash and cash equivalents, future earnings, capital requirements, and overall financial condition. We declared and paid regular cash dividends for 2017 and 2018 as follows:

Per Share Amount	Record Date	Payment Date	Date of Declaration
$2.29	December 16, 2016	January 13, 2017	November 30, 2016
$0.06	March 1, 2017	March 15, 2017	November 30, 2016
$0.06	June 1, 2017	June 15, 2017	November 30, 2016
$0.06	September 1, 2017	September 15, 2017	November 30, 2016
$0.06	December 1, 2017	December 15, 2017	November 30, 2016
$0.06	March 1, 2018	March 15, 2018	December 6, 2017
$0.06	June 1, 2018	June 15, 2018	December 6, 2017
$0.06	September 4, 2018	September 18, 2018	December 6, 2017
$0.06	December 3, 2018	December 17, 2018	December 6, 2017

We have also declared dividends for 2019 as follows:

Per Share Amount	Record Date	Payment Date	Date of Declaration
$0.06	March 1, 2019	March 15, 2019	November 19, 2018
$0.06	June 3, 2019	June 17, 2019	November 19, 2018
$0.06	September 3, 2019	September 17, 2019	November 19, 2018
$0.06	December 2, 2019	December 16, 2019	November 19, 2018

No assurances can be given that we will declare or pay dividends for years after 2019.

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Securities Authorized for Issuance Under Equity Compensation Plan

Our board of directors adopted an omnibus incentive plan which was approved by our shareholders at our 2017 annual shareholder meeting on September 7, 2017 (the "Incentive Plan"). We do not have any other equity compensation plan or individual equity compensation arrangement. Under the Incentive Plan, awards are limited to 10% of the issued and outstanding shares of our common stock in the aggregate. The shares to be issued under the Incentive Plan were registered with the SEC on a Form S-8 filed on November 9, 2017. Through December 31, 2018, we issued 10,000 options to purchase shares of our common stock and awarded no shares to participants under the Incentive Plan.

The following additional information regarding the incentive plans is as of December 31, 2018.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by security holders	40,000(*)	$ 14.55(*)	4,364,167

(*) 30,000 shares granted pursuant to a prior separate omnibus incentive plan (the "Prior Plan"), which was adopted by our shareholders at our 2007 annual shareholder meeting on June 26, 2007. The shares to be issued under the Prior Plan were registered with the SEC on a Form S-8 filed on April 29, 2008. The Prior Plan expired on June 26, 2017. Under the Prior Plan, we were authorized to issue 2,670,000 shares of our common stock. Through the expiration of the Prior Plan, we issued options to purchase 1,060,500 shares of our common stock and awarded an additional 414,800 shares to participants under the Prior Plan. No further awards will be granted under the Prior Plan.

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Performance Graph

The graph below matches the cumulative 5-Year total return of holders of FutureFuel Corp's common stock with the cumulative total returns of the Russell 2000 index and a customized peer group of forty five companies that includes: Aemetis Inc., American Resources Corp, Benchmark Energy Corp, Bioamber Inc., Blue Sugars Corp, Bluefire Renewables Inc., Cardinal Ethanol LLC, Celanese Corp, Cleantech Biofuels Inc., Codexis Inc., Easylink Solutions Corp, ESP Resources Inc., Evolution Fuels Inc., Global Energy Inc., Granite Falls Energy LLC, Green Energy Live Inc., Green Energy Resources Inc., Green Plains Inc., Green Plains Partners LP, Greenbelt Resources Corp, Greenshift Corp, Heron Lake Bioenergy LLC, Highwater Ethanol LLC, Immage Biotherapeutics Corp, Innophos Holdings Inc., International Flavors & Fragrances Inc., Koppers Holdings Inc., Kreido Biofuels Inc., Long Beard Breweries Inc., Methes Energies International Ltd, New America Energy Corp, Nouveau Life Pharmaceuticals Inc., N Technology Inc., Ozop Surgical Corp, Pacific Ethanol Inc., Rayonier Advanced Materials Inc., Red Trail Energy LLC, Renewable Energy Group Inc., Rex American Resources Corp, Sino United Worldwide Consolidated Ltd, Southwest Iowa Renewable Energy LLC, Tantech Holdings Ltd, Tapinator, Inc.., Westlake Chemical Partners LP and Zeons Corp. The graph assumes that the value of the investment in our common stock, in each index, and in the peer group (including reinvestment of dividends) was $100 on December 31, 2013 and tracks it through December 31, 2018.

Recent Sales of Securities

We did not sell any of our securities within the three-year period ended December 31, 2018 in transactions that were not registered under the Securities Act.

Purchase of Securities by Us

During 2018, neither we nor anyone acting on our behalf purchased any shares of our common stock, which is the only class of our equity securities that is registered pursuant to Section 12 of the Exchange Act.

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Item 6. Selected Financial Data.

The following table sets forth summary historical financial and operating data regarding us for the periods indicated below. This summary historic financial and operating data has been derived from our consolidated financial statements for the twelve months ended December 31, 2014, 2015, 2016, 2017, and 2018. The information presented in the table below should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and Notes thereto. The financial data presented is not directly comparable between periods as a result of the adoption of ASC Topic 606, *Revenue from Contracts with Customers* in 2018.

(Dollars in thousands, except per share amounts)

Item	Twelve Months Ended December 31, 2018	Twelve Months Ended December 31, 2017	Twelve Months Ended December 31, 2016	Twelve Months Ended December 31, 2015	Twelve Months Ended December 31, 2014
Operating Revenues	$ 291,018	$ 275,026	$ 253,193	$ 299,611	$ 341,838
Net income	$ 53,158	$ 23,511	$ 56,341	$ 46,421	$ 53,200
Earnings per common share:					
Basic	$ 1.22	$ 0.54	$ 1.29	$ 1.06	$ 1.22
Diluted	$ 1.22	$ 0.54	$ 1.29	$ 1.06	$ 1.22
Total Assets	$ 471,155	$ 425,563	$ 529,043	$ 489,109	$ 461,488
Long-term obligations	$ 42,586	$ 38,686	$ 52,181	$ 46,244	$ 50,392
Dividends declared per common share	$ 0.24	$ 0.24	$ 2.77	$ 0.24	$ 0.48
Net cash provided by operating activities	$ 85,955	$ 39,347	$ 90,975	$ 39,623	$ 51,952
Net cash provided by (used in) investing activities	$ 25,064	$ (13,183)	$ (35,207)	$ 2,025	$ 6,708
Net cash used in financing activities	$ (10,674)	$ (110,809)	$ (10,545)	$ (11,678)	$ (21,044)

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

The following Management's Discussion and Analysis of Financial Condition and Results of Operations should be read together with our consolidated financial statements, including the Notes thereto, set forth herein.

This discussion contains forward-looking statements that reflect our current views with respect to future events and financial performance. Actual results may differ materially from those anticipated in these forward-looking statements. See "Forward-Looking Information" below for additional discussion regarding risks associated with forward-looking statements.

Unless otherwise stated, all dollar amounts are in thousands.

Overview

In General

Our company is managed and reported in two reporting segments: chemicals segment and biofuels segment. Within the chemicals segment are two product groups: custom chemicals and performance chemicals. The custom chemicals group is comprised of chemicals manufactured for a single customer whereas the performance chemicals product group is comprised of chemicals manufactured for multiple customers. The biofuels segment is comprised of one product group. Management believes that the diversity of each segment strengthens the company by better utilizing resources and is committed to growing each segment.

Major products in the custom chemicals group include: (i) a laundry detergent additive manufactured exclusively for a customer for use in a household detergent (ii) proprietary herbicide intermediates manufactured for select strategic customers (iii) chlorinated polyolefin adhesion promoters and antioxidant precursors for a customer and (iv) a biocide intermediate for another customer. The custom chemicals group also includes consumer products (cosmetics and personal care products, specialty polymers, and specialty products used in the fuels industry).

Revenues generated from the laundry detergent additive are based on a supply agreement with the customer. In 2018, we entered into a new agreement to extend the supply of the laundry detergent additive to this customer through 2020 at reduced volumes and prices. However, there is no guarantee that this customer will order any laundry detergent

additive after 2019. We previously acquired intellectual property rights related to the laundry detergent additive and are working to leverage this intellectual property to find new customers for this product.

In 2013, we completed a supply agreement with a major multi-national life sciences company to manufacture an intermediate to a new herbicide. The equipment utilized for this project is, in part, the equipment vacated from the termination of previous contracts with other customers. The contract is effective through December 31, 2020. No assurances can be given, however, that the agreement will be further extended past 2020.

Pricing for the other custom manufacturing products is negotiated directly with the customer. Some, but not all, of these products have pricing mechanisms and/or protections against raw material or conversion cost changes.

Performance chemicals consist of specialty chemicals that are manufactured to general market-determined specifications and are sold to a broad customer base. The major product line in the performance chemicals group is SSIPA/LiSIPA, a polymer modifier that aids the properties of nylon and polyesters. This group of products also includes other sulfonated monomers and hydrotropes, specialty solvents, polymer additives, and chemical intermediates, such as glycerin.

SSIPA/LiSIPA revenues are generated from a diverse customer base of nylon fiber manufacturers and other customers that produce condensation polymers. Contract sales are, in certain instances, indexed to key raw materials for inflation otherwise, there is no pricing mechanism or specific protection against raw material or conversion cost changes.

Pricing for the other performance chemical products is established based upon competitive market conditions. Some, but not all, of these products have pricing mechanisms and/or specific protections against raw material or conversion cost changes.

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For our biofuels segment, we procure all of our own feedstock and only sell biodiesel for our own account. In rare instances, we purchase biodiesel from other producers for resale. We have the capability to process multiple types of feedstock including vegetable oils, animal fats, and separated food waste oils. We can receive feedstock by rail or truck, and we have substantial storage capacity to acquire feedstock at advantaged prices when market conditions permit. Our annual biodiesel production capacity is in excess of 58 million gallons per year.

There currently is uncertainty as to whether we will produce biodiesel in the future. This uncertainty results from changes in feedstock prices relative to biodiesel prices and the lack of permanency of government mandates and tax credits. See “Risk Factors” above.

While biodiesel is the principal component of the biofuels segment, we also generate revenue from the sale of petrodiesel both in blends with our biodiesel and, from time to time, with no biodiesel added. Petrodiesel and biodiesel blends are available to customers at our leased storage facility in North Little Rock, Arkansas and at our Batesville plant. In addition, we deliver blended product to a small group of customers within our region. We also sell refined petroleum products on common carrier pipelines in part to maintain our status as an active shipper on these pipelines.

Most of our sales are FOB the Batesville plant, although some transfer points are in other states or foreign ports. While many of our chemicals are utilized to manufacture products that are shipped, further processed, and/or consumed throughout the world, the chemical products, with limited exceptions, generally leave the United States only after we have transferred ownership. Rarely are we the exporter of record, never are we the importer of record into foreign countries, and we are not always aware of the exact quantities of our products that are moved into foreign markets by our customers. We do track the addresses of our customers for invoicing purposes and use this address to determine whether a particular sale is within or outside the United States. Our revenues for the last three fiscal years attributable to the United States and foreign countries (based upon the billing addresses of our customers) were as set forth in the following table.

Period	United States	All Foreign Countries	Total
Year ended December 31, 2018	$289,019	$ 1,999	$291,018
Year ended December 31, 2017	$271,635	$ 3,391	$275,026
Year ended December 31, 2016	$250,320	$ 2,873	$253,193

The majority of our expenses are cost of goods sold. Cost of goods sold includes raw material costs as well as both fixed and variable conversion costs, such conversion costs being those expenses that are directly or indirectly related to the operation of our plant. Significant conversion costs include labor, benefits, energy, supplies, depreciation, and maintenance and repair. In addition to raw material and conversion costs, cost of goods sold includes environmental reserves and costs related to idle capacity. Finally, cost of goods sold includes hedging gains and losses recognized by

us related to our biofuels segment. Cost of goods sold is allocated to the chemicals and biofuels business segments based on equipment and resource usage for most conversion costs and based on revenues for most other costs.

Operating costs include selling, general and administrative, and research and development expenses.

The discussion of results of operations that follows is based on revenues and expenses in total and for individual product lines and does not differentiate related party transactions.

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

Set forth below is a summary of certain financial information for the periods indicated.

(Dollars in thousands other than per share amounts)

	Twelve Months Ended December 31, 2018	Twelve Months Ended December 31, 2017	Dollar Change	% Change
Revenues	$ 291,018	$ 275,026	$ 15,992	5.8 %
Income from operations	$ 63,439	$ 9,887	$ 53,552	541.6 %
Net income	$ 53,158	$ 23,511	$ 29,647	126.1 %
Earnings per common share:				
Basic	$ 1.22	$ 0.54	$ 0.68	125.9 %
Diluted	$ 1.22	$ 0.54	$ 0.68	125.9 %
Capital expenditures (net of customer reimbursements and regulatory grants)	$ 2,550	$ 3,406	$ (856)	(25.1 %)
Adjusted EBITDA	$ 73,912	$ 26,353	$ 47,559	180.5 %

We use adjusted EBITDA as a key operating metric to measure both performance and liquidity. Adjusted EBITDA is a non-GAAP financial measure. Adjusted EBITDA is not a substitute for operating income, net income, or cash flow from operating activities (each as determined in accordance with GAAP) as a measure of performance or liquidity. Adjusted EBITDA has limitations as an analytical tool, and should not be considered in isolation or as a substitute for analysis of results as reported under GAAP. We define adjusted EBITDA as net income before interest, income taxes, depreciation, and amortization expenses, excluding, when applicable, non-cash stock-based compensation expenses, public offering expenses, acquisition-related transaction costs, purchase accounting adjustments, losses on disposal of property and equipment, gains or losses on derivative instruments, and other non-operating income or expenses. Information relating to adjusted EBITDA is provided so that investors have the same data that we employ in assessing the overall operation and liquidity of our business. Our calculation of adjusted EBITDA may be different from similarly titled measures used by other companies therefore, the results of our calculation are not necessarily comparable to the results of other companies.

Adjusted EBITDA allows our chief operating decision makers to assess the performance and liquidity of our business on a consolidated basis to assess the ability of our operating segments to produce operating cash flow to fund working capital needs, to fund capital expenditures and to pay dividends. In particular, our management believes that adjusted

EBITDA permits a comparative assessment of our operating performance and liquidity, relative to a performance and liquidity based on GAAP results, while isolating the effects of depreciation and amortization, which may vary among our operating segments without any correlation to their underlying operating performance, and of non-cash stock-based compensation expense, which is a non-cash expense that varies widely among similar companies, and gains and losses on derivative instruments, which can cause net income to appear volatile from period to period relative to the sale of the underlying physical product.

We enter into commodity derivative instruments to protect our operations from downward movements in commodity prices, and to provide greater certainty of cash flows associated with sales of our commodities. We enter into hedges, and we utilize mark-to-market accounting to account for these instruments. Thus, our results in any given period can be impacted, and sometimes significantly, by changes in market prices relative to our contract price along with the timing of the valuation change in the derivative instruments relative to the sale of biofuel. We include this item as an adjustment as we believe it provides a relevant indicator of the underlying performance of our business in a given period.

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The following table reconciles adjusted EBITDA with net income, the most directly comparable GAAP financial measure.

(Dollars in thousands)

	Twelve months ended December 31:	
	2018	**2017[1]**
Adjusted EBITDA	$73,912	$26,353
Depreciation	(10,969)	(11,617)
Non-cash stock-based compensation	(357)	(998)
Interest and dividend income	9,183	7,809
Non-cash interest expense (including amortization of deferred financing costs)	(173)	(172)
Losses on disposal of property and equipment	(41)	(195)
Gains/(losses) on derivative instruments	633	(3,844)
Losses on marketable securities	(12,011)	(687)
(Provision)/benefit for income taxes	(7,019)	6,862
Net income	$53,158	$23,511

(1) Prior year amounts have been restated to be consistent with current year classifications.

The following table reconciles adjusted EBITDA with cash flows from operations, the most directly comparable GAAP liquidity financial measure:

(Dollars in thousands)

	Twelve months ended December 31:	
	2018	**2017**
Adjusted EBITDA	$73,912	$26,353
Benefit for deferred income taxes	(1,253)	(13,657)
Impairment of fixed assets	258	28
Interest and dividend income	9,183	7,809
(Provision)/ benefit for income taxes	(7,019)	6,862

Gains/(losses) on derivative instruments	633	(3,844)
Change in fair value of derivative instruments	(2,130)	2,170
Changes in operating assets and liabilities, net	12,030	13,626
Other	(1)	-
Net cash provided by operating activities	$85,613	$39,347

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Results of Operations

Consolidated

	2018 Compared to 2017:					2017 Compared to 2016:				
			Change					Change		
(Dollars in thousands)	2018	2017	$	%		2017	2016	$	%	
Sales	$291,018	$275,026	$15,992	5.8	%	$275,026	$253,193	$21,833	8.6	%
Volume/product mix effect			$8,787	3.2	%			$(23,743)	(9.4%	)
Price effect			$7,205	2.6	%			$45,576	18.0	%
Gross profit	$73,398	$20,261	$53,137	262.3	%	$20,261	$46,858	$(26,597)	(56.8%	)
Operating expense	$9,959	$10,374	$(415)	(4.0%	)	$10,374	$10,335	$39	0.4	%

2018 Compared to 2017

Consolidated sales revenue increased 5.8% or $15,992 in 2018 compared to 2017. This increase primarily resulted from higher selling prices in the biofuel and chemical segments. Chemical sales volumes increased primarily from the improved conditions in the agrochemical and energy markets.

Gross profit increased $53,137 in 2018 compared to 2017. This increase was primarily attributable to: i) the reinstatement of the biodiesel BTC for 2017 in 2018, amounting to $28,865 (see Note 3 for further details); ii) increased volumes in the chemical segment from the agrochemical and energy markets; iii) gains in the unrealized and realized activity in derivative instruments as compared to losses in the prior year;- the change in the derivative activity increased gross profit $633 in 2018 as compared to decreasing gross profit $3,844 in 2017; and iv) the benefit of adjustments in the carrying value of our inventory as determined utilizing the LIFO method of inventory accounting. The LIFO adjustment decreased gross profit $ 2,249 in 2018 as compared to decreased gross profit $5,204 in 2017. The change in LIFO did not result in a lower of cost or market adjustment in 2018 but did in 2017 in the amount of $276.

Operating expenses decreased $415 in 2018 compared to 2017. This decrease was primarily the result of lower compensation expense and research and development expense.

Provision for Taxes

The provision for taxes in 2018 was 11.7% or $7,019 as compared to a benefit of 41.2% or $6,862 in 2017.

FutureFuel's effective tax rate for the year 2018 reflects FutureFuel's uncertain tax position on prior year income of $2,728, net ($2,804, gross) plus interest of $448 in the fourth quarter of 2018. See Note 14 for further details. Partially reducing provision for income taxes was the benefit of the reinstatement of certain tax credits and incentives for 2018, the most significant of which was the BTC and Small Agri-biodiesel Producer Tax Credit. The BTC and Small Agri-biodiesel Producer Tax Credit was retroactively extended for 2017 (but, not beyond December 31, 2017) on February 9, 2018. This tax benefit was recorded in FutureFuel's first quarter 2018 results. Please see Note 3 for a discussion of the impact of the BTC for the years ended December 31, 2016, 2017, and 2018.

FutureFuel's effective tax rate for the year 2017, reflects a one-time benefit from The Tax Cuts and Jobs Act of 2017 ("The Act"). The Act provided for a federal tax rate from 35% to 21%, effective January 1, 2018. FutureFuel recognized a one-time $12,066 income tax benefit from anticipated lower tax rates on future reversals of deferred tax liabilities.

FutureFuel's unrecognized tax benefits totaled $2,804 and $0 at December 31, 2018 and 2017, respectively.

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2017 Compared to 2016

Consolidated sales revenue increased 8.6% or $21,833 in 2017 compared to 2016. This increase primarily resulted from higher selling prices in the biofuel and chemical segments and increased chemical sales volumes primarily from the improved conditions in the agrochemical and energy markets. The biofuels segment suffered from lower sales volumes largely from the expiration of the BTC.

Gross profit decreased by 56.8% or $26,597 in 2017 compared to 2016. This decrease was primarily attributable to: i) the absence of the biodiesel BTC, ii) reduced profitability from product mix in the chemical segment and iii) the impact of adjustments in the carrying value of our inventory as determined utilizing the LIFO method of inventory accounting. The LIFO adjustment reduced gross profit $5,204 in 2017 and increased gross profit $584 in 2016. The change in LIFO resulted in a lower of cost or market adjustment of $276 in 2017 as compared to $1,435 in 2016. Partially offsetting this decrease was higher profits from increased chemical sales volumes from the agrochemical and energy markets and reduced losses in the unrealized and realized activity in derivative instruments. The change in the derivative activity reduced gross profit $3,844 in 2017 as compared to $6,220 in 2016.

Operating expenses increased $39 in 2017 compared to 2016. This increase was primarily the result of higher research and development expenditures on custom chemicals, partially offset by decreased compensation expense.

Provision for Taxes

The benefit from income taxes decreased 55.8% to $6,862 in 2017 from $15,535 in 2016.

FutureFuel’s effective tax rate for the year December 31, 2016 reflects the positive effect of the reinstatement of certain tax credits and incentives for 2016, the most significant of which were the BTC and Small Agri-biodiesel Producer Tax Credit. The BTC and Small Agri-biodiesel Producer Tax Credit present in 2016 were not in effect during 2017. However, these credits and incentives were retroactively extended for 2017 (but not beyond 2017) on February 9, 2018. The tax benefit of this retroactive extension for 2017 was recorded in FutureFuel’s first quarter 2018 results.

On December 22, 2017, The Tax Cuts and Jobs Act of 2017 (“The Act”) was enacted. The Act provides for a decrease in the overall federal tax rate from 35% to 21% effective January 1, 2018. As a result of the Act, FutureFuel recognized a one-time $12,066 income tax benefit due to an anticipated lower tax rate for future reversals of deferred tax liabilities.

Prior to 2013, FutureFuel had historically included the BTC in taxable income as a reduction in cost of goods sold on its federal and state income tax returns. In 2013, as a result of then recently issued technical guidance from the IRS, FutureFuel changed its position related to the benefit from the biodiesel BTC to exclude this credit from taxable income for 2010 and all future years. Please see Note 3 of our consolidated financial statements for a discussion of the impact of the BTC for the years ended December 31, 2016, 2017 and 2018.

FutureFuel's unrecognized tax benefits totaled $0 and $2,056 at December 31, 2017 and 2016, respectively.

Chemicals Segment

	2018 Compared to 2017:				2017 Compared to 2016:			
			Change				Change	
(Dollars in thousands)	2018	2017	$	%	2017	2016	$	%
Sales	$117,128	$105,386	$11,742	11.1%	$105,386	$100,907	$4,479	4.4%
Volume/product mix effect			8,353	7.9%			2,609	2.6%
Price effect			3,389	3.2%			1,870	1.8%
Gross profit	$33,986	$28,016	$5,970	21.3%	$28,016	$32,055	$(4,039)	(12.6%)

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2018 Compared to 2017

Chemical sales revenue increased 11.1% or $11,742 in 2018 compared with 2017. Sales revenue for our custom chemicals product line (chemicals produced for specific customers) totaled $97,746, an increase of $9,841 from 2017. This increase was primarily attributed to increased sales volumes in the agrochemical and energy markets, new customer product sales, and increased amortization of deferred revenue (which was presented as a price variance). This increase was partially offset by reduced sales volumes and price of our laundry detergent additive. Our contract for sales of the laundry detergent additive expires December 31, 2020, however, there is no guarantee that this customer will order any laundry detergent additive after 2019. We continue to pursue other customers for this product. Performance chemicals revenue (comprised of multi-customer products which are sold based on specification) was $19,382 in 2018, an increase of $1,901 from 2017. This increase was primarily from a stronger glycerin market absent the Argentinian imports that impeded U.S. demand in 2017.

Gross profit for the chemicals segment increased 21.3% or $5,970 in 2018 compared with 2017. This increase resulted from improved profits from higher volumes in the agrochemical and energy markets and the change in adjustments in the carrying value of our inventory as determined utilizing the LIFO method of inventory accounting. The change in LIFO reduced gross profit in both 2018 and 2017, however, the reduction in 2017 was greater. Gross profit was partially reduced by the impact of lower sales volumes and sales prices of the laundry detergent additive.

2017 Compared to 2016

Chemical sales revenue increased 4.4% or $4,479 in 2017 compared with 2016. Sales revenue for our custom chemicals product line (chemicals produced for specific customers) totaled $87,905, an increase of $5,238 from 2016. This increase was primarily attributed to increased sales prices and volumes in the agrochemical and energy markets, new customer product sales, and increased amortization of deferred revenue which were partially offset by reduced sales volumes and price of our laundry detergent additive. Our contract for sales of the laundry detergent additive expires December 31, 2020, however, there is no guarantee that this customer will order any laundry detergent additive after 2019. We continue to pursue other customers for this product. Performance chemicals revenue (comprised of multi-customer products which are sold based on specification) was $17,481 in 2017, a decrease of $759 from 2016. This decrease was primarily from reduced sales volumes of our polymer modifier products and specialty additives.

Gross profit for the chemicals segment decreased 12.6% or $4,039 in 2017 compared with 2016. This decrease resulted from the impact of reduced sales volumes of the laundry detergent additive, and the change in adjustments in the carrying value of our inventory as determined utilizing the LIFO method of inventory accounting. Partially offsetting these declines were improved profits from higher volumes in the Agro chemical and energy markets.

Biofuel Segment

	2018 Compared to 2017:				2017 Compared to 2016:			
			Change				Change	
(Dollars in thousands)	2018	2017	$	%	2017	2016	$	%
Sales	$173,890	$169,640	$4,250	2.5 %	$169,640	$152,286	$17,354	11.4 %
Volume/product mix effect			434	0.3 %			(26,352)	(17.3%)
Price effect			3,816	2.2 %			43,706	28.7 %
Gross profit	$39,412	$(7,755)	$47,167	(608.2%)	$(7,755)	$14,803	$(22,558)	(152.4%)

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2018 Compared to 2017

Biofuels sales revenue increased 2.5% or $4,250 in 2018 compared to 2017 primarily from increased sales prices of biodiesel and biodiesel blends. The fuel industry experienced favorable prices in 2018 versus 2017, however, this favorable price increase was mostly offset by the effect of the retroactive reinstatement of the 2017 BTC which reduced revenue $13,559, as recorded in the first three months ended March 31, 2018 (see Note 3 for further information). Additionally offsetting this price increase was reduced common carrier pipeline sales. Pipeline sales totaled $491 in 2018 compared to $2,175 in 2017.

Revenues from common carrier pipelines varies as its revenue recognition depends upon whether a transaction is bought from and sold to the same party. Purchases and sales of inventory with the same counterparty that are entered into in contemplation of one another (including buy/sell agreements) are combined and recorded on a net basis. Revenue from common carrier pipelines fluctuates with market conditions.

A portion of our biodiesel sold was to four major refiners in the United States in 2018 and one in 2017. No assurances can be given that we will continue to sell to such major refiners, or, if we do sell, the volume we will sell or the profit margin we will realize. We do not believe that the loss of these customers would have a material adverse effect on our biofuels segment or on us as a whole in that: (i) unlike our custom manufacturing products, biodiesel is a commodity with a large potential customer base (ii) we believe that we could readily sell our biodiesel to other customers as potential demand from other customers for biodiesel exceeds our production capacity (iii) our sales to this customer are not under fixed terms and the customer has no fixed obligation to purchase any minimum quantities except as stipulated by short term purchase orders and (iv) the prices we receive from this customer are based upon then-market rates, as would be the case with sales of this commodity to other customers.

Biofuels gross profit increased $47,167 in 2018 compared to 2017. Cost of goods sold decreased largely as a result of the 2017 BTC which was retroactively reinstated on February 9, 2018. The BTC has not been reinstated beyond December 31, 2017. Please see Note 3 for additional discussion. Gross profit was also benefited by the change in adjustments in the carrying value of our inventory as determined utilizing the LIFO method of inventory accounting. The LIFO reserve for the biofuel segment increased in both 2018 and 2017, however, the increase in 2017 was greater resulting in an increase to gross profit for 2018. Additional benefit to gross profit was the change in the realized and unrealized activity of derivative instruments in comparison to the prior year with a gain of $633 in 2018 and a loss of $3,844 in 2017.

2017 Compared to 2016

Biofuels sales revenue increased 11.4% or $17,354 in 2017 compared to 2016 primarily from increased sales prices of biodiesel, biodiesel blends, and RINs. The sale of separated, internally generated RINs, comprised a larger component of revenue in 2017 as compared to 2016. Partially offsetting this increase was reduced sales volumes of biodiesel and biodiesel blends and less common carrier pipeline sales. Pipeline sales totaled $2,175 compared to $9,018 in 2016. Sales volumes of biodiesel, biodiesel blends, and diesel were down given the unfavorable market (without the BTC as compared to 2016 which had the BTC in effect all year).

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Revenues from common carrier pipelines varies as its revenue recognition depends upon whether a transaction is bought from and sold to the same party. Purchases and sales of inventory with the same counterparty that are entered into in contemplation of one another (including buy/sell agreements) are combined and recorded on a net basis. Revenue from common carrier pipelines fluctuates with market conditions.

Additionally, a portion of our biodiesel sold in 2017 and 2016 was to a major refiner in the United States and no assurances can be given that we will continue to sell to such major refiner, or, if we do sell, the volume we will sell or the profit margin we will realize. We do not believe that the loss of this customer would have a material adverse effect on our biofuels segment or on us as a whole in that: (i) unlike our custom manufacturing products, biodiesel is a commodity with a large potential customer base (ii) we believe that we could readily sell our biodiesel to other customers as potential demand from other customers for biodiesel exceeds our production capacity (iii) our sales to this customer are not under fixed terms and the customer has no fixed obligation to purchase any minimum quantities except as stipulated by short term purchase orders and (iv) the prices we receive from this customer are based upon then-market rates, as would be the case with sales of this commodity to other customers.

Biofuels gross profit decreased $22,558 in 2017 compared to 2016. Cost of goods sold increased as a result of the absence of the BTC which expired on December 31, 2016. The BTC for 2017 was retroactively reinstated on February 9, 2018. Please see Note 3 for additional discussion. Gross profit was also reduced by the change in adjustments in the carrying value of our inventory as determined utilizing the LIFO method of inventory accounting, a lower of cost or market adjustment on pipeline products, and to a lesser extent, reduced margins in common carrier pipelines. Partially offsetting these declines was the change in the activity of derivative instruments in comparison to the prior year with a loss of $3,844 in 2017 as compared to a loss of $6,220 in 2016.

Critical Accounting Policies and Practices

Allowance for Doubtful Accounts

We reduce our accounts receivable by amounts that may be uncollectible in the future. This estimated allowance is based upon management’s evaluation of the collectability of individual invoices and is based upon management’s evaluation of the financial condition of our customers and historical bad debt experience. This estimate is subject to change based upon the changing financial condition of our customers. At December 31, 2018 and 2017, we recorded an allowance for doubtful accounts of $0 and $0, respectively. We historically have not experienced significant problems in collecting our receivables, and we do not expect this to change going forward.

Depreciation

Depreciation is provided for using the straight-line method over the associated assets' estimated useful lives. We primarily base our estimate of an asset's useful life on our experience with other similar assets. The actual useful life of an asset may differ significantly from our estimate for such reasons as the asset's build quality, the manner in which the asset is used, or changes in the business climate. When the actual useful life differs from the estimated useful life, impairment charges may result. We monitor the estimated useful lives of our assets and do not currently anticipate impairment charges.

Asset Retirement Obligations

We establish reserves for closure/post-closure costs associated with the environmental and other assets we maintain. Environmental assets include waste management units such as a chemical waste destructor, storage tanks, and boilers. When these types of assets are constructed or installed, a reserve is established for the future costs anticipated to be associated with the closure of the site based on an expected life of the environmental assets, the applicable regulatory closure requirements, and our environmental policies and practices. These expenses are charged into earnings over the estimated useful life of the assets. The future costs anticipated to be associated with the closure of the site are based upon estimated current costs for such activities adjusted for anticipated future inflation rates. Unanticipated changes in either of these two variables or changes in the anticipated timing of closure/post-closure activities may significantly affect the established reserves. As of December 31, 2018 and December 31, 2017, we recorded a reserve for closure/post-closure liabilities of $904 and $876, respectively. We monitor this reserve and the assumptions used in its calculation. As deemed necessary, we have made changes to this reserve balance and anticipate that future changes will occur.

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Revenue Recognition

On January 1, 2018, we adopted Topic 606, *Revenue from Contracts with Customers* using the modified retrospective method applied to those contracts which were not completed as of January 1, 2018. Results for reporting periods beginning after January 1, 2018 are presented under Topic 606, while prior period amounts are not adjusted and continue to be reported in accordance with our historical accounting under Topic 605.

Certain long-term contracts had an upfront non-cancellable payment considered a material right. The Company applied the renewal option approach in allocating the transaction price to the material right. For each of these contracts, the Company estimated the expected contractual volumes to be sold at the most likely expected sales price as a basis for allocating the transaction price to the material right. Each estimate will be updated quarterly on a prospective basis. These custom chemical contracts have payment terms of 30 days. Please see Note 15 for additional discussion.

For most product sales, revenue is recognized when product is shipped from our facilities and risk of loss and title have passed to the customer, which is in accordance with our customer contracts and the stated shipping terms. Nearly all custom manufactured products are manufactured under written master service agreements. Performance chemicals and biodiesel are generally sold pursuant to the terms of written purchase orders. In general, customers do not have any rights of return, except for quality disputes. All of our products are tested for quality before shipment, and historically returns have been inconsequential. We do not offer rebates, except those related to the BTC.

Biodiesel selling prices can at times fluctuate based on the timing of unsold, internally generated RINs. From time to time, sales of biodiesel are on a “RINs-free” basis. Such method of selling results in applicable RINs being held. The value of the RINs is not reflected in revenue until such time as the RIN sale has been completed.

Revenue from bill and hold transactions in which a performance obligation exists is recognized when the total performance obligation has been met and control of the product has transferred. Bill and hold transactions for 2018 and 2017 were related to custom chemicals customers whereby revenue was recognized in accordance with contractual agreements based upon product being produced and ready for use by the customer. These sales were subject to written monthly purchase orders with agreement that production was reasonable. The product was custom manufactured and stored at the customer’s request and could not be sold to another buyer. Credit and payment terms for bill and hold customers are similar to other custom chemicals customers. Sales revenue under bill and hold arrangements were $44,924, $17,517, and $23,725 for the years ended December 31, 2018, 2017, and 2016, respectively.

Taxes collected from customers and remitted to governmental authorities are recorded on a net basis within cost of goods sold.

Income Taxes

We account for income taxes using the asset and liability method. Under this method, income tax assets and liabilities are recognized for temporary differences between financial statement carrying amounts of assets and liabilities and their respective income tax basis. A future income tax asset or liability is estimated for each temporary difference using enacted and substantively enacted income tax rates and laws expected to be in effect when the asset is realized or the liability settled. Changes in the expected tax rates and laws to be in effect when the asset is realized or the liability settled could significantly affect the income tax assets and liabilities recognized by us. We monitor changes in applicable tax laws and adjust our income tax assets and liabilities as necessary.

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Liquidity and Capital Resources

Our net cash provided by (used in) operating activities, investing activities, and financing activities for the years ended December 31, 2018, 2017, and 2016 are set forth in the following table.

(Dollars in thousands)

	2018	2017	2016
Net cash provided by operating activities	$85,613	$39,347	$90,975
Net cash provided by (used in) investing activities	$25,406	$(13,183)	$(35,207)
Net cash used in financing activities	$(10,674)	$(110,809)	$(10,545)

Operating Activities

Cash provided by operating activities increased from $39,347 in 2017 to $85,613 in 2018, a net increase of $46,266. This increase was attributed to: (i) the increase in net income in 2018 compared to 2017 of $29,647 (ii) the increase in the change in the fair value of equity securities of $13,238 and (iii) the decrease in the change in the benefit for deferred taxes of $12,404. Primarily offsetting this cash from operations was a decrease in the change in income tax refunds receivable of $13,492.

Cash provided by operating activities decreased from $90,975 in 2016 to $39,347 in 2017, a net decrease of $51,628. This decrease in cash from operations was attributed to: (i) the decrease in net income of $32,830, (ii) the decrease in the change in accounts receivable of $18,979 and (iii) the decrease in the change in deferred revenue of $7,949. Offsetting this was the decrease in the change in accounts payable of $6,159 and the decrease in the change in income tax receivable of $19,965.

Investing Activities

Cash provided by investing activities was $25,406 in 2018 compared to cash used of $13,183 in 2017, for a net increase in cash from investing activities of $38,589. This decrease was primarily attributable to a $36,276 increase in the net sales of marketable securities in 2018 compared to the net purchases of marketable securities in 2017. Such net

sales totaled $28,571 in 2018, as compared to total net purchases of $7,705 in 2017. The net increase in cash from investing activities was also benefited by the change in the cash used in the collateralization of derivative instruments of $3,581. The cash used in collateralization of derivative instruments was $1,901 in 2017 as compared to cash provided by $1,680 in 2018. Partially offsetting the increase in the cash flows from investing was the increase in the cash used in capital expenditures of $1,286.

Cash used in investing activities decreased from $35,207 in 2016 to $13,183 in 2017. This decrease of $22,024 was primarily attributable to a decrease in the net purchases of marketable securities in 2017 compared to 2016. Such purchases totaled a net of $7,705 in 2017, as compared to total net purchases of $30,177 in 2016. Offsetting this cash used was a reduction in the cash used in the collateralization of derivative instruments of $1,366. This decrease in cash used in collateralization of derivative instruments was $1,901 in 2017 as compared to $535 in 2016.

Our capital expenditures and customer reimbursements are summarized in the table below.

	2018	**2017**	**2016**
Cash paid for capital expenditures and intangibles	$4,867	$3,581	$4,495
Cash received as reimbursement of capital expenditures	$(2,659)	$(175)	$(272)
Cash paid, net of reimbursement, for capital expenditures	$2,208	$3,406	$4,223

Financing Activities

Cash used in financing activities decreased from $110,809 in 2017 to $10,674 in 2018, a net decrease of $100,135. This decrease was primarily due to $10,498 in of cash dividends in 2018 as compared to $110,688 of cash dividends paid in 2017.