



2019 Annual Report

Directors

William P. Powell, Chairman (Class III)

Managing Partner of 535 Partners LLC, a family office

Sophie Bergeron (Class I)

Former General Manager, Éléonore Mine of Newmont Corporation, a gold production company

James A. Brock (Class I)

President and Chief Executive Officer of the Company

John T. Mills (Class III)

Former Chief Financial Officer of Marathon Oil Corporation, an integrated energy company

Joseph P. Platt (Class II)

General Partner of Thorn Partners LP, a family limited partnership

Edwin S. Roberson (Class II)

Former Chief Executive Officer of Christ Community Health Services, a health system

Executive Officers

James A. Brock

President and Chief Executive Officer

Miteshkumar B. Thakkar

Interim Chief Financial Officer

James J. McCaffrey

Chief Commercial Officer

John M. Rothka

Chief Accounting Officer

Kurt R. Salvatori

Chief Administrative Officer

Martha A. Wiegand

General Counsel and Secretary

**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, 2019

OR

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

For the transition period from _____ to _____

Commission file number: 001-38147

CONSOL Energy Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

82-1954058
(I.R.S. Employer
Identification No.)

**1000 CONSOL Energy Drive, Suite 100
Canonsburg, PA 15317-6506
(724) 416-8300**

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

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

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common Stock (\$0.01 par value)	CEIX	New York Stock Exchange

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

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

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

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

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

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

Large accelerated filer Accelerated filer Non-accelerated filer Smaller Reporting Company Emerging Growth Company

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

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

The aggregate value of common stock held by non-affiliates of the registrant (treating all executive officers and directors of the registrant, for this purpose, as if they may be affiliates of the registrant) was approximately \$717,967,071 as of June 30, 2019, the last business day of the registrant's most recently completed second fiscal quarter, based on the reported closing price of the common stock as reported on The New York Stock Exchange on such date.

The number of shares outstanding of the registrant's common stock as of January 24, 2020 was 25,932,618 shares.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of CONSOL Energy Inc.'s Proxy Statement for the Annual Meeting of Shareholders to be held on May 8, 2020 are incorporated by reference in Items 10, 11, 12, 13 and 14 of Part III.

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PART I

Important Definitions Referenced in this Annual Report

- “CONSOL Energy,” “we,” “our,” “us,” “our Company” and “the Company” refer to CONSOL Energy Inc. and its subsidiaries on or after November 28, 2017 and to CONSOL Mining Corporation and its subsidiaries prior to November 28, 2017, except to the extent of any discussion of the financial condition, results of operations, cash flows, and other business activities of the Company on or prior to November 28, 2017 that relate specifically to the Coal Business, in which case such references shall be to the Predecessor;
- “Btu” means one British Thermal unit;
- “Coal Business” prior to November 28, 2017 refers to all of our former parent’s interest in the Pennsylvania Mining Complex (PAMC) and certain related coal assets, including our former parent’s ownership interest in CONSOL Coal Resources LP, which owns a 25% undivided interest stake in PAMC, the CONSOL Marine Terminal and undeveloped coal reserves (Greenfield Reserves) located in the Northern Appalachian, Central Appalachian and Illinois basins and certain related coal assets and liabilities. “Coal Business” on or after November 28, 2017 refers to CONSOL Energy Inc.’s interest in the Coal Business. References in this report to historical assets, liabilities, products, businesses or activities generally refer to the historical assets, liabilities, products, businesses or activities of the Coal Business as it was conducted as part of our former parent prior to the completion of the separation and distribution;
- “CONSOL Marine Terminal” refers to the terminal operations located at the Port of Baltimore that were transferred to the Company as part of the separation. Prior to November 28, 2017, the CONSOL Marine Terminal was named CNX Marine Terminal. As part of the separation and distribution on November 28, 2017, the terminal changed its name to CONSOL Marine Terminal;
- “distribution” refers to the pro rata distribution of the Company’s issued and outstanding shares of common stock to its former parent’s stockholders on November 29, 2017;
- “former parent” refers to CNX Resources Corporation and its consolidated subsidiaries;
- “General Partner” refers to CONSOL Coal Resources GP LLC, a Delaware limited liability company. Prior to November 28, 2017, CONSOL Coal Resources GP LLC was named CNX Coal Resources GP LLC;
- “Greenfield Reserves” means those undeveloped reserves owned by the Company in the Northern Appalachian, Central Appalachian and Illinois basins that are not associated with the Pennsylvania Mining Complex;
- “mmBtu” means one million British Thermal units;
- “Partnership,” “CCR” or “CONSOL Coal Resources” refers to a Delaware limited partnership that holds a 25% undivided interest in, and is the sole operator of, the Pennsylvania Mining Complex. Prior to November 28, 2017, the Partnership was named CNX Coal Resources LP and its common units traded on the New York Stock Exchange under the ticker “CNXC.” As part of the separation on November 28, 2017, the Partnership changed its name to CONSOL Coal Resources LP and changed its NYSE ticker to “CCR”;
- “Pennsylvania Mining Complex” or “PAMC” refers to coal mines, coal reserves and related assets and operations located primarily in southwestern Pennsylvania and owned 75% by the Company and 25% by the Partnership;
- “Predecessor” historical assets, liabilities, products, businesses or activities generally refers to the historical assets, liabilities, products, businesses or activities of the Coal Business as the business was conducted as part of our former parent prior to the completion of the separation;
- “recoverable coal reserves” refer to the Company’s proven and probable coal reserves as defined by Industry Guide 7 that could be economically and legally extracted or produced at the time of the reserve determination, taking into account mining recovery and preparation plant yield; and
- “separation” refers to the separation of the Coal Business from our former parent’s other businesses and the creation, as a result of the distribution, of an independent, publicly-traded company (the Company) to hold the assets and liabilities associated with the Coal Business after the distribution.

FORWARD-LOOKING STATEMENTS

Certain statements in this Annual Report on Form 10-K are “forward-looking statements” within the meaning of the federal securities laws. With the exception of historical matters, the matters discussed in this Annual Report on Form 10-K are forward-looking statements (as defined in Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) that involve risks and uncertainties that could cause actual results and outcomes to differ materially from results expressed in or implied by our forward-looking statements. Accordingly, investors should not place undue reliance on forward-looking statements as a prediction of actual results. The forward-looking statements may include projections and estimates concerning the timing and success of specific projects and our future production, revenues, income and capital spending. When we use the words “anticipate,” “believe,” “could,” “continue,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “should,” “will,” or their negatives, or other similar expressions, the statements which include those words are usually forward-looking statements. When we describe strategy that involves risks or uncertainties, we are making forward-looking statements. The forward-looking statements in this Annual Report on Form 10-K speak only as of the date of this Annual Report on Form 10-K; we disclaim any obligation to update these statements unless required by securities law, and we caution you not to rely on them unduly. We have based these forward-looking statements on our current expectations and assumptions about future events. While our management considers these expectations and assumptions to be reasonable, they are inherently subject to significant business, economic, competitive, regulatory and other risks, contingencies and uncertainties, most of which are difficult to predict and many of which are beyond our control. These risks, contingencies and uncertainties relate to, among other matters, the following:

- deterioration in economic conditions in any of the industries in which our customers operate may decrease demand for our products, impair our ability to collect customer receivables and impair our ability to access capital;
- volatility and wide fluctuation in coal prices based upon a number of factors beyond our control including oversupply relative to the demand available for our products, weather and the price and availability of alternative fuels;
- an extended decline in the prices we receive for our coal affecting our operating results and cash flows;
- significant downtime of our equipment or inability to obtain equipment, parts or raw materials;
- decreases in the availability of, or increases in, the price of commodities or capital equipment used in our coal mining operations;
- our customers extending existing contracts or entering into new long-term contracts for coal on favorable terms;
- our reliance on major customers;
- our inability to collect payments from customers if their creditworthiness declines or if they fail to honor their contracts;
- our inability to acquire additional coal reserves that are economically recoverable;
- decreases in demand and changes in coal consumption patterns of electric power generators;
- the availability and reliability of transportation facilities and other systems, disruption of rail, barge, processing and transportation facilities and other systems that deliver our coal to market and fluctuations in transportation costs;
- a loss of our competitive position because of the competitive nature of coal industries, or a loss of our competitive position because of overcapacity in these industries impairing our profitability;
- foreign currency fluctuations that could adversely affect the competitiveness of our coal abroad;
- recent action and the possibility of future action on trade made by U.S. and foreign governments;
- the risks related to the fact that a significant portion of our production is sold in international markets;
- coal users switching to other fuels in order to comply with various environmental standards related to coal combustion emissions;
- the impact of potential, as well as any adopted, regulations to address climate change, including any relating to greenhouse gas emissions on our operating costs as well as on the market for coal;
- the effects of litigation seeking to hold energy companies accountable for the effects of climate change;
- the effects of government regulation on the discharge into the water or air, and the disposal and clean-up of, hazardous substances and wastes generated during our coal operations;
- the risks inherent in coal operations, including being subject to unexpected disruptions caused by adverse geological conditions, equipment failure, delays in moving out longwall equipment, railroad derailments, security breaches or terroristic acts and other hazards, delays in the completion of significant construction or repair of equipment, fires, explosions, seismic activities, accidents and weather conditions;
- failure to obtain or renew surety bonds on acceptable terms, which could affect our ability to secure reclamation and coal lease obligations;
- failure to obtain adequate insurance coverages;
- operating in a single geographic area;
- the effects of coordinating our operations with oil and natural gas drillers and distributors operating on our land;
- our inability to obtain financing for capital expenditures on satisfactory terms;
- the effects of receiving low sustainability scores which potentially results in the exclusion of our securities from consideration by certain investment funds and a negative perception by investors;
- the effect of new or existing tariffs and other trade measures;

- our inability to find suitable acquisition targets or integrating the operations of future acquisitions into our operations;
- obtaining, maintaining and renewing governmental permits and approvals for our coal operations;
- the effects of stringent federal and state employee health and safety regulations, including the ability of regulators to shut down our operations;
- the potential for liabilities arising from environmental contamination or alleged environmental contamination in connection with our past or current coal operations;
- the effects of asset retirement obligations and certain other liabilities;
- uncertainties in estimating our economically recoverable coal reserves;
- the outcomes of various legal proceedings, including those which are more fully described herein;
- defects in our chain of title for our undeveloped reserves or failure to acquire additional property to perfect our title to coal rights;
- exposure to employee-related long-term liabilities;
- the risk of our debt agreements, our debt and changes in interest rates affecting our operating results and cash flows;
- the effects of hedging transactions on our cash flow;
- the effect of our affiliated company credit agreement on our cash flows;
- failure by one or more of the third parties to satisfy certain liabilities it acquired from our former parent, or failure to perform its obligations under various arrangements, which our former parent guaranteed and for which we have indemnification obligations to our former parent;
- information theft, data corruption, operational disruption and/or financial loss resulting from a terrorist attack or cyber incident;
- certain provisions in our multi-year coal sales contracts may provide limited protection during adverse economic conditions, and may result in economic penalties or permit the customer to terminate the contract;
- the potential failure to retain and attract qualified personnel of the Company and a possible increased reliance on third party contractors as a result;
- we may not receive distributions from the Partnership;
- failure to maintain effective internal controls over financial reporting;
- certain risks related to our separation from our former parent;
- a determination by the Internal Revenue Service (“IRS”) that the distribution or certain related transactions should be treated as a taxable transaction;
- uncertainty with respect to the Company’s common stock, potential stock price volatility and future dilution;
- the consequences of a lack of or negative commentary about us published by securities analysts;
- uncertainty regarding the timing of any dividends we may declare;
- uncertainty as to whether we will repurchase shares of our common stock or outstanding debt securities;
- restrictions on the ability to acquire us in our certificate of incorporation, bylaws and Delaware law and the resulting effects on the trading price of our common stock;
- inability of stockholders to bring legal action against us in any forum other than the state courts of Delaware; and
- other unforeseen factors.

The above list of factors is not exhaustive or necessarily in order of importance. Additional information concerning factors that could cause actual results to differ materially from those in forward-looking statements include those discussed under “*Risk Factors*” elsewhere in this report. The Company disclaims any intention or obligation to update publicly any forward-looking statements, whether in response to new information, future events, or otherwise, except as required by applicable law.

ITEM 1. Business

General

We and our predecessors have been mining coal, primarily in the Appalachian Basin, since 1864. The Company was incorporated in Delaware on June 21, 2017 and became an independent, publicly-traded company on November 28, 2017 when our former parent separated its coal business and natural gas business into two independently traded public companies. As part of the separation, our former parent transferred to the Company substantially all of its coal-related assets, including its Pennsylvania Mining Complex, all of its interest in CONSOL Coal Resources LP, the CONSOL Marine Terminal, the Itmann Mine and approximately 1.5 billion tons of Greenfield Reserves located in the Northern Appalachian Basin (“NAPP”), the Central Appalachian Basin (“CAPP”) and the Illinois Basin (“ILB”).

The address of our principal executive offices is 1000 CONSOL Energy Drive, Suite 100, Canonsburg, Pennsylvania 15317. We maintain a website at <http://www.consolenergy.com/>. The information contained in or connected to the website will not be deemed to be incorporated in this document, and you should not rely on any such information in making an investment decision.

All dollar amounts discussed in this section are in millions of U.S. dollars, except for per unit amounts, and unless otherwise indicated.

Our Company

We are a leading, low-cost producer of high-quality bituminous coal, focused on the extraction and preparation of coal in the Appalachian Basin due to our ability to efficiently produce and deliver large volumes of high-quality coal at competitive prices, the strategic location of our mines and the industry experience of our management team.

Coal from the PAMC is valued because of its high energy content (as measured in Btu per pound), relatively low levels of sulfur and other impurities, and strong thermoplastic properties that enable it to be used in metallurgical as well as thermal applications. We take advantage of these desirable quality characteristics and our extensive logistical network, which is directly served by both the Norfolk Southern and CSX railroads, to aggressively market our product to a broad base of strategically selected, top-performing power plant customers in the eastern United States. We also capitalize on the operational synergies afforded by the CONSOL Marine Terminal to export our coal to thermal and metallurgical end users in Europe, Asia, South America, and Africa, as well as Canada.

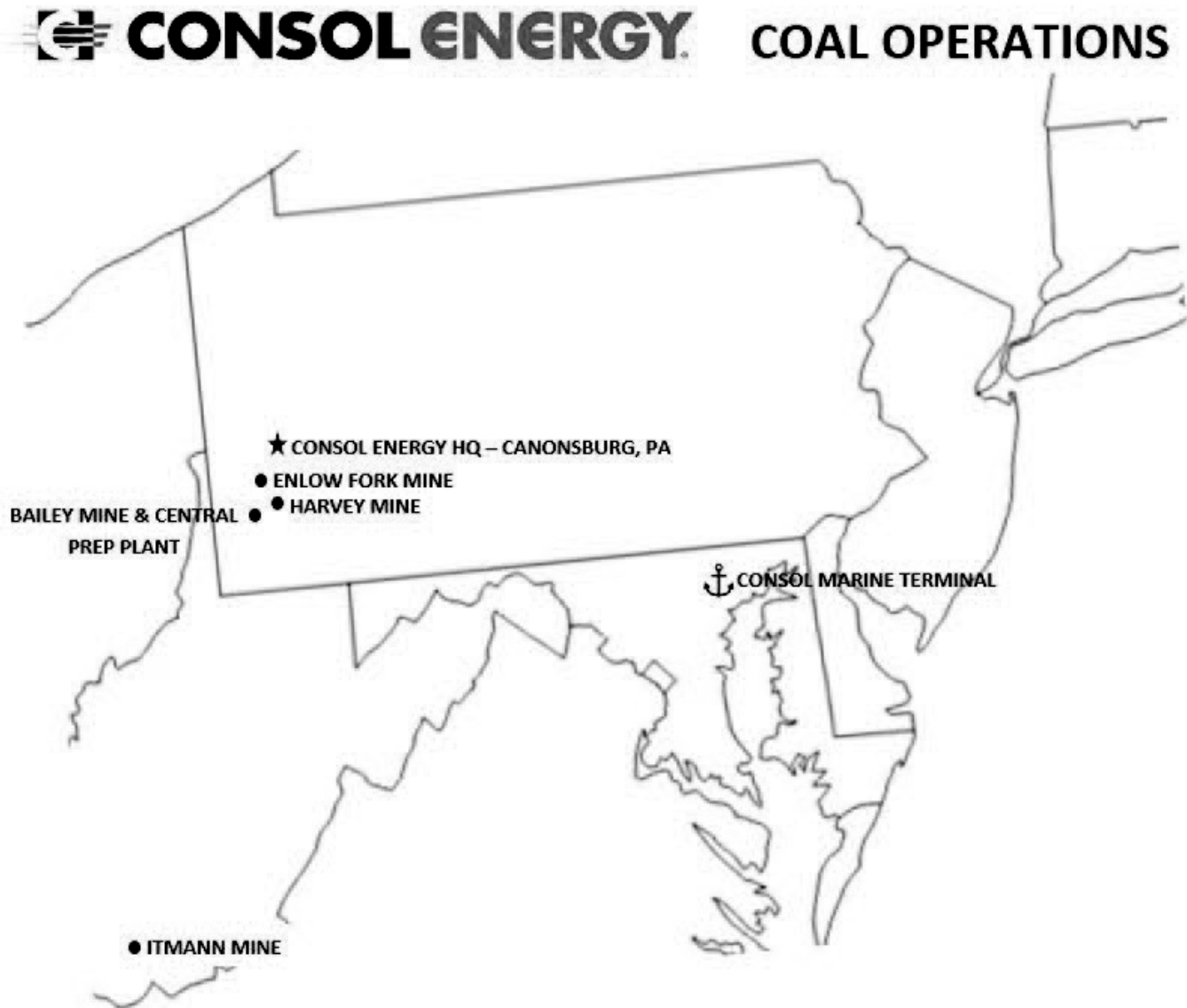
Our operations, including the PAMC and the CONSOL Marine Terminal, have consistently generated strong cash flows. As of December 31, 2019, the PAMC controls 669.4 million tons of high-quality Pittsburgh seam reserves, enough to allow for approximately 23.5 years of full-capacity production. In addition, we own or control approximately 1.5 billion tons of Greenfield Reserves located in the NAPP, the CAPP and the ILB, which we believe provides future growth and monetization opportunities. Our vision is to maximize cash flow generation through the safe, compliant and efficient operation of this core asset base, while strategically reducing debt, returning capital through share buybacks or dividends, and, when prudent, allocating capital toward compelling growth opportunities.

Our core businesses consist of our:

- **Pennsylvania Mining Complex:** The PAMC, which includes the Bailey Mine, the Enlow Fork Mine, the Harvey Mine and the Central Preparation Plant, has extensive high-quality coal reserves. We mine our reserves from the Pittsburgh No. 8 Coal Seam, which is a large contiguous formation of high-Btu coal that is ideal for high-productivity, low-cost longwall operations. The design of the PAMC is optimized to produce large quantities of coal on a cost-efficient basis. We are able to sustain high production volumes at comparatively low operating costs due to, among other things, our technologically advanced longwall mining systems, logistics infrastructure and safety. All of our mines utilize longwall mining, which is a highly automated underground mining technique that produces large volumes of coal at lower costs compared to other underground mining methods. We own a 75% undivided interest in the PAMC, and the remaining 25% is owned by CCR, as discussed below.
- **CCR Ownership:** CONSOL Energy owns, directly or indirectly, through CCR's general partner, 61.5% of the partnership, which is comprised of a 1.7% general partner interest and a 59.8% limited partner interest. At December 31, 2019, CCR's assets included a 25% undivided interest in, and full operational control over, the PAMC.

- **CONSOL Marine Terminal:** Through our subsidiary CONSOL Marine Terminals LLC, we provide coal export terminal services through the Port of Baltimore. The terminal can either store coal or load coal directly into vessels from rail cars. It is also the only major east coast United States coal terminal served by two railroads, Norfolk Southern Corporation and CSX Transportation Inc.
- **Itmann Mine:** Construction of the Itmann Mine, located in Wyoming County, West Virginia, began in the second half of 2019; full production is expected in 2021 upon the completion of a new preparation plant. When fully operational, the Company anticipates approximately 900 thousand tons per year of high-quality, low-vol coking coal capacity.
- **Greenfield Reserves:** We own approximately 1.5 billion tons of high-quality, undeveloped coal reserves located in NAPP, CAPP and the ILB.

A map showing the location of our significant properties is below:



The Company's mission is to improve lives and communities by safely and compliantly producing affordable, reliable energy and profitably growing through innovative technology and perseverance. Our core values of safety, compliance, and continuous improvement are the foundation of the Company's identity and are the basis for how management defines continued success. We believe the Company's rich resource base, coupled with these core values, allows management to create value for the long-term. We believe that the use of coal as a fuel source for electricity in the United States will continue for many years. Furthermore, our recently announced Itmann project is expected to benefit from the demand related to global infrastructure needs.

Other information regarding the Company, including revenues, a measurement of profit or loss, total assets and financial information about geographic areas, is provided in “*Item 8. Financial Statements and Supplementary Data*” of this Annual Report on Form 10-K.

Our Relationship with CONSOL Coal Resources LP

CONSOL Coal Resources LP is a publicly-traded limited partnership with its common units listed for trading on the New York Stock Exchange (NYSE: CCR). CCR holds an undivided 25% interest in, and has full operational control over, the Pennsylvania Mining Complex.

CCR is managed and operated by the board of directors and executive officers of its general partner, CONSOL Coal Resources GP LLC, many of whom are also executive officers of the Company. The General Partner is a wholly owned subsidiary of the Company and the Company has the right to appoint the entire board of directors of the General Partner, including its independent directors. CCR’s unitholders are not entitled to elect the directors of the General Partner nor can they directly or indirectly participate in the management of CCR. The executive officers of the General Partner are compensated by us or certain of our affiliates. Under our omnibus agreement with CCR, CCR reimburses us for compensation-related expenses (including salary, bonus, incentive compensation and other amounts) attributable to the portion of an executive’s compensation that is allocable to that executive’s service for the General Partner.

In connection with the separation, our former parent transferred all of its ownership interest in CCR to the Company, which consisted at that time of (i) 5,006,496 common units and 11,611,067 subordinated units (representing a ~60% limited partnership interest), and (ii) 1.7% general partner interest and all incentive distribution rights (“IDRs”). Subordinated units were not entitled to any distribution from CCR unless CCR made a minimum quarterly distribution of \$0.5125 per common unit. In August 2019, upon payment of the cash distribution to CCR’s limited partner unitholders with respect to the quarter ended June 30, 2019, the subordinated units converted into common units representing limited partner interests in CCR on a one-for-one basis as a result of the satisfaction of certain conditions for termination of the subordination period set forth in CCR’s partnership agreement. IDRs entitle the holder to receive increasing percentages, up to a maximum of 48%, of the available cash CCR distributes from operating surplus in excess of \$0.5894 per unit per quarter. The maximum distribution of 48% does not include any distributions that the General Partner or its affiliates may receive on common units or the General Partner interest that they own.

Our Strategy

Our strategy is to increase stockholder value by safely and compliantly operating our business, developing and growing our existing coal assets and participating in global coal markets. The Company’s coal assets align with our long-term strategic objectives. Our current production, which includes production from the Bailey, Enlow Fork and Harvey mines, can be sold domestically or abroad, as either thermal coal or high volatile metallurgical coal. These low-cost mines, with five longwalls, produce a high-Btu Pittsburgh-seam coal that is lower in sulfur than many Northern Appalachian coals. Our onsite logistics infrastructure at the Central Preparation Plant includes a dual-batch train loadout facility capable of loading up to 9,000 tons of coal per hour and 19.3 miles of track linked to separate Class I rail lines owned by Norfolk Southern and CSX, which significantly increases our efficiency in meeting our customers’ transportation needs. These mines and their logistics infrastructure, along with our 100%-owned CONSOL Marine Terminal, which is served by both Norfolk Southern and CSX, will allow us to continue to participate competitively in the world’s thermal and metallurgical coal markets. The ability to serve both domestic and international markets with premium thermal and crossover metallurgical coal provides tremendous optionality. We are also starting to explore and invest in some innovative and sustainable uses for coal.

In order to continue to carry out our strategy, we will continue to adhere to and pursue the following strategic objectives:

Selectively grow our business to maximize shareholder value by capitalizing on synergies with our assets and expertise

We plan to judiciously direct the cash generated by our operations toward those opportunities that present the greatest potential for value creation to our shareholders, particularly those that take advantage of synergies with our asset base and/or with the expertise of our management team. To that end, we plan to regularly and rigorously evaluate opportunities both for organic growth and for acquisitions, joint ventures and other business arrangements in the coal industry and related industries that complement our core operations. Both the PAMC and our Greenfield Reserves present the potential for organic growth projects if long-term market conditions are favorable. For example, we are actively engaged in continuous improvement or research and development projects to improve the productivity of our Central Preparation Plant and our mining operations through the use of technology and automation, such as de-bottlenecking projects at the Central Preparation Plant, shearer automation technology and data visualization and analytics.

We regularly evaluate our Greenfield Reserves to identify organic growth opportunities that we believe can add value to our business. As such, we announced the commencement of our Itmann Mine project in May 2019, which will add a new metallurgical coal product stream to our mix of products upon completion. Our Greenfield Reserves associated with the Martinka Mine and Birch Mine provide additional potential organic growth opportunities in the metallurgical coal space, and our Greenfield Reserves associated with the Mason Dixon and River Mine projects present potential organic growth opportunities in NAPP. Our management team has extensive experience in developing, operating and marketing a wide variety of coal assets, and is well qualified to evaluate organic and external growth opportunities. We plan to carefully weigh any capital investment decisions against alternate uses of the cash to help ensure we are delivering the most value to our shareholders.

We are also pursuing a variety of alternative and innovative uses of coal as a way to diversify our business. For example, in December 2019, we acquired a 25% equity stake in CFOAM Corp. (CFOAM), which manufactures high-performance carbon foam products from coal that can be used in the industrial, aerospace, military and commercial product markets. The investment in CFOAM represents our first investment in the coal-to-products space. We are also partnering with Ohio University and certain other industry partners on a Department of Energy-funded project to develop coal plastic composites that can be used in engineered composite decking and other building products. In addition, we have partnered with OMNIS Bailey LLC to develop a refinery that will convert waste coal slurry into a high-quality carbon product that can be used as fuel or as feedstock for other higher-value applications, as well as a mineral matter product that has potential to be used as a soil amendment in agricultural applications. If successfully implemented at full-scale, this project has the potential to add up to 1.5 million tons per year of clean coal production without additional mining of raw tons.

Continue to grow our share of coal sales to top-performing rail-served power plants in our core market areas, while opportunistically pursuing export and crossover metallurgical opportunities

We plan to seek to minimize our market risk and maximize realizations by continuing to focus on selling coal to strategically-selected, top-performing, rail-served power plants located in our core market areas in the eastern United States. In 2019, our top domestic power plant customers included ten plants that each took delivery of more than 500,000 tons of PAMC coal. These top power plant customers, which collectively accounted for 81% of our domestic coal shipments in 2019, operated at a 15% greater weighted average capacity factor than other NAPP rail-served plants during January through October (the most recent month for which data are available), and none have announced plans to retire during the next five years. We have grown our share at these plants from 12% in 2012 to 39% in the first ten months of 2019, and we believe we can continue to grow this share by displacing less competitive supply from NAPP, CAPP and other basins. We also continue to work on optimizing our portfolio of top customer plants and identifying and penetrating new plants that we believe are aligned with our strategic objectives and would be a good fit for our coal.

While the majority of our production is directed toward our established base of domestic power plant customers, many of which are secured through annual or multi-year contracts, we also have continued to diversify our portfolio by placing a growing portion of our production in the thermal and crossover metallurgical markets. We have a multi-year contract for the sale of coal to an exporter that began in the second quarter of 2018 and will extend through the second quarter of 2020. The contracted volume is comprised of approximately 70% thermal coal and 30% crossover metallurgical coal.

These markets provide us with pricing upside when markets are strong and with volume stability when markets are weak. For 2020 and 2021, our contracted position, as of February 11, 2020, is at 95% and 43%, respectively, assuming an annual coal sales volume at the midpoint of our guidance range. We believe our committed and contracted position is well-balanced and provides diversification benefits.

Drive operational excellence through safety, compliance, and continuous improvement

We intend to continue focusing on our core values of safety, compliance and continuous improvement. We operate some of the most productive, lowest-cost underground mines in the coal industry, while simultaneously setting some of the industry's highest standards for safety and compliance. For 2015 through 2019, our Mine Safety and Health Administration ("MSHA") total reportable incident rate was approximately 40% lower than the national average underground bituminous coal mine incident rate. Furthermore, our MSHA significant and substantial ("S&S") citation rate per 100 inspection hours was approximately 59% lower than the industry's average MSHA S&S citation rate over the twelve-month period ended December 31, 2019. We believe that our focus on safety and compliance promotes greater reliability in our operations, which fosters long-term customer relationships and lower operating costs that support higher margins. Consistent with our core value of continuous improvement, we have improved our productivity from 5.69 tons per employee hour in 2014 to 7.10 tons per employee hour in 2019, and have reduced our cash costs of coal sold per ton by 17% over this same period. We intend to continue to grow the economic competitiveness of our operations by proactively identifying, pursuing and implementing efficiency improvements and new technologies that can drive down unit costs without compromising safety or compliance.

Ability to Access Capital Markets through Various Financing Vehicles

We have generated significant free cash flow since the separation and distribution, which has allowed us to opportunistically refinance and pay down our debt. This reduced leverage on our balance sheet and improved liquidity allows us to pursue attractive organic growth opportunities and accretive acquisitions. We constantly seek to improve our capital market capacity to provide additional funds, if needed, to grow our business. We believe that CONSOL Energy is able to access capital markets to raise debt and equity financing from time to time depending on the market conditions. Furthermore, we also maintain the ability to monetize non-core assets, the proceeds from which could be used for funding our future growth requirements.

Our Competitive Strengths

We believe we are well-positioned to successfully execute our business strategies because of the following competitive strengths:

Focus on free cash flow generation supported by industry-leading margins and optimized production levels

We intend to continue our focus on maintaining high margins by optimizing production from our high-quality reserves and leveraging our extensive logistics infrastructure and broad market reach. The PAMC's low-cost structure, high-quality product, favorable access to rail and port infrastructure and diverse base of end-use customers allow it to move large volumes of coal at positive cash margins throughout a variety of market conditions. For example, despite recent challenging domestic market conditions driven largely by relatively mild weather, low natural gas prices, stagnant electricity demand and increased renewables penetration, which caused total U.S. coal production to fall by approximately 22% from 2015 to 2019, PAMC managed to grow production by approximately 20% during this same period. Through our recent capital investment program, we have optimized our mining operations and logistics infrastructure to sustainably drive down our cash operating costs. Furthermore, our significant portfolio of multi-year, committed and priced contracts with our longstanding customer base will enhance our ability to sustain high margins in varied commodity price environments. We believe that these factors will help enable us to maintain higher margins per ton on average than our competitors and better position us to maintain profitability throughout commodity price cycles.

Extensive, High-Quality Reserve Base

The PAMC has extensive high-quality reserves of bituminous coal. We mine our reserves from the Pittsburgh No. 8 Coal Seam, which is a large contiguous formation of high-Btu coal that is ideal for high-productivity, low-cost longwall operations. As of December 31, 2019, the PAMC included 669.4 million tons of recoverable coal reserves that are sufficient to support approximately 23.5 years of full-capacity production. The advantageous qualities of our coal enable us to compete for demand from a broader range of coal-fired power plants compared to mining operations in basins that typically produce coal with a comparatively lower heat content (ILB and the Powder River Basin ("PRB")), higher sulfur content (ILB and most areas in NAPP) and higher chlorine content (certain areas of ILB). Our remaining reserves have an average as-received gross heat content of 12,940 Btu/lb, while production from the PRB, ILB, CAPP and the rest of NAPP averages approximately 8,700 Btu/lb, 11,300 Btu/lb, 12,100 Btu/lb and 12,500 Btu/lb, respectively (based on the average quality reported by EIA for U.S. power plant deliveries for the three years ended June 30, 2019). Moreover, our remaining reserves have an average sulfur content of 2.36%, while production from the ILB averages ~2.9% sulfur and production from the rest of NAPP averages ~3.4% sulfur (again, based on EIA power plant delivery data for the three years ended June 30, 2019). With our high Btu content and low-cost structure, our 2019 total costs of tons sold averaged \$1.44 per mmBtu, which is lower than any monthly average Louisiana Henry Hub natural gas spot price during the past 20+ years, and provides a strong foundation for competing against natural gas even after accounting for differences in delivered costs and power plant efficiencies. In addition to the substantial reserve base associated with the PAMC, our 1.5 billion tons of Greenfield Reserves in NAPP, CAPP and ILB feature both thermal and metallurgical reserves and provide additional optionality for organic growth or monetization as market conditions allow.

World-Class, Well-Capitalized, Low-Cost Longwall Mining Complex

Since 2006, we have invested over \$2.6 billion at the PAMC to develop technologically advanced, large-scale longwall mining operations and related production and logistics infrastructure. As a result, the PAMC is the most productive and efficient coal mining complex in NAPP, averaging 7.35 tons of coal production per employee hour in 2018-2019, compared to 5.23 tons of coal production per employee hour for other currently-operating NAPP longwall mines. For the year ended December 31, 2019, the PAMC produced 7.10 tons of coal per employee hour, compared to an average of 5.28 tons per employee hour for all other currently-operating NAPP longwall mines. We believe our substantial capital investment in the PAMC will enable us to maintain high production volumes, low operating costs and a strong safety and environmental compliance record, which we believe are key to supporting stable financial performance and cash flows throughout business and commodity price cycles.

Strategically Located Mining Operations with Advanced Distribution Capabilities and Excellent Access to Key Logistics Infrastructure

Our logistics infrastructure and proximity to coal-fired power plants in the eastern United States provides us with operational and marketing flexibility, reduces the cost to deliver coal to our core markets and allows us to realize higher free-on-board (“FOB”) mine prices. We believe that we have a significant transportation cost advantage compared to many of our competitors, particularly producers in the ILB and PRB, for deliveries to customers in our core markets and to East Coast ports for international shipping. For example, based on publicly available data and internal estimates, we believe that the transportation cost advantage from our mines compared to ILB mines (not accounting for Btu differences) is approximately \$4 to \$7 per ton for coal delivered to foreign consumers in Europe and India, up to \$3 to \$5 per ton for coal delivered to domestic customers in the Carolinas, and an even more pronounced cost advantage for coal delivered to domestic customers in the mid-Atlantic states. Our ability to accommodate multiple unit trains from both Norfolk Southern and CSX at the Central Preparation Plant, which includes a dual-batch loadout facility capable of loading up to 9,000 tons of clean coal per hour and 19.3 miles of track with three sidings, allows for the seamless transition of locomotives from empty inbound trains to fully loaded outbound trains at our facility. Furthermore, the PAMC has exceptional access to export infrastructure in the United States. Through our 100%-owned CONSOL Marine Terminal, served by both the Norfolk Southern and CSX railroads, we are able to participate in the world’s seaborne coal markets with premium thermal and crossover metallurgical coal.

Strong, Well-Established Customer Base Supporting Contractual Volumes

We have a well-established and diverse customer base, comprised primarily of domestic electric-power-producing companies located in the eastern United States. We have had success entering into multi-year coal sales agreements with our customers due to our longstanding relationships, reliability of production and delivery, competitive pricing and high coal quality. More than 94% of our sales in 2019 were to customer companies that were in our 2018 portfolio, and all of our top domestic power plant customers in 2019 (which represent the ten plants to which we shipped at least 500,000 tons of PAMC coal in 2019) have been in our portfolio for at least five consecutive years. In addition, to mitigate our exposure with respect to coal-fired power plant retirements, we have strategically developed our customer base to include power plants that are economically positioned to continue operating for the foreseeable future and that are equipped with state-of-the-art environmental controls. In 2019, none of our sales were to domestic power plant customers that have announced plans to retire during the next five years. Moreover, none of our top ten customer plants, which accounted for 81% of our domestic coal shipments in 2019, have announced plans to retire in the next five years. These top plants operated at a 15% higher weighted average capacity factor than other NAPP rail-served plants in January through October 2019 (the most recent month for which data are available), highlighting their economic competitiveness in the challenging power markets. Since 2012, the Company has increased its market share at these ten plants from 12% to 39%.

In addition to our robust domestic customer base, we also have favorable access to seaborne coal markets through our long-standing commercial relationship with a leading coal trading and brokering customer that maintains a broad market presence with international coal consumers. We have grown our exports of PAMC coal to the seaborne thermal and crossover metallurgical markets from an average of 5.5 million tons per year (or approximately 23% of our annual sales volume) in 2015-2016 to 9.0 million tons (or approximately 33% of our annual sales volume) in 2019.

Highly Experienced Management Team and Operating Team

Our management and operating teams have (i) significant expertise owning, developing and managing complex thermal and metallurgical coal mining operations, (ii) valuable relationships with customers, railroads and other participants across the coal industry, (iii) technical wherewithal and demonstrated success in developing new applications and customers for our coal products in both the thermal and metallurgical markets, and (iv) a proven track record of successfully building, enhancing and managing coal assets in a reliable and cost-effective manner throughout all parts of the commodity cycle. We intend to leverage these qualities to continue to successfully develop our coal mining assets while efficiently and flexibly managing our operations to maximize operating cash flow.

CONSOL Energy’s Capital Expenditure Budget

In 2020, CONSOL Energy expects to invest \$125 - \$145 million in capital expenditures. The Company continually evaluates potential acquisitions.

Detail Coal Operations

Recoverable Coal Reserves

The Company's estimates of recoverable coal reserves are estimated internally using the face positions of the Pennsylvania Mining Complex's longwall mines as of December 31, 2019. The December 31, 2019 reserves were estimated using the same techniques and assumptions as in prior years. These estimates are based on geologic data, coal ownership information and current and proposed mine plans. CONSOL Energy's recoverable coal reserves are proven and probable reserves that could be economically and legally extracted or produced at the time of the reserve determination, taking into account mining recovery and preparation plant yield. These estimates are periodically updated to reflect past coal production, updated mine plans, new drilling information, and other geologic or mining data. Acquisitions or dispositions of coal properties will also change these estimates. Changes in mining methods may increase or decrease the recovery basis for a coal seam, as will changes in preparation plant processes. The ability to update or modify the estimates of the Company's recoverable coal reserves is restricted to the exploration group and all modifications are documented.

"Reserves" are defined by SEC Industry Guide 7 as that part of a mineral deposit which could be economically and legally extracted or produced at the time of the reserve determination. Industry Guide 7 divides reserves between "Proven (Measured) Reserves" and "Probable (Indicated) Reserves," which are defined as follows:

- "*Proven (Measured) Reserves.*" Reserves for which (a) quantity is computed from dimensions revealed in outcrops, trenches, workings or drill holes; and grade and/or quality are computed from the results of detailed sampling and (b) the sites for inspection, sampling and measurement are spaced so closely and the geologic character is so well defined that size, shape, depth and mineral content of reserves are well-established.
- "*Probable (Indicated) Reserves.*" Reserves for which quantity and grade and/or quality are computed from information similar to that used for Proven (Measured) Reserves, but the sites for inspection, sampling, and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for Proven (Measured) Reserves, is high enough to assume continuity between points of observation.

Spacing of points of observation for confidence levels in the Company's reserve estimations is based on guidelines in U.S. Geological Survey Circular 891 (Coal Resource Classification System of the U.S. Geological Survey). CONSOL Energy's estimates for proven reserves have the highest degree of geologic assurance. Because of the well-known continuity of the Pittsburgh Coal Seam, estimates for proven reserves are based on points of observation that are equal to or less than 3,000 feet apart, and estimates for probable reserves are computed from points of observation that are between 3,000 feet and 7,920 feet apart.

The Company's estimates of recoverable coal reserves do not rely on isolated points of observation. Small pods of reserves based on a single observation point are not considered; continuity between observation points over a large area is necessary for proven or probable reserves.

The Company's recoverable coal reserves fall within the range of commercially marketed coal grades in the United States. The marketability of coal depends on its value-in-use for a particular application, and this is affected by coal quality, including sulfur content, ash content and heating value. Modern power plant boiler design aspects can compensate for coal quality differences that occur. As a result, all of the Company's coal can be marketed for the electric power generation industry. In addition, some of the Company's reserves exhibit thermoplastic behavior suitable for cokemaking, which enables it, if market dynamics are favorable, to capture greater margins from selling this coal in the metallurgical market to cokemakers and steel manufacturers who utilize modern cokemaking technologies. The addition of this crossover market adds additional assurance that CONSOL Energy's recoverable coal reserves are commercially marketable.

At December 31, 2019, the Company had an estimated 2.2 billion tons of recoverable coal reserves. As of December 31, 2019, the PAMC included 669.4 million tons of recoverable coal reserves that are sufficient to support approximately 23.5 years of full-capacity production. Estimates of the Company's recoverable coal reserves have historically been estimated both by internal geologists and engineers and independent third parties. Reserve estimates and evaluation processes are periodically audited by independent third parties to ensure accuracy.

The Company's recoverable coal reserves include 81.3 million tons of undeveloped reserves that are classified as high-vol, mid-vol or low-vol metallurgical coal. Additionally, worldwide demand for metallurgical coal allows some of our recoverable coal reserves, currently classified as thermal coal but that possess certain qualities, to be sold as metallurgical coal. The extent to which we can sell thermal coal as crossover metallurgical coal depends upon a number of factors, including the quality characteristics of the reserve, the specific quality requirements and constraints of the end-use customer and market conditions (which affect whether customers are compelled to substitute lower-quality crossover coal for higher-quality metallurgical coal in their blends to realize economic benefits). The addition of this cross-over market adds additional assurance to the Company that all of its recoverable coal reserves are commercially marketable.

The Company assigns coal reserves to each mine within the Pennsylvania Mining Complex. The amount of coal we assign to the Pennsylvania Mining Complex generally is sufficient to support mining through the duration of our current mining permit. Under federal law, we must renew our mining permits every five years. All assigned reserves have their required permits or governmental approvals, or there is a high probability that these approvals will be secured. In addition, the Pennsylvania Mining Complex may have access to additional reserves that have not yet been assigned. We refer to these reserves as accessible. Accessible reserves are recoverable coal reserves that can be accessed by an existing mining complex, utilizing the existing infrastructure of the complex to mine and to process the coal in this area. Mining an accessible reserve does not require additional capital spending beyond that required to extend or to continue the normal progression of the mine, such as the sinking of airshafts or the construction of portal facilities.

Some reserves may be accessible by more than one mine because of the proximity of many of our mines to one another. In the table below, the accessible reserves indicated for a mine are based on our review of current mining plans and reflect our best judgment as to which mine is most likely to utilize the reserve. Assigned and unassigned coal reserves are recoverable coal reserves which are either owned or leased. The leases have terms extending up to 30 years and generally provide for renewal through the anticipated life of the associated mine. These renewals are exercisable by the payment of minimum royalties. Under current mining plans, assigned reserves reported will be mined out within the period of existing leases or within the time period of probable lease renewal periods.

Pennsylvania Mining Complex

Pennsylvania Mining Complex. The Pennsylvania Mining Complex is located in Enon, Pennsylvania and consists of three deep longwall mining operations, the Bailey Mine, the Enlow Fork Mine and the Harvey Mine, and a centralized preparation plant. The design of the PAMC is optimized to produce large quantities of coal on a cost-efficient basis. The PAMC is able to sustain high production volumes at comparatively low operating costs due to, among other things, its technologically advanced longwall mining systems, logistics infrastructure and safety. All of the PAMC's mines utilize longwall mining, which is a highly automated underground mining technique that produces large volumes of coal at lower costs compared to other underground mining methods, with many of the approved permits as far out as ten years. The PAMC typically operates five longwalls and 15-17 continuous mining sections. The current annual production capacity of the PAMC is approximately 28.5 million tons of coal. The central preparation plant is connected via conveyor belts to each of the PAMC's mines and cleans and processes up to 8,200 raw tons of coal per hour. The PAMC's on-site logistics infrastructure at the central preparation plant includes a dual-batch train loadout facility capable of loading up to 9,000 clean tons of coal per hour and 19.3 miles of track linked to separate Class I rail lines owned by Norfolk Southern and CSX, which significantly increases the PAMC's efficiency in meeting its customers' transportation needs.

Bailey Mine. The Bailey Mine is the first mine developed at the Pennsylvania Mining Complex. As of December 31, 2019, the Bailey mine's assigned and accessible reserve base contained an aggregate of 115.3 million tons of clean recoverable coal with an average as-received gross heat content of approximately 12,890 Btus per pound and an approximate average pounds of sulfur dioxide per mmBtu of 4.36. Construction of the slope and initial air shaft began in 1982. The slope development reached the coal seam at a depth of approximately 600 feet and, following development of the slope bottom, commercial coal production began in 1984. Longwall mining production commenced in 1985, and the second longwall was placed into operation in 1987. In 2010, a new slope and overland belt system was commissioned, which allowed a large percentage of the Bailey mine to be sealed off. For the years ended December 31, 2019, 2018 and 2017, the Bailey mine produced 12.2, 12.7 and 12.1 million tons of coal, respectively. The Bailey mine typically employs six to seven continuous mining units to develop the mains and gate roads for its longwall panels.

Enlow Fork Mine. The Enlow Fork Mine is located directly north of the Bailey Mine. As of December 31, 2019, the Enlow Fork mine's assigned and accessible reserve base contained an aggregate of 324.5 million tons of clean recoverable coal with an average as-received gross heat content of approximately 12,940 Btus per pound and an approximate average pounds of sulfur dioxide per mmBtu of 3.30. Initial underground development was started from the Bailey mine while the Enlow Fork slope was being constructed. Once the slope bottom was developed and the slope belt became operational, seals were constructed to separate the two mines. Following development of the slope bottom, commercial coal production began in 1989. Longwall mining production commenced in 1991, and the second longwall came online in 1992. In 2014, a new slope and overland belt system was commissioned and a substantial portion of the Enlow Fork mine was sealed. For the years ended December 31, 2019, 2018 and 2017, the Enlow Fork mine produced 10.0, 9.9 and 9.2 million tons of coal, respectively. The Enlow Fork mine typically employs six to seven continuous mining units to develop the mains and gate roads for its longwall panels.

Harvey Mine. The Harvey Mine is located directly east of the Bailey and Enlow Fork Mines. As of December 31, 2019, the Harvey mine's assigned and accessible reserve base contained an aggregate of 229.6 million tons of clean recoverable coal with an average as-received gross heat content of approximately 12,950 Btus per pound and an approximate average pounds of sulfur dioxide per mmBtu of 3.80. Similar to the Enlow Fork mine, the Harvey mine was developed off of the Bailey mine's slope bottom. Once the slope for the Harvey mine was placed into operation, seals were built to separate the two mines, and the original slope was dedicated solely to the Harvey mine, which eliminated the need to make significant capital expenditures to develop, among other things, a new slope, air shaft and portal facility. Development of the Harvey mine began in 2009, and construction of the supporting surface facilities commenced in 2011. Longwall mining production commenced in March 2014. For the years ended December 31, 2019, 2018 and 2017, the Harvey mine produced 5.0, 5.0 and 4.8 million tons of coal, respectively. The Harvey mine typically employs three continuous mining units to develop the mains and gate roads for its longwall panels. The Harvey mine's existing infrastructure, including its bottom development, slope belt and material handling system, has the capacity to add one incremental permanent longwall mining system with additional mine development and capital investment.

Itmann Operation

Itmann No. 5 Mine. The Itmann No. 5 Mine is located in Wyoming County, West Virginia, approximately 2.5 miles northwest of the town of Itmann, WV. The mine will access the Pocahontas 3 seam (P3) using a box cut drift entrance near an outcrop along Still Run Hollow. The P3 seam has and continues to be mined extensively within the Appalachian coalfields of southern West Virginia and western Virginia, including the areas immediately surrounding the Itmann No. 5 reserves. As of December 31, 2019, the Itmann Mine's assigned and accessible reserve base contained an aggregate of 20.6 million tons of clean recoverable coal, enough to allow for approximately 23 years of full-capacity production. These reserves contain an approximate average quality on a dry basis of 0.99% sulfur, 7.6% ash, and 19.2% volatile matter. Coal from the Itmann No. 5 mine is planned to be extracted by underground methods using 4-6 continuous miner units to achieve expected capacity of approximately 900 thousand clean tons per year. The mine is currently in development, which is expected to last approximately 18 months while a nearby preparation plant is being permitted and constructed.

The following table sets forth additional information regarding the recoverable coal reserves at the Pennsylvania Mining Complex.

CONSOL ENERGY PENNSYLVANIA MINING COMPLEX
Proven and Probable Assigned and Accessible Coal Reserves as of December 31, 2019 and 2018

Mine/Reserve	Preparation Facility Location	Reserve Class	Coal Seam	Average Mining Height (feet)	As Received Heat Value ⁽¹⁾		Recoverable Coal Reserves (As-Received) ^(2,3,4)			
					Typical	Range	Owned (%)	Leased (%)		
							12/31/2019	12/31/2018		
PA Mining Operations										
Bailey	Enon, PA	Assigned Operating	Pittsburgh	7.5	12,900	12,600 – 13,170	59%	41%	77.3	62.3
		Accessible	Pittsburgh	7.5	12,890	12,820 – 13,110	43%	57%	38.0	101.1
Enlow Fork	Enon, PA	Assigned Operating	Pittsburgh	7.4	13,050	12,660 – 13,260	99%	1%	72.7	82.0
		Accessible	Pittsburgh	7.6	12,910	12,460 – 13,340	74%	26%	251.8	251.6
Harvey	Enon, PA	Assigned Operating	Pittsburgh	6.9	13,060	12,850 – 13,230	90%	10%	41.2	43.6
		Accessible	Pittsburgh	7.7	12,930	12,720 – 13,070	92%	8%	188.4	157.9
Total Assigned Operating and Accessible									<u>669.4</u>	<u>698.5</u>

- (1) The heat values (gross calorific values) shown for reserves are based on the forecasted quality for each mine/reserve class, assuming that the coal is washed to an extent consistent with normal full-capacity operation of each mine's/complex's preparation plant. Forecasted quality is derived from exploration sample analysis results, which have been adjusted to account for anticipated moisture and for the effects of mining and coal preparation.
- (2) Recoverable coal reserves are estimated based on the area in which mineable coal exists, coal seam thickness, and average density determined by laboratory testing of drill core samples. This estimate is adjusted to account for coal that will not be recovered during mining and for losses that occur if the coal is processed after mining. Reserve tons are reported on an as-received basis, based on the anticipated product moisture. Reserves are reported only for those coal seams that are controlled by ownership or leases.
- (3) Because the continuity of the Pittsburgh coal seam is well known, and due to the minimal difference in the degree of assurance between observation points, recoverable reserves in this table represent the aggregation of proven and probable reserves that can be reasonably recovered considering all mining and preparation losses involved in producing a saleable product using existing mining methods under current law.
- (4) Recoverable coal reserves incorporate losses for dilution and mining recovery based upon a 99% longwall mining recovery, a continuous mining recovery typically ranging from 25% to 40%, and a 95% preparation plant efficiency within the life of mine plan. Recoverable coal reserves are assessed using forward-looking prices derived from our forward contracts, various coal indices such as API 2, and other observable forward market indicators such as natural gas and electric power forward pricing to determine the reserves are economical.

The following table sets forth additional information regarding the recoverable coal reserves at the Itmann Mine.

CONSOL ENERGY ITMANN MINE
Proven and Probable Assigned and Accessible Coal Reserves as of December 31, 2019

Mine/Reserve	Preparation Facility Location	Reserve Class	Coal Seam	Average Mining Height (feet)	Moisture Free Quality ⁽¹⁾			Owned (%)	Leased (%)	Recoverable Coal Reserves (As-Received) ^(2,3,4)			
					Sulfur	Ash	Vol			Proven	Probable	Total	
													Tons in Millions
Itmann No. 5	Itmann, WV	Assigned Operating	Pocahontas 3	4.5	0.95	8.4	18.4	—%	100%	4.2	1.4	5.6	
		Accessible	Pocahontas 3	4.5	1.01	7.4	19.5	12%	88%	5.8	9.2	15.0	
Total Assigned Operating and Accessible											10.0	10.6	20.6

Itmann Operations

- (1) The quality values shown for reserves are based on forecasted quality for each mine/reserve class, assuming that the coal is washed to an extent reasonably expected from regional third-party preparation plants. Forecasted quality is derived from exploration sample analysis results, which have been adjusted to a moisture free basis and for the effects of mining and coal preparation.
- (2) Recoverable coal reserves are estimated based on the area in which mineable coal exists, coal seam thickness, and average density determined by laboratory testing of drill core samples. This estimate is adjusted to account for coal that will not be recovered during mining and for losses that occur if the coal is processed after mining. Reserve tons are reported on an as-received basis, based on the anticipated product moisture. Reserves are reported only for those coal seams that are controlled by ownership or leases.
- (3) Recoverable coal reserves represent proven and probable reserves that can be recovered considering all mining and preparation losses involved in producing a saleable product using existing mining methods under current law.
- (4) Recoverable reserve estimates incorporate losses for dilution and mining recovery based upon a continuous miner recovery typically ranging from 40% to 70%, and a 95% preparation plant efficiency within the life of mine plan. Recoverable coal reserves are assessed using forward-looking prices for low-volatile metallurgical coal to determine the reserves are economical.

The following table sets forth our assigned non-operating and unassigned recoverable coal reserves by region:

**CONSOL Energy ASSIGNED Non-Operating and UNASSIGNED Recoverable Coal Reserves
as of December 31, 2019 and 2018**

Coal Producing Region	As Received Heat Value ⁽¹⁾ (Btu/lb)	Recoverable Reserves ⁽²⁾		Recoverable Coal Reserves	
		Owned (%)	Leased (%)	Tons in Millions 12/31/2019	(Tons in Millions) 12/31/2018
Northern Appalachia (Pennsylvania, Ohio, Northern West Virginia) ⁽³⁾	11,400 – 14,000	85%	15%	1,080.9	1,080.9
Central Appalachia (Virginia, Southern West Virginia)	12,400 – 14,100	87%	13%	138.6	164.9
Illinois Basin (Illinois, Western Kentucky, Indiana)	11,600 – 12,000	77%	23%	316.4	316.4
Total		84%	16%	<u>1,535.9</u>	<u>1,562.2</u>

- (1) The heat value (gross calorific values) estimates for Northern Appalachian and Central Appalachian Assigned Non-Operating and Unassigned coal reserves are on an as-received basis and include adjustments for moisture that may be added during mining or processing as well as for dilution by rock lying above or below the coal seam. For Assigned Non-Operating coal reserves, the mining and processing methods previously in use are used for these estimates. The heat value estimates for the Illinois Basin Unassigned reserves are based primarily on exploration drill core data that may not include adjustments for moisture added during mining or processing, or for dilution by rock lying above or below the coal seam.
- (2) Recoverable reserves are estimated based on the area in which mineable coal exists, coal seam thickness, and average density determined by laboratory testing of drill core samples. This estimate is adjusted to account for coal that will not be recovered during mining and for losses that occur if the coal is processed after mining. Reserve tons are reported on an as-received basis, based on the anticipated product moisture. Reserves are reported only for those coal seams that are controlled by ownership or leases.
- (3) 143.3 million tons of the Northern Appalachia leased tons are controlled by Consolidation Coal Company, a former subsidiary of our former parent that was sold in December 2013. As of filing, these tons are still controlled by Consolidation Coal Company but are shown in CONSOL Energy's reserves due to a binding agreement that these tons will be released to CONSOL Energy upon the assignment of the underlying lease to CONSOL Energy.

The following table classifies the Company's coal by type (thermal versus metallurgical), region and sulfur content (expressed as lbs. SO₂/MMBtu). The table also classifies metallurgical coal as high, medium and low volatile which is based on volatile matter content.

CONSOL Energy Proven and Probable Recoverable Coal Reserves
By Product (In Millions of Tons) as of December 31, 2019

By Region	≤ 1.20 lbs. SO ₂ /MMBtu	> 1.20 ≤ 2.50 lbs. SO ₂ /MMBtu	> 2.50 lbs. SO ₂ /MMBtu	Total	Percent By Product
Metallurgical:					
High Vol Bituminous (NAPP)	—	39.6	—	39.6	1.8%
Med Vol Bituminous (CAPP)	5.1	—	—	5.1	0.2%
Low Vol Bituminous (CAPP)	16.0	20.6	—	36.6	1.7%
Total Metallurgical	21.1	60.2	—	81.3	3.7%
Thermal ⁽¹⁾ :					
NAPP	—	22.4	1,688.3	1,710.7	76.8%
CAPP	46.0	71.5	—	117.5	5.3%
ILB	—	101.1	215.3	316.4	14.2%
Total Thermal	46.0	195.0	1,903.6	2,144.6	96.3%
Total	67.1	255.2	1,903.6	2,225.9	100.0%
Percent of Total	3.0%	11.5%	85.5%	100.0%	

(1) 143.3 million tons of the Northern Appalachia product are controlled by Consolidation Coal Company, a former subsidiary of our former parent that was sold in December 2013. As of this filing, these tons are still controlled by Consolidation Coal Company but are shown in CONSOL Energy's reserves due to a binding agreement that these tons will be released to CONSOL Energy upon the assignment of the underlying lease to CONSOL Energy.

Title to coal properties that we lease or purchase and the boundaries of these properties are verified by law firms retained by us at the time we lease or acquire the properties. Consistent with industry practice, abstracts and title reports are reviewed and updated approximately five years prior to planned development or mining of the property. If defects in title or boundaries of undeveloped reserves are discovered in the future, control of and the right to mine reserves could be adversely affected.

The following table sets forth the total royalty tonnage and the amount of income (net of related expenses) we received from royalty payments for the years ended December 31, 2019, 2018 and 2017.

Year	Total Royalty Tonnage (in thousands)	Total Royalty Income * (in thousands)
2019	6,171	\$19,919
2018	6,656	\$21,917
2017	7,656	\$26,023

* Excludes advanced mining royalty payments received of \$2,289, \$2,805 and \$2,066 during the years ended December 31, 2019, 2018 and 2017, respectively.

Royalty tonnage leased to third parties is not included in the amounts of produced tons that we report. Recoverable reserves do not include reserves attributable to properties that we lease to third parties.

Production

In the year ended December 31, 2019, 100% of the Company's production came from underground mines equipped with longwall mining systems. The Company employs longwall mining techniques in its underground mines where the geology is favorable, and reserves are sufficient. Underground longwall mining uses continuous mining units to develop the mains and gate roads for longwall panels. The longwall systems are highly mechanized, capital intensive operations to efficiently extract coal within the longwall panels. Mines using longwall systems have a low variable cost structure compared with other types of mines and can achieve high productivity levels compared with those of other underground mining methods. Because the Company has substantial reserves readily suitable to these operations, the Company believes that these longwall mines can increase capacity at a low incremental cost.

The following table shows the production, in millions of tons, for the Company's mines for the years ended December 31, 2019, 2018 and 2017, the location of each mine, the type of mine, the type of equipment used at each mine, method of transportation and the year each mine was established or acquired by us.

Mine	Preparation Facility Location	Mine Type	Mining Equipment	Transportation	Tons Produced (in millions)			Year Established or Acquired
					2019	2018	2017	
PA Mining Operations								
Bailey	Enon, PA	U	LW/CM	R R/B	12.2	12.7	12.1	1984
Enlow Fork	Enon, PA	U	LW/CM	R R/B	10.0	9.9	9.2	1990
Harvey	Enon, PA	U	LW/CM	R R/B	5.0	5.0	4.8	2014
Total					27.3	27.6	26.1	

*Table may not sum due to rounding.

- U – Underground
- LW – Longwall
- CM – Continuous Miner
- R – Rail
- R/B – Rail to Barge or Vessel

Coal Marketing and Sales

The following table sets forth the Company produced tons sold and average sales price for the periods indicated:

	Years Ended December 31,		
	2019	2018	2017
Company Produced PA Mining Operations Tons Sold (in millions)	27.3	27.7	26.1
Average Sales Price per Ton Sold – PA Mining Operations	\$ 47.17	\$ 49.28	\$ 45.52

We sell coal produced by our mines and additional coal that is purchased by us for resale from other producers. We maintain a United States sales office in Pittsburgh. Approximately 66% of our 2019 coal sales were made to U.S. electric generators, 33% of our 2019 coal sales were priced on export markets and 1% of our 2019 coal sales were made to other domestic customers. Approximately 68% of our 2018 coal sales were made to U.S. electric generators, 29% of our 2018 coal sales were priced on export markets and 3% of our 2018 coal sales were made to other domestic customers. Approximately 65% of our 2017 coal sales were made to U.S. electric generators, 32% of our 2017 coal sales were priced on export markets and 3% of our 2017 coal sales were made to other domestic customers. We had sales to approximately 24 customers from our 2019 coal operations. During 2019, three customers each comprised over 10% of our coal sales, aggregating approximately 70% of our sales. Annual metallurgical coal revenues for the past three years ranged from \$77.0 million to \$99.5 million.

Coal Contracts and Pricing

We sell coal to an established customer base through opportunities as a result of strong business relationships, or through a formalized bidding process. Contract volumes range from a single shipment to multi-year agreements for millions of tons of coal. The average contract term is between one to three years. As a normal course of business, efforts are made to renew or extend contracts scheduled to expire. Although there are no guarantees, we generally have been successful in renewing or extending contracts in the past. For the year ended December 31, 2019, approximately 88% of all the coal we produced was sold under contracts with terms of one year or more.

We expect total consolidated Pennsylvania Mining Complex annual sales to be approximately 24.5-26.5 million tons for 2020. Coal pricing for contracts with terms of one year or less is generally fixed. Coal pricing for multiple-year agreements generally provides the opportunity to periodically adjust the contract prices through pricing mechanisms consisting of one or more of the following:

- Fixed price contracts with pre-established prices;
- Periodically negotiated prices that reflect market conditions at the time;
- Price restricted to an agreed-upon percentage increase or decrease;
- Base-price-plus-escalation methods which allow for periodic price adjustments based on inflation indices or other negotiated indices; or
- Positive electric power price-related adjustments.

The volume of coal to be delivered is specified in each of our coal contracts. Although the volume to be delivered under the coal contracts is stipulated, the parties may vary the timing of the deliveries within specified limits. Coal contracts typically contain force majeure provisions allowing for the suspension of performance by either party for the duration of certain force majeure events. Force majeure events include, but are not limited to, unexpected significant geological conditions or natural disasters. Depending on the language of the contract, some contracts may terminate upon continuance of an event of force majeure that extends for a period greater than three to twelve months.

Of our 2019 sales tons, approximately 66% were sold to U.S. electric generators, 33% were priced on export markets and 1% were sold to other domestic customers. Of the 33% of our 2019 sales tons priced on export markets, 6% were sold in the metallurgical market. In 2019, we derived greater than 70% of our total coal sales revenue from our top three customers. As of January 1, 2020, we had multiple sales agreements with these customers that expire at various times in 2020 through 2023.

During the past three years, our average realization (sales price per ton sold) for coal produced from the PAMC fluctuated from \$45.52/ton in 2017, to \$49.28/ton in 2018, and to \$47.17/ton in 2019. Pricing for our product depends strongly on conditions in the domestic thermal coal market, which accounted for at least 65% of our total sales volumes in each of 2017, 2018 and 2019.

The prices we are able to achieve in the domestic thermal market depend on a number of factors, including: (i) the supply-demand balance for Northern Appalachian coal, (ii) prices for other competing sources of energy used for electricity generation, such as natural gas, (iii) power prices in the regions we serve, (iv) prices for coals from other basins (including the CAPP, Illinois Basin, and PRB) that compete in these same regions, and (v) pricing under our longer-term contracts, which may have been entered into under different market conditions. Lower natural gas prices, coupled with increased capacity from new natural gas combined-cycle power plants and renewable energy sources, put pressure on power prices and on the demand for coal-fired electric power generation. These factors affect the prices that we are able to achieve in the domestic thermal markets as older contracts roll off and are replaced by new contracts. Similarly, imbalances in global supply and demand for coal can cause substantial variability in pricing in the export thermal market and the export metallurgical market.

Terminal Services

In 2019, approximately 12.6 million tons of coal were shipped through the CONSOL Marine Terminal owned by our subsidiary, CONSOL Marine Terminals LLC. Approximately 70% of the tonnage shipped was produced by the Pennsylvania Mining Complex. The terminal can either store coal or load coal directly into vessels from rail cars. It is also the only major east coast United States coal terminal served by two railroads, Norfolk Southern Corporation and CSX Transportation Inc. The CONSOL Marine Terminal has significant storage capacity of 1.1 million tons with more than thirty acres of capacity for stockpiles. The facility possesses extensive blending capabilities, and has handled approximately 11.2 million tons of coal per year on average since 2010, with a potential maximum throughput capacity of approximately 15 million tons annually.

Non-Core Coal Assets and Surface Properties

We own significant coal assets that are not in our short or medium term development plans. We continually explore the monetization of these non-core assets by means of sale, lease, contribution to joint ventures, or a combination of the foregoing in order to bring the value of these assets forward for the benefit of our stockholders.

Distribution

Coal is transported from the Company's mining operations to customers predominantly by railroad cars, vessels or a combination of these means of transportation. Most customers negotiate their own transportation rates and we employ transportation specialists who negotiate freight and equipment agreements with various transportation suppliers, including railroads, barge lines, terminal operators, ocean vessel brokers and trucking companies for certain customers.

Seasonality

Our business has historically experienced limited variability in its results due to the effect of seasonal changes. Demand for coal-fired power can increase due to unusually hot or cold weather as power consumers use more air conditioning or heating, respectively. Conversely, mild weather can result in weaker demand for our coal. Adverse weather conditions, such as blizzards or floods, can impact our ability to transport coal over our overland conveyor systems and to transport our coal by rail.

Competition

The coal industry is highly competitive, with numerous producers selling into all markets that use coal. There are numerous large and small producers in all coal producing basins of the United States, and we compete with many of these producers, including those who export coal abroad. Potential changes to international trade agreements, trade concessions and tariffs or other political and economic arrangements may benefit coal producers operating in countries other than the United States. We may be adversely impacted on the basis of price or other factors with companies that in the future may benefit from favorable foreign trade policies or other arrangements. In addition, coal is sold internationally in U.S. dollars and, as a result, general economic conditions in foreign markets and changes in foreign currency exchange rates may provide our international competitors with a competitive advantage. If our competitors' currencies decline against the U.S. dollar or against our international customers' local currencies, those competitors may be able to offer lower prices for coal to our customers. Furthermore, if the currencies of our overseas customers were to significantly decline in value in comparison to the U.S. dollar, those customers may seek decreased prices for the coal we sell to them. Consequently, currency fluctuations could adversely affect the competitiveness of our coal in international markets, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

The most important factors on which we compete are coal price, coal quality and characteristics, transportation costs and reliability of supply. Demand for coal and the prices that we will be able to obtain for our coal are closely linked to coal consumption patterns of the domestic electric generation industry and international coal consumers. These coal consumption patterns are influenced by many factors that are beyond our control, including demand for electricity, which is significantly dependent upon economic activity and summer and winter temperatures in the United States, government regulation, technological developments and the location, quality, price and availability of competing sources of fuel.

Indirect competition from natural gas-fired plants that are relatively more efficient, less expensive to construct and less difficult to permit than coal-fired plants has the most potential to displace a significant amount of coal-fired electric power generation in the near term, particularly from older, less efficient coal-fired powered generators. Federal and state mandates for increased use of electricity derived from renewable energy sources could affect demand for our coal. Such mandates, combined with other incentives to use renewable energy sources, such as tax credits, could make alternative fuel sources more competitive with coal.

Laws and Regulations

Overview

Our coal mining operations are subject to various federal, state and local environmental, health and safety regulations. Regulations relating to our operations require us to obtain permits and other licenses; reclaim and restore our properties after mining operations have been completed; store, transport and dispose of materials used or generated by our operations; manage surface subsidence from underground mining; control water and air emissions; protect wetlands and endangered plant and wildlife; and to ensure employee health and safety. Furthermore, the electric power generation industry and other industrial users of our coal are subject to extensive regulation regarding the environmental impact of its power generation activities, which could affect demand for our coal.

Compliance with these laws has substantially increased the cost of coal mining, and the possibility exists that new legislation or regulations may be adopted which would have a significant impact on our coal mining operations or our customers' ability to use our coal and may require us or our customers to change their operations significantly or incur substantial costs. Additionally, these laws are subject to revision and may become increasingly stringent. The ultimate effect of implementation may not be predictable, as associated regulations may still be in development or subject to public notice, extensive comment or judicial review.

The following is a summary of the more significant existing environmental and worker health and safety laws and regulations to which we and our customers' business operations are subject and for which compliance may have a material adverse impact on our capital expenditures, results of operations and financial position.

Environmental Laws

Clean Air Act. The federal Clean Air Act ("CAA") and corresponding state and local laws and regulations affect all aspects of coal mining operations, both directly and indirectly. The CAA directly impacts our coal mining operations through permitting and emission control requirements for the construction or modification of certain facilities. Indirectly, the CAA affects the U.S. coal industry by extensively regulating the air emissions of coal-fired electric power generating plants or other industrial facilities operated by our customers.

Coal impurities are released into the air when coal is burned and the CAA regulates specific emissions, such as sulfur, nitrogen oxides, particulate matter, mercury and other substances. In addition to those statutes discussed herein, CAA programs such as Maximum Achievable Control Technology ("MACT") emission limits for Hazardous Air Pollutants, the Regional Haze Program, and permitting requirements under New Source Review may directly or indirectly affect our operations. Such regulations restricting emissions from coal-fired electric generating plants or other industrial facilities could increase the costs to operate and affect demand for coal as a fuel source, therefore potentially affecting the volume of our sales. Moreover, additional environmental regulations increase the likelihood that existing coal-fired electric generating plants will be decommissioned or replaced with alternative sources of fuel and reduce the likelihood that new coal-fired plants will be built in the future. In recent years, repeal or revision to multiple regulations under the CAA has been proposed; however, the extent to which these regulations will take effect or survive future Administrations is uncertain.

Mercury and Air Toxics Standards Rule. In 2012, the United States Environmental Protection Agency ("EPA") promulgated or finalized several rules for New Source Performance Standards ("NSPS") for coal and oil-fired power plants. NSPS are technology-based standards that vary depending on the particular source, such as a coal-fired electric generating plant, and can have a significant influence on the cost of using coal as a fuel source. The EPA's 2012 Mercury and Air Toxics Standards rule ("MATS Rule") established NSPS for coal-fired electric generating units for particulate matter ("PM"), sulfur dioxide ("SO₂") and nitrogen oxides ("NO_x"). The MATS Rule also established national emission standards for hazardous air pollutants ("NESHAP") for coal-fired electric generating units for certain impurities such as mercury. Unlike pollutants regulated by an NSPS, pollutants regulated by a NESHAP require the MACT be used to control emissions of the pollutant. The application of a MACT standard is generally more costly than other control technology standards, and prompted the closure of some facilities. The rule was challenged, ultimately rejected by the U.S. Supreme Court on June 29, 2015 for failing to consider the costs imposed by the MATS Rule, and remanded the case to the Court of Appeals for the D.C. Circuit ("D.C. Circuit") to determine whether to allow the EPA to address the rule's deficiencies or to vacate and nullify the rule. In April 2017, the D.C. Circuit granted the EPA's request to stay the case to allow the agency to fully review the rule. Nevertheless, many coal-fired electric power generators have already taken steps to comply with the MATS Rule, as such required control and operational modifications can take significant time to install and/or implement. On December 27, 2018, the EPA proposed to revise the 2016 supplemental cost finding for the MATS Rule, as well as the related risk and technology review required by the CAA. Under the proposal, the emissions standards and other requirements of the MATS Rule would remain in place while the EPA's methodology for assessing the costs and benefits of the rule were being modified. In December 2015, while the EPA was addressing the Supreme Court's ruling, the D.C. Circuit

denied a continued stay of the rule. On February 7, 2019, the EPA published a proposed finding, laying the groundwork to rescind the MATS Rule. In the proposed finding, the EPA revised its costs and benefits estimates of the rule, concluding that it is not “appropriate and necessary” to regulate hazardous air pollutants from power plants, and seeking comment on whether the EPA had authority to rescind the MATS Rule. The MATS Rule remains in place pending the outcome of the EPA’s evaluation. However, many coal-fired electric power generators reported in 2018 that they reached compliance with the MATS Rule.

National Ambient Air Quality Standards. The CAA requires the EPA to set National Ambient Air Quality Standards (“NAAQS”) for six pollutants considered harmful to public health and the environment (“criteria pollutants”). Areas that are not in compliance with these standards are considered “non-attainment areas”. In recent years, the EPA has adopted more stringent NAAQS for these criteria pollutants, which could directly or indirectly impact mining operations through the designation of new non-attainment areas which could prompt local changes to permitting or emissions control requirements, as prescribed by federally mandated state implementation plans that require emission source identification and emission reduction plans. Final rules may require significant investment in emissions control technologies by our customers in the electric power generation industry, and could affect the demand for our coal. For example, in 2015, the EPA finalized the NAAQS for ozone pollution and reduced the limit to 70 parts per billion (ppb) from the previous 75 ppb standard. The final rule was challenged in the D.C. Circuit. On April 7, 2017, the EPA advised the D.C. Circuit that it intended to reconsider the final rule and the Court subsequently stayed the litigation pending further action by the EPA. In August 2018, the EPA ultimately decided not to revisit the rule. As a result, the D.C. Circuit lifted its stay of the 2015 ozone NAAQS rule imposing the 70 ppb ambient air quality standard while the EPA reviews the standards under an expedited review process. On October 31, 2019, the EPA published a draft policy assessment recommending that the 70 ppb ozone NAAQS be retained. The policy assessment will be followed by a proposed rule finalizing the ozone NAAQS update by October 1, 2020.

Cross-State Air Pollution Rule. On July 6, 2011, the EPA finalized the Cross-State Air Pollution Rule (“CSAPR”). CSAPR regulates cross-border emissions of criteria air pollutants such as SO₂, NO_x, particulate matter (“PM_{2.5}”) and ozone in the District of Columbia and 27 states. CSAPR requires states to limit emissions from sources that “contribute significantly” to noncompliance with air quality standards, such as electric power generating facilities. If the ambient levels of criteria air pollutants are above the thresholds set by the EPA, a region is considered to be in “non-attainment” for that pollutant and the EPA applies more stringent control standards for sources of air emissions located in the region. In October 2016, the EPA finalized revisions to the CSAPR, known as the CSAPR Update Rule. Following litigation in the D.C. Circuit and U.S. Supreme Court, CSAPR was implemented in two phases: Phase 1 began in 2015 and Phase 2 began in 2017. On December 6, 2018, the EPA issued the CSAPR “Close-Out” Rule, a final determination that the CSAPR achieves requirements with respect to the 2008 ground-level ozone NAAQS in 20 states, and accordingly, those states will not be required to impose requirements for further reduction in transported ozone pollution. In addition, the covered states do not need to submit state implementation plans that would establish additional requirements beyond the existing CSAPR Update. The Close-Out Rule was challenged by several states and other entities in the D.C. Circuit. In a September 13, 2019 ruling, the D.C. Circuit remanded the 2016 CSAPR Update Rule to the EPA, finding that rule is inconsistent with the CAA. In a subsequent October 1, 2019 ruling, the CSAPR Close-Out Rule was vacated.

Affordable Clean Energy Rule. In August 2018, the EPA published a proposed rule, the Affordable Clean Energy (“ACE”) rule, to replace the 2015 “Carbon Pollution Standard for New Power Plants”, known as the Clean Power Plan (“CPP”). The CPP established separate NSPS for carbon dioxide (“CO₂”) emissions for new, modified or reconstructed power plants under the CAA. The CPP was challenged by multiple parties. Its effective date was ultimately stayed by the U.S. Supreme Court, and the EPA formally proposed repeal of the CPP on October 16, 2017.

The CPP was formally repealed with promulgation of the final ACE rule on June 19, 2019. The ACE rule establishes greenhouse gas (“GHG”) guidelines for states to use when developing plans to limit CO₂ emissions from coal-fired electric generating units (“EGUs”). The ACE rule provides that heat rate efficiency improvements are the Best System of Emission Reduction (“BSER”) for coal-fired electric utility sources under the CAA. The ACE rule directs states to develop specific state implementation plans to implement the rule, and provides six heat rate improvement technologies that may be considered by the states to establish emission standards of performance on a plant-by-plant basis. States may also consider the remaining useful life of the EGUs, as provided by the CAA. While the ACE rule reduces regulatory burden on coal-fired EGUs, its ultimate effect on coal demand is unknown. Several states and public interest groups have petitioned for review of the ACE rule in the D.C. Circuit. The EPA has requested an expedited review of the challenges, seeking a resolution in the D.C. Circuit in 2020.

National Environmental Policy Act. The National Environmental Policy Act (“NEPA”) requires federal agencies to assess the environmental effects of their proposed actions prior to taking a “major Federal action”, which encompasses agencies' decisions on certain permitting applications that fall under federal jurisdiction. NEPA reviews require federal agencies to review the environmental impacts of their decisions, including those associated with GHG emissions and the effects of climate change. Agencies must issue either an Environmental Impact Statement (“EIS”) or an Environmental Assessment (“EA”), which may create delays in project review and authorization timeframes, or increase the cost of compliance. In June 2018, the White House Council on Environmental Quality (“CEQ”) issued an Advance Notice of Proposed Rulemaking on NEPA seeking to streamline the NEPA process, while also minimizing unnecessary litigation, cost, and delay for project proponents. On June 26, 2019, the CEQ published a “Draft NEPA Guidance on Consideration of Greenhouse Gas Emissions” to replace guidance previously issued in 2016. The Draft guidance seeks to clarify the scope of review federal agencies should undertake when considering the effects of GHG emissions under NEPA. A final proposed rule is expected to be published in 2020. Certain Federal courts have held that GHGs must be considered under NEPA prior to a federal agency taking a “major Federal action,” and any modifications to NEPA will likely be subject to legal challenge.

Laws and Regulations Governing Greenhouse Gas Emissions. Our customers' consumption of the coal we produce results in the emission of greenhouse gases, such as CO₂ and nitrous oxide. During operations, our coal mines release methane, a GHG, to promote a safe working environment for our miners underground. GHGs are believed to contribute to warming of the earth's atmosphere and other climatic changes. As a result, global climate change initiatives and regulations intended to reduce GHG emissions have and are expected to continue to result in (i) the decreased utilization or accelerated closure of existing coal-fired EGUs, (ii) the increased utilization of alternative fuels or generating systems, and (iii) a reduction or elimination of new coal-fired power plant construction in certain countries.

Foreign governments, including the European Union and member countries, have adopted regulations governing GHG emissions. In the United States, findings published by the EPA in 2009 concluded that GHG emissions pose an endangerment to public health and the environment. These findings provided the EPA with the authority to adopt and implement regulations restricting GHG emissions under existing provisions of the CAA. For example, the EPA relied on this authority to promulgate NSPS for CO₂ emissions from power plants under the ACE rule, discussed above.

Since 2011, the EPA has required underground coal mines and certain support facilities exceeding a minimum GHG emission threshold to report emissions annually under the Mandatory Reporting Rule. These emissions are currently classified as fugitive emissions associated with coal extraction and are not currently regulated by the EPA. Previous petitions and judicial challenges seeking to compel the EPA to classify coal mines as stationary sources appropriate for regulation have been unsuccessful to date. If the EPA were to regulate coal mine methane emissions in the future, we would likely be required to install additional pollution control devices, pay fees or taxes for our emissions, or incur expenses associated with the purchase of emissions credits, in order to continue operation. Alternatively, we may need to curtail coal production. The magnitude of impact on our operations, capital expenditures, financial condition or cash flows would be dependent on the structure of any proposed regulation and the degree of emission reduction prescribed.

In the absence of sweeping federal legislation on GHG emissions in the United States, some states, governors, mayors and businesses have committed to the goals of the Paris Agreement or other broad GHG reduction initiatives. For instance, on October 3, 2019, Pennsylvania Governor Tom Wolf issued an Executive Order, “Commonwealth Leadership in Addressing Climate Change through Electric Sector Emissions Reductions,” directing the state's Department of Environmental Protection to begin a rulemaking process that will allow Pennsylvania to join the Regional Greenhouse Gas Initiative (“RGGI”). RGGI is a mandatory cap-and-trade program among 10 northeastern states to reduce CO₂ emissions from the power sector. Governor Wolf's authority to commit the state to membership in such a consortium without the approval of lawmakers will likely be subject to legislative and legal challenges, and its ultimate effect on coal demand is presently unknown. Similar to other mandatory cap-and-trade initiatives, such as the Midwestern Regional Greenhouse Gas Reduction Accord and the Western Climate Initiative, RGGI seeks to limit CO₂ emissions annually, in order to achieve a prescribed long-term emissions reduction target. In all cap-and-trade scenarios, power generators are required to purchase allowances, available through auction or a secondary market, that are equal to one ton of CO₂ emissions, thereby increasing the cost of electric power generation. GHG and climate change initiatives, associated regulation, and cap-and-trade initiatives could result in decreased demand and decreased prices for our coal, in both domestic and international markets.

Clean Water Act. The federal Clean Water Act (“CWA”) and corresponding state laws affect our coal operations by regulating discharges into certain waters, primarily through permitting. CWA permits - issued either by the EPA or an analogous state agency - typically require regular monitoring and compliance with limitations on defined pollutants and reporting requirements. Specific to the Company's operations, CWA permits and corresponding state laws often require (1) treatment of discharges from coal mining properties for non-traditional pollutants, such as chlorides, sulfates, selenium and dissolved solids and (2) requirements to dispose of produced wastes at approved disposal facilities.

In order to obtain a permit for certain coal mining activities, including the construction of coal refuse areas and slurry impoundments that may result in impacts to waters of the United States, an operator may need to obtain a permit for the discharge of fill material from the Army Corps of Engineers (“ACOE”) under Section 404, as well as a corresponding permit from the state regulatory authority under Section 401 of the CWA. Alternatively, for specific categories of activities determined to have minimal effects, the Company may be required to obtain Nationwide Permits from the ACOE. All permits associated with the placement of dredge or fill material subject to minimum thresholds require appropriate mitigation. Permit holders must receive explicit authorization from the ACOE before proceeding with mining activities, which could result in time or cost burdens to our operations.

Additionally, the Company must obtain National Pollution Discharge Elimination System (“NPDES”) permits from the appropriate state or federal permitting authority under Section 402 of the CWA. These permits establish effluent limitations for discharges to streams that are protective of water quality standards. For wastewater discharges to receiving waters that are classified as either high-quality or impaired, stringent restrictions are established to ensure anti-degradation and compliance with water quality standards. Permitting such discharges under NPDES could increase the cost, time and difficulty of complying with permit requirements, and may warrant costly treatment that could affect our operations.

Under the CWA, citizens may sue permit holders for alleged discharges of pollutants not explicitly limited by NPDES permits, or, citizens may sue to enforce NPDES permit requirements. Beginning in 2012, multiple citizen suits have been filed, alleging violations of numeric and narrative water quality standards that broadly prohibit effects to aquatic life. The suits seek penalties and injunctive relief that could limit future discharges or impose expensive treatment technologies. While the outcome of these suits cannot be predicted, court rulings could result in additional treatment expenses that could affect our operations. See Item 3, “Legal Proceedings,” regarding certain actions pertaining to our operations.

In June 2015, the EPA issued a rule to clarify which waterways are subject to federal jurisdiction under the CWA, known as the Clean Water Rule. This rule was quickly challenged and nationwide implementation was blocked by a federal appeals court. The Clean Water Rule would impose additional permitting obligations on the Company's operations by increasing the number of waterbodies subject to CWA permitting and other regulations. On February 28, 2017, President Trump issued an executive order prompting the EPA and ACOE to consider replacing the blocked Clean Water Rule. On December 11, 2018, the EPA and the ACOE proposed a new regulation to determine which waterbodies are subject to federal jurisdiction. A final rule repealing the 2015 definition of “Waters of the United States” (“WOTUS”) became effective on December 23, 2019. The repeal resets a consistent, nationwide regulatory standard to the previous pre-2015 regulations. A replacement rule that redefines WOTUS to comport with the text of the CWA is expected to be finalized in 2020.

On November 3, 2015, the EPA published the final Effluent Limitations Guidelines and Standards (“ELG”) rule, revising the regulations for the Steam Electric Power Generating category, which became effective on January 4, 2016. The rule sets the first federal limits on the levels of toxic metals in wastewater that can be discharged from power plants. On September 13, 2017, the EPA finalized a rule postponing for two years certain applicability dates for specific waste streams subject to the effluent limitations. On November 22, 2019, the EPA published its proposed revisions to the stringent limitations and standards included in the 2015 final ELG rule, while establishing a voluntary incentive program which provides power plants until December 31, 2028 to implement changes.

Surface Mining Control and Reclamation Act. The federal Surface Mining Control and Reclamation Act (“SMCRA”) establishes minimum extraction, environmental, reclamation, and closure standards for mining activities. While SMCRA is a comprehensive statute, it does not supersede other major statutes such as the Clean Air Act, Clean Water Act, Endangered Species Act and other statutes discussed herein. Operators must obtain SMCRA permits and permit renewals from the U.S. Office of Surface Mining (“OSM”) or from the applicable state agency, where states have been granted regulatory primacy by demonstrating that the state’s regulatory program is at least as stringent as the federal program. Our active operations are located in states which have achieved primary jurisdiction for enforcement of SMCRA, with oversight from OSM. The timing of permit issuance is largely at the discretion of the regulatory authorities and is related to the size and complexity of the operation seeking approval. Timing of permit issuance can also be influenced by public engagement in the permitting process, such as through comment, hearings, or legal interventions which could affect our operations. In addition, mining permits can be delayed, refused, or revoked if any entity under common ownership or control have unabated permit violations, including the mining and compliance history of officers, directors, and principal owners of the entity seeking permit approval.

Under federal and state laws, including SMCRA, we are required to obtain surety bonds or other acceptable security to secure payment of our long-term obligations, including mine closure and reclamation, mine water treatment, federal and state workers' compensation costs, coal leases, or other miscellaneous obligations. Surety bonds are typically renewable on a yearly basis and it is possible that surety bond issuers may refuse to renew bonds or may demand additional collateral therefor. In recent years, surety bond costs have increased, the market terms of surety bonds have generally become less favorable, and the number of companies willing to issue surety bonds has decreased. Any failure to maintain, or our inability to acquire, surety bonds required by state and federal laws or the related collateral required by bond issuers, could have a material adverse effect on our ability to produce coal, adversely affecting our business, financial condition, liquidity, results of operations and cash flows. As of December 31, 2019, we posted an aggregated \$527 million in surety bonds for reclamation purposes, as well as approximately \$202 million in surety bonds, cash, and letters of credit to secure other obligations including workers compensation, coal lease and other obligations.

In addition, SMCRA imposes a reclamation fee on all current mining operations, the proceeds of which are deposited in the Abandoned Mine Reclamation Fund, which is used to restore mine lands mined, closed or abandoned before SMCRA's adoption in 1977, and to pay health care benefit costs of orphan beneficiaries of the Combined Fund created by the Coal Industry Retiree Health Benefit Act of 1992. The current fee is \$0.12 per ton for underground mined coal. This fee is currently scheduled to be in effect until September 30, 2021. We recognized expense related to Abandoned Mine Reclamation Fund fees of \$3 million for the year ended December 31, 2019.

Endangered Species Act. The federal Endangered Species Act ("ESA") and other related federal and state statutes protect species that have been classified as endangered or threatened with possible extinction, or other protective designations. Protection of these species could prohibit or delay authorization of mining activities or may place additional restrictions on our operations related to timbering, construction, vegetation, or water discharges. A number of species indigenous to our operating areas are protected under the ESA or other related laws and regulations. However, we do not believe the ESA would materially or adversely affect our mining operations under current approved mining plans. If more stringent or protective measures were required, or if additional critical habitat areas were designated, our operations could be exposed to additional requirements and expense, or delayed approval timeframes. In August 2018, the Department of the Interior issued three proposed rules intended to update and streamline the ESA as it relates to: (i) factors for the listing, delisting, or reclassifying of species, and the designation of critical habitat, and (ii) the blanket extension of prohibitions for endangered species to threatened species. These rules, which became effective on September 26, 2019, are subject to challenge from several states and environmental groups.

Comprehensive Environmental Response, Compensation, and Liability Act. The Comprehensive Environmental Response Compensation and Liability Act ("CERCLA") imposes remediation requirements related to actual or threatened releases of hazardous substances into the environment. Under CERCLA or related state laws, joint and several liability may be imposed on generators of hazardous waste, site owners, waste transporters or others regardless of fault associated with the original disposal activity. Although the EPA excludes most wastes generated during coal mining and processing from hazardous waste laws, such wastes may contain hazardous substances that are governed by CERCLA if released to the environment. Our current operations, operations of our predecessors, or sites to which we have sent waste materials could be subject to liability under CERCLA.

Resource Conservation and Recovery Act. The federal Resource Conservation and Recovery Act ("RCRA") and corresponding state laws and regulations affect coal mining by imposing requirements for the treatment, storage, transportation and disposal of certain wastes created throughout the coal mining process. Facilities where certain regulated wastes have been treated, stored or disposed of are subject to RCRA and may receive corrective action orders for instances of non-compliance or in the event a hazardous substance is released to the environment. Many waste streams created throughout the mining process are excluded from the regulatory definition of hazardous waste, and coal operations authorized under SMCRA are exempt from RCRA permitting requirements. RCRA is particularly important in the coal industry because it regulates coal combustion residuals - byproducts of coal combustion. In April 2015, the EPA published coal combustion residuals regulations under RCRA for the disposal of coal combustion residuals from electric utilities and independent power producers (the "coal combustion residuals rule"). Importantly, coal combustion residuals are regulated under RCRA as "non-hazardous" waste and avoid the stricter, costlier regulations under RCRA's "hazardous" waste rules. In 2018, the EPA promulgated the first of a two-part rulemaking amending the national minimum criteria for existing and new coal combustion residual impoundments. The EPA released its second rulemaking proposal on December 19, 2019 to establish a federal permitting program for states and territories that do not have an approved permitting program for the disposal of coal combustion residuals in surface impoundments and landfills under RCRA. The coal combustion residuals rules impose new requirements at existing coal combustion residuals impoundments and landfills that would generally increase the cost of coal combustion residuals management. The combined effect of the coal combustion residuals rule and ELG regulations (discussed above) has compelled power generating companies to close existing ash ponds and may force the closure of certain older existing coal burning power plants that cannot comply with the new standards. Such retirements may adversely affect the demand for our coal.

Other Environmental Regulations. We are required to comply with other state, federal and local environmental laws in addition to those discussed above. These laws include, for example, the Safe Drinking Water Act, the Emergency Planning and Community Right to Know Act, the Toxic Release Inventory, and the rules governing the use and storage of explosives regulated by the U.S. Bureau of Alcohol, Tobacco, and Firearms and the Department of Homeland Security.

Health and Safety Laws

Mine Safety. Legislative and regulatory changes have required us to purchase additional safety equipment, construct stronger seals to isolate mined out areas, and engage in additional training. We have also experienced more aggressive inspection protocols and with new regulations, the volume of civil penalties has increased. Recent actions taken by federal and state governments include requiring:

- the caching of additional supplies of self-contained self-rescuer devices underground;
- the purchase and installation of electronic communication and personal tracking devices underground;
- the purchase and installation of proximity detection devices on continuous miner machines;
- the placement of refuge chambers, which are structures designed to provide refuge for groups of miners during a mine emergency when evacuation from the mine is not possible, which will provide breathable air for 96 hours;
- the purchase of new fire resistant conveyor belting underground;
- additional training and testing that creates the need to hire additional employees;
- more stringent rock dusting requirements; and
- the purchase of personal dust monitors for collecting respirable dust samples from certain miners.

On September 2, 2015, MSHA published proposed rules for underground coal mining operations concerning proximity detection systems for coal hauling machines and scoops. The rulemaking record for this proposed rule was closed on December 15, 2016, but on January 9, 2017, MSHA published a notice reopening the record and extending the comment period for this proposed rule for 30 days. MSHA has not issued a final rule regarding these proposed rules.

On January 15, 2015, MSHA published a final rule requiring underground coal mine operations to equip continuous mining machines (except full-face continuous mining machines) with proximity detection systems. The proximity detection system strengthens protection for miners by reducing the potential of pinning, crushing and striking hazards that result in life-threatening injuries and death. The final rule became effective March 15, 2015 and included a phased in schedule for newly manufactured and in-service equipment.

In 2010, MSHA rolled out the “End Black Lung, Act Now” initiative. As a result, MSHA implemented a new final rule on August 1, 2014 to lower miners’ exposure to respirable coal mine dust including using the new Personal Dust Monitor technology. This final rule was implemented in three phases. The first phase began on August 1, 2014 and utilized the current gravimetric sampling device to take full shift dust samples from the current designated occupations and areas. It also required additional record keeping and immediate corrective action in the event of overexposure. The second phase began on February 1, 2016 and required additional sampling for designated and other occupations using the new continuous personal dust monitor (“CPDM”) technology, which provides real time dust exposure information to the miner. CPDM equipment was purchased and was placed into service which was required to meet compliance with the new rule. Dust Coordinators and Dust Technicians were hired in order to meet the staffing demand to manage compliance with the new rule. The final phase of the rule went into effect on August 1, 2016. The current respirable dust standard was reduced from 2.0 to 1.5mg/m³ for designated occupations and from 1.0 to 0.5mg/m³ for Part 90 Miners (coal miners who show evidence of the development of black lung disease).

Black Lung Legislation. Under federal black lung benefits legislation, each coal mine operator is required to make payments of black lung benefits or contributions to:

- current and former coal miners totally disabled from black lung disease;
- certain survivors of miners who have died from black lung disease; and
- a trust fund for the payment of benefits and medical expenses to claimants whose last mine employment was before January 1, 1970, where no responsible coal mine operator has been identified for claims (where a miner's last coal employment was after December 31, 1969), or where the responsible coal mine operator has defaulted on the payment of such benefits. The trust fund is funded by an excise tax on U.S. production of coal, at a 2018 rate of up to \$1.10 per ton for deep mined coal and up to \$0.55 per ton for surface-mined coal, neither amount to exceed 4.4% of the gross sales price. On January 1, 2019, the excise tax reverted to pre-2008 levels, at \$0.50 per ton for deep mined coal and \$0.25 per ton for surface-mined coal. In December 2019, Congress restored the 2018 rates (of up to \$1.10 per ton for deep mined coal and up to \$0.55 per ton for surface-mined coal), effective through December 31, 2020.

The Patient Protection and Affordable Care Act (“PPACA”) made two changes to the Federal Black Lung Benefits Act. First, it provided changes to the legal criteria used to assess and award claims by creating a legal presumption that miners are entitled to benefits if they have worked at least 15 years in underground coal mines, or in similar conditions, and suffer from a totally disabling lung disease. To rebut this presumption, a coal company would have to prove that a miner did not have black lung or that the disease was not caused by the miner's work. Second, it changed the law so black lung benefits will continue to be paid to dependent survivors when the miner passes away, regardless of the cause of the miner's death. The changes have increased the cost to us of complying with the Federal Black Lung Benefits Act. In addition to the federal legislation, we are also liable under various state statutes for our portion of black lung claims.

Other State and Local Laws Related to Our Coal Business

Ownership of Coal Rights. The Company acquires ownership or leasehold rights to coal properties prior to conducting operations on those properties. As is customary in the coal industry, we have generally conducted only a summary review of the title to coal rights that are not in our development plans, but which we believe we control. This summary review is conducted at the time of acquisition or as part of a review of our land records to determine control of coal rights. Given our experience as a coal producer, we believe we have a well-developed ownership position relating to our coal control. Prior to the commencement of development operations on coal properties, we conduct a thorough title examination and perform curative work with respect to significant defects. We generally will not commence operations on a property until we have cured any material title defects on such property. We are typically responsible for the cost of curing any title defects. We have completed title work on substantially all of our coal producing properties and believe that we have satisfactory title to our producing properties in accordance with standards generally accepted in the industry.

Employees

At December 31, 2019, we had 1,792 employees, of which 37 CONSOL Marine Terminal employees were represented by a collective bargaining agreement.

Available Information

We maintain a website at www.consolenergy.com. We will make available, free of charge, on this website our future annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, as soon as reasonably practicable after such reports are available, electronically filed with, or furnished to the Securities and Exchange Commission (“SEC”), and are also available at the SEC’s website, www.sec.gov. Apart from SEC filings, we also use our website to publish information which may be important to investors, such as presentations to analysts.

ITEM 1A. Risk Factors

You should carefully consider the following risks and other information in this Annual Report on Form 10-K in evaluating us and our common stock. The risk factors generally have been separated into three groups: risks related to our business, risks related to the separation and risks related to our common stock and the securities market.

Any of the following risks could materially and adversely affect our financial condition, results of operations or cash flows. Our operations could be affected by various risks, many of which are beyond our control. Based on current information, we believe that the following list identifies the most significant risk factors that could affect our financial condition, results of operations or cash flows. There may be additional risks and uncertainties that adversely affect our financial condition, results of operations or cash flows in the future that are not presently known, are not currently believed to be material, or are not identified below because they are common to all businesses. Past financial performance may not be a reliable indicator of future performance and historical trends should not be used to anticipate results or trends in future periods. For more information, see "Forward-Looking Statements."

Risks Related to Our Business

Deterioration in the global economic conditions in any of the industries in which our customers operate, or a worldwide financial downturn, or negative credit market conditions may have a materially adverse effect on our liquidity, results of operations, cash flows, business and financial condition that we cannot predict.

Economic conditions in a number of industries in which our customers operate, such as electric power generation and steelmaking, substantially deteriorated in recent years and reduced the demand for coal. Renewed or continued weakness in the economic conditions of any of the industries we serve or are served by our customers could adversely affect our business, financial condition, results of operations, cash flows and liquidity in a number of ways. For example:

- demand for electricity in the United States is impacted by industrial production, which, if weakened, would negatively impact the revenues, margins and profitability of our coal business;
- demand for metallurgical coal depends on steel demand in the United States and globally, which, if weakened, would negatively impact the revenues, margins and profitability of our metallurgical coal business including our ability to sell our thermal coal as higher priced high volatile metallurgical coal;
- the tightening of credit or lack of credit availability to our customers could adversely affect our ability to collect our trade receivables;
- our ability to access the capital markets may be restricted at a time when we would like, or need, to raise capital for our business including for exploration and/or development of our coal reserves, or for strategic acquisitions of assets; and
- a decline in our creditworthiness, which may require us to post letters of credit, cash collateral, or surety bonds to secure certain obligations, all of which would have an adverse effect on our liquidity.

Prices for coal are volatile and can fluctuate widely based upon a number of factors beyond our control including oversupply relative to the demand available for our coal, weather and the price and availability of alternative fuels. A substantial or extended decline in the prices we receive for our coal will adversely affect our business, results of operations, financial condition and cash flows.

Our financial results are significantly affected by the prices we receive for our coal and depend, in part, on the margins that we receive on sales of our coal. Our margins reflect the price we receive for our coal over our cost of producing and transporting our coal. Prices and quantities under our multi-year sales contracts are generally based on expectations of future coal prices at the time the contract is entered into, renewed, extended or re-opened. The expectation of future prices for coal depends upon many factors. In addition, demand can fluctuate widely due to a number of matters beyond our control, including:

- the market price for coal;
- changes in the consumption pattern of industrial consumers, electricity generators and residential end-users of electricity;
- weather conditions in our markets which affect the demand for thermal coal;
- competition from other coal suppliers;
- the price and availability of alternative fuels and sources for electricity generation, especially natural gas and renewable energy sources;
- with respect to thermal coal, the price and availability of natural gas and the price and supply of imported liquefied natural gas;
- technological advances affecting energy consumption;
- the costs, availability and capacity of transportation infrastructure;

- overall domestic and global economic conditions, including the supply of and demand for domestic and foreign coal;
- international developments impacting supply of metallurgical coal, including supply side reforms promulgated in China, and continued expected growth in demand for seaborne metallurgical coal in India; and
- the impact of domestic and foreign governmental laws and regulations, including environmental and climate change regulations and regulations affecting the coal mining industry and coal-fired power plants, and delays in the receipt of, failure to receive, failure to maintain or revocation of necessary governmental permits.

Any significant downtime of our major pieces of mining equipment, including our central preparation plant, or any inability to obtain equipment, parts and raw materials in a timely manner, in sufficient quantities or at reasonable costs, could impair our ability to supply coal to our customers and materially and adversely affect our results of operations.

We depend on several major pieces of mining equipment to produce and transport our coal, including, but not limited to, longwall mining systems, continuous mining units, our preparation plant and related facilities, conveyors and transloading facilities. If any of these pieces of equipment or facilities suffered major damage or were destroyed by fire, abnormal wear, flooding, incorrect operation or otherwise, we may be unable to replace or repair them in a timely manner or at a reasonable cost, which would impact our ability to produce and transport coal and materially and adversely affect our business, results of operations, financial condition and cash flows. We procure this equipment from a concentrated group of suppliers, and obtaining this equipment often involves long lead times. Occasionally, demand for such equipment by mining companies can be high and some types of equipment may be in short supply. Delays in receiving or shortages of this equipment or the cancellation of our supply contracts under which we obtain equipment could limit our ability to obtain these supplies or equipment.

All of the coal from our mines is processed at a single preparation plant and loaded on to rail cars using a single train loadout facility. If either of our preparation plant or train loadout facility suffers extended downtime, including from major damage, or is destroyed, our ability to process and deliver coal to our customers would be materially impacted, which would materially adversely affect our business, results of operations, financial condition and cash flows.

Additionally, coal mining consumes large quantities of commodities including steel, copper, rubber products and liquid fuels and requires the use of capital equipment. Some commodities, such as steel, are needed to comply with roof control plans required by regulation. The prices we pay for commodities and capital equipment are strongly impacted by the global market. A rapid or significant increase in the costs of commodities or capital equipment we use in our operations could impact our mining operations costs because we may have a limited ability to negotiate lower prices, and, in some cases, may not have a ready substitute. In addition, if any of our suppliers experiences an adverse event, or decides to no longer do business with us, we may be unable to obtain sufficient equipment and raw materials in a timely manner or at a reasonable price to allow us to meet our production goals and our revenues may be adversely impacted. We use considerable quantities of steel in the mining process. If the price of steel or other materials increases substantially or if the value of the U.S. dollar declines relative to foreign currencies with respect to certain imported supplies or other products, our operating expenses could increase. Any of the foregoing events could materially and adversely impact our business, financial condition, results of operations and cash flows.

If our coal customers do not extend existing contracts or do not enter into new multi-year coal sales contracts on favorable terms, profitability of our operations could be adversely affected.

During the year ended December 31, 2019, approximately 88% of the coal the Company produced was sold under multi-year sales contracts. If a substantial portion of our multi-year sales contracts are modified or terminated, if force majeure is exercised, or if we are unable to replace or extend the contracts or new contracts are priced at lower levels, our profitability would be adversely affected. In addition, if customers refuse to accept shipments of our coal for which they have existing contractual obligations, our revenues will decrease and we may have to reduce production at our mines until such customers honor their contractual obligations and begin accepting shipments of our coal again.

The profitability of our multi-year sales coal supply contracts depends on a variety of factors, which vary from contract to contract and fluctuate during the contract term, including our production costs and other factors. Price changes, if any, provided in long-term supply contracts may not reflect our cost increases, and therefore, increases in our costs may reduce our profit margins. In addition, during periods of declining market prices, provisions in our long-term coal contracts for adjustment or renegotiation of prices and other provisions may increase our exposure to short-term coal price and electric power price volatility. As a result, we may not be able to obtain long-term agreements at favorable prices compared to either market conditions, as they may change from time to time, or our cost structure, which may reduce our profitability.

We have customer concentration, so the loss of, or significant reduction in, purchases by our largest coal customers could adversely affect our business, financial condition, results of operations and cash flows.

We are exposed to risks associated with an increasingly concentrated customer base both domestically and globally. We derive a significant portion of our revenues from three domestic customers, each of which accounted for over 10% of our total coal sales revenue and aggregated approximately 70% of our coal sales in fiscal year 2019. Domestic customer concentration has increased from fiscal year 2018. While the majority of our production is directed toward our established base of domestic power plant customers, many of which are secured through annual or multi-year sales contracts, we also have continued to diversify our portfolio by placing a growing portion of our production in the thermal and crossover metallurgical markets. We have a multi-year contract for the sale of coal to an exporter that began in the second quarter of 2018 and will extend through the second quarter of 2020.

There are inherent risks whenever a significant percentage of total revenues are concentrated with a limited number of customers. Revenues from our largest customers may fluctuate from time to time based on numerous factors, including market conditions, which may be outside of our control. If any of our largest customers experience declining revenues due to market, economic or competitive conditions, we could be pressured to reduce the prices that we charge for our coal, which could have an adverse effect on our margins, profitability, cash flows and financial position. If any customers were to significantly reduce their purchases of coal from us, including by failing to buy and pay for coal they committed to purchase in sales contracts, our business, financial condition, results of operations and cash flows could be adversely affected.

Our ability to collect payments from our customers could be impaired if their creditworthiness deteriorates.

Our ability to collect payments from our customers for coal sold and delivered could be impaired if their creditworthiness declines or if they fail to honor their contracts. Because our sales are concentrated to a few material customers, if the creditworthiness of a significant customer declines or the customer significantly delays payments to us, our business, cash flow and financial condition could be materially and adversely affected. Furthermore, if customers refuse to accept shipments of our coal for which they have an existing contractual obligation or if we terminate a relationship with a significant customer due to credit risks, our revenue could decrease materially and we may have to reduce production at our mines until our customers' contractual obligations are honored or we are able to replace a significant customer. In addition, our borrowing capacity under our receivables financing arrangement could be reduced if we experience prolonged and significant delays in payments by one or more material customer.

Our inability to acquire or develop additional coal reserves that are economically recoverable may have a material adverse effect on our future profitability.

Our profitability depends substantially on our ability to mine, in a cost-effective manner, coal reserves that possess the quality characteristics that our customers desire. Because our reserves decline as we mine our coal, our future profitability depends upon our ability to acquire additional coal reserves and surface land needed to ensure the reserves are economically recoverable to replace the reserves we produce. If we fail to acquire, gain access to or develop sufficient additional reserves over the long term to replace the reserves depleted by our production, our existing reserves will eventually be depleted, which may have a material adverse effect on our business, financial condition, results of operations, and cash flows.

Decreases in demand for electricity and changes in coal consumption patterns of electric power generators could adversely affect our business.

Our business is closely linked to demand for electricity, and any changes in coal consumption by U.S. or international electric power generators would likely impact our business over the long term. According to the EIA, in 2019, the domestic electric power sector accounted for approximately 91% of total U.S. coal consumption. In 2019, the Pennsylvania Mining Complex sold approximately 66% of its coal to U.S. electric power generators, and we have annual or multi-year contracts in place with many of these electric power generators for a significant portion of our future production. The amount of coal consumed by the electric power generation industry is affected by, among other things:

- general economic conditions, particularly those affecting industrial electric power demand, such as a downturn in the U.S. or international economy and financial markets;
- overall demand for electricity;
- indirect competition from alternative fuel sources for power generation, such as natural gas, fuel oil, nuclear, hydroelectric, wind and solar power, and the location, availability, quality and price of those alternative fuel sources;
- environmental and other governmental regulations, including those impacting coal-fired power plants; and
- energy conservation efforts and related governmental policies.

Changes in the coal industry that affect our customers, such as those caused by decreased electricity demand and increased competition, could also adversely affect our business. Indirect competition from natural gas-fired plants that are relatively more efficient, less expensive to construct and less difficult to permit than coal-fired plants has the most potential to displace a significant amount of coal-fired electric power generation in the near term, particularly from older, less efficient coal-fired powered generators. Federal and state mandates for increased use of electricity derived from renewable energy sources could affect demand for our coal. Such mandates, combined with other incentives to use renewable energy sources, such as tax credits, could make alternative fuel sources more competitive with coal. A decrease in coal consumption by the electric power generation industry could adversely affect the price of coal, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Other factors, such as efficiency improvements associated with new appliance standards in the buildings sectors and overall improvement in the efficiency of technologies powered by electricity, have slowed electricity demand growth and may contribute to slower growth in the future. Further decreases in the demand for electricity, such as decreases that could be caused by a worsening of current economic conditions, a prolonged economic recession or other similar events, could have a material adverse effect on the demand for coal and on our business over the long term.

The availability and reliability of transportation facilities and fluctuations in transportation costs could affect the demand for our coal, and any significant damage to the CONSOL Marine Terminal that impacts its use could impair our ability to supply coal to our customers.

Transportation logistics play an important role in allowing us to supply coal to our customers. Any significant delays, interruptions or other limitations on the ability to transport our coal could negatively affect our operations. Our coal is transported from the Pennsylvania Mining Complex by rail, truck or a combination of these methods. To reach markets and end customers, our coal may also be transported by barge or by ocean vessels loaded at terminals, including our CONSOL Marine Terminal. Disruption of transportation services because of weather-related problems, strikes, lock-outs, terrorism, governmental regulation, third-party action or other events could temporarily impair our ability to supply coal to customers and adversely affect our profitability. In addition, transportation costs represent a significant portion of the delivered cost of coal and, as a result, the cost of delivery is a critical factor in a customer's purchasing decision. Increases in transportation costs, including increases resulting from emission control requirements and fluctuation in the price of diesel fuel and demurrage, could make our coal less competitive. Any disruption of the transportation services we use or increase in transportation costs could have a materially adverse effect on our business, financial condition, results of operations and cash flows. Disruption in shipment levels over longer periods of time at the CONSOL Marine Terminal could cause our customers to look to other sources for their coal needs, negatively affecting our revenues and results of operations.

Competition within the coal industry may adversely affect our ability to sell coal. Increased competition or a loss of our competitive position could adversely affect our sales of, or our prices for, our coal, which could impair our profitability. In addition, foreign currency fluctuations could adversely affect the competitiveness of our coal abroad.

We compete with other producers primarily on the basis of price, coal quality, transportation costs and reliability of delivery. We compete with coal producers in various regions of the United States and with some foreign coal producers for domestic sales primarily to electric power generators. We also compete with both domestic and foreign coal producers for sales in international markets. Demand for our coal by our principal customers is affected by the delivered price of competing coals, other fuel supplies and alternative generating sources, including nuclear, natural gas, oil and renewable energy sources, such as hydroelectric, wind and solar power.

We sell coal to foreign electricity generators and to the more specialized metallurgical coal market, both of which are significantly affected by international demand and competition. The coal industry has experienced consolidation in recent years, including consolidation among some of our major competitors. As a result, a substantial portion of coal production is from companies that have significantly greater resources than we do. Current or further consolidation in the coal industry or current or future bankruptcy proceedings of coal competitors may adversely affect us. In addition, increases in coal prices could encourage existing producers to expand capacity or could encourage new producers to enter the market. If overcapacity results, the prices of and demand for our coal could significantly decline, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

In addition, we face competition from foreign producers that sell their coal in the export market. Potential changes to international trade agreements, trade concessions or other political and economic arrangements may benefit coal producers operating in countries other than the United States. We may be adversely impacted on the basis of price or other factors with companies that in the future may benefit from favorable foreign trade policies or other arrangements. In addition, coal is sold internationally in U.S. dollars and, as a result, general economic conditions in foreign markets and changes in foreign currency exchange rates may provide our foreign competitors with a competitive advantage. If our competitors' currencies decline against the U.S. dollar or against our foreign customers' local currencies, those competitors may be able to offer lower prices for coal to our customers. Furthermore, if the currencies of our overseas customers were to significantly decline in value in comparison to the U.S. dollar, those customers may seek decreased prices for the coal we sell to them. Consequently, currency fluctuations could adversely affect the competitiveness of our coal in international markets, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

A significant portion of our production is sold in international markets, which exposes us to additional risks and uncertainties.

For the fiscal years ended December 31, 2019, 2018 and 2017, approximately 35%, 29% and 31%, respectively, of our annual coal revenue was derived from customers who exported our coal outside of the United States. Exports to Asia represent the majority of those sales. We believe that international markets will continue to account for a significant percentage of our revenue as we seek international expansion opportunities. The international markets are subject to a number of material risks, including, but not limited to:

- changes in a specific country's or region's political, economic or other conditions;
- changes in U.S. government policy with respect to these foreign countries may inhibit export of our products and limit potential customers' access to U.S. dollars in a country or region in which those potential customers are located;
- we may experience difficulties in enforcing our legal contracts or the collecting of foreign accounts receivable in a timely manner and we may be forced to write off these receivables;
- tariffs and other barriers may make our products less cost competitive;
- potentially adverse tax consequences to our customers may damage our cost competitiveness;
- customs, import/export and other regulations of the countries in which our international customers are located may adversely affect our business;
- currency fluctuations may make our coal less cost competitive, affecting overseas demand for our coal, or may indirectly expose us to currency fluctuation risk; and
- geopolitical uncertainty or turmoil, including terrorism, war and natural disasters.

Our sales are also affected by general economic conditions in our international markets. A prolonged economic downturn in international markets could have a material adverse effect on our business. Negative developments in one or more countries or regions in which our coal is exported could result in a reduction in demand for our coal, the cancellation or delay of orders already placed, difficulties in producing and delivering our products, difficulty in collecting receivables or a higher cost of doing business, any of which could negatively impact our business, financial condition, cash flows and results of operations. In addition, we may be exposed to legal risks under the laws of the countries outside the U.S. in which we do business, as well as the laws of the U.S. governing our business activities in those other countries, such as the U.S. Foreign Corrupt Practices Act.

The Company intends, if possible, to offset any potential adverse impact from various international risks (for example, tariffs) that may be imposed by governments in the countries in which one or more of the Company's end users are located by reallocating its customer base to other countries or to the domestic U.S. markets.

The characteristics of coal may make it costly for electric power generators and other coal users to comply with various environmental standards regarding the emissions of impurities released when coal is burned which could cause utilities to replace coal-fired power plants with alternative fuels.

Coal contains impurities, including sulfur, mercury, chlorine and other elements or compounds, many of which are released into the air along with fine particulate matter and carbon dioxide when it is burned. Complying with regulations on these emissions can be costly for electric power generators. For example, in order to meet the federal Clean Air Act limits for sulfur dioxide emissions from electric power plants, coal users needed to install scrubbers, use sulfur dioxide emission allowances (some of which they may purchase) or switch to other fuels, each of which has limitations. Because higher sulfur coal currently accounts for a significant portion of our sales, the extent to which electric power generators switch to alternative fuel could materially affect us. Rulemaking proceedings requiring additional reductions in permissible emission levels of impurities by coal-fired plants will likely make it more costly to operate coal-fired electric power plants and may make coal a less attractive fuel alternative for electric power generation in the future. Examples are (i) implementation of the CSAPR to require reductions of seasonal nitrogen oxides emissions from power plants in the eastern United States to address ozone pollution; and (ii) the MATS Rule, better known as the Mercury and Air Toxics Standard rule, which included more stringent new source performance standards for particulate matter, mercury, sulfur dioxide and nitrogen oxides for new coal-fired power plants. The rule was rejected by the U.S. Supreme Court on June 29, 2015 and sent back to the D.C. Circuit Court to determine whether to remand and allow the EPA to address the rule's deficiencies or to vacate and nullify the rule; nevertheless, most coal-fired electric power generators have already taken steps to comply with the rule. On April 18, 2017, the EPA asked the Court to delay arguments over MATS to allow the Trump Administration time to fully review the findings. On April 21, 2017, the Court granted the requested stay. On December 28, 2018, the EPA proposed to revise the 2016 supplemental cost finding for the MATS Rule, as well as the related risk and technology review required by the CAA. Under the proposal, the emissions standards and other requirements of the MATS Rule would remain in place while the EPA's methodology for assessing the costs and benefits of the rule were being modified.

Regulation to address climate change (particularly greenhouse gas emissions) and uncertainty regarding such regulation may increase our operating costs, reduce the value of our coal assets and adversely impact the market for coal.

The issue of global climate change continues to attract considerable public and scientific attention with widespread concern about the impacts of human activity (especially the emissions of GHGs such as carbon dioxide and methane). Combustion of fossil fuels, such as the coal we produce, results in the emission of carbon dioxide into the atmosphere by coal end-users, such as coal-fired electric power generation plants. Numerous proposals have been made and are likely to continue to be made at the international, national, regional and state levels of government that are intended to limit emissions of GHGs. Several states have already adopted measures requiring reduction of GHGs within state boundaries. Other states have elected to participate in voluntary regional cap-and-trade programs like the RGGI in the northeastern U.S. Any significant legislative changes at the international, national, state or local levels could significantly affect our ability to produce and sell our coal and develop our reserves, could increase the cost of the production and sale of coal and could materially reduce the value of our coal and coal reserves.

Apart from governmental regulation, investment banks based both domestically and internationally have announced that they have adopted climate change guidelines for lenders. The guidelines require the evaluation of carbon risks in the financing of electric power generation plants which may make it more difficult for utilities to obtain financing for coal-fired plants. In addition, there have also been efforts in recent years affecting the investment community, including investment advisers, sovereign wealth funds, public pension funds, universities and other groups, promoting the divestment of fossil fuel equities, encouraging the consideration of environmental, social and governance ("ESG") practices of companies in a manner that negatively affects coal companies, and also pressuring lenders to limit funding to companies engaged in the extraction of fossil fuel reserves. The impact of such efforts may adversely affect the demand for and price of securities issued by us, and impact our access to the capital and financial markets. These efforts, as well as concerted conservation and efficiency efforts that result in reduced electricity consumption, and consumer and corporate preferences for non-coal fuel sources, including natural gas and/or alternative energy sources, could cause coal prices and sales of our coal to materially decline and could cause our costs to increase. Further, climate change itself may cause more extreme weather conditions such as more intense hurricanes, thunderstorms, tornadoes and snow or ice storms, as well as rising sea levels and increased volatility in seasonal temperatures. Extreme weather conditions can interfere with our services and increase our costs, and damage resulting from extreme weather may not be fully insured. However, at this time, we are unable to determine the extent to which climate change may lead to increased storm or weather hazards affecting our operations.

Furthermore, adoption of comprehensive legislation or regulation focusing on climate change or GHG emission reductions for the United States or other countries where we sell coal, or the inability of utilities to obtain financing in connection with coal-fired plants, may make it more costly to operate coal-fired electric power generation plants and make coal less attractive for electric utility power plants in the future. Depending on the nature of the regulation or legislation, natural gas-fueled power generation could become more economically attractive than coal-fueled power generation, especially if such regulation or legislation makes our coal more expensive as a result of increased compliance, operating and maintenance costs. Apart from actual regulation, uncertainty over the extent of regulation of GHG emissions may inhibit utilities from investing in the building of new coal-fired plants to replace older plants or investing in the upgrading of existing coal-fired plants. Any reduction in the amount of coal consumed by electric power generators as a result of actual or potential regulation of greenhouse gas emissions could decrease demand for our fossil fuels, thereby reducing our revenues and materially and adversely affecting our business and results of operations. Our customers may also have to invest in carbon dioxide capture and storage technologies in order to burn coal and comply with future GHG emission standards. Although we cannot predict the ultimate impact of any legislation or regulation, it is likely that any future laws, regulations or other policies aimed at reducing GHG emissions will negatively impact demand for our coal and could also negatively affect the value of our reserves and other assets.

We may be subject to litigation seeking to hold energy companies accountable for the effects of climate change.

Increasing attention to climate change risk has also resulted in a recent trend of governmental investigations and private litigation by local and state governmental agencies as well as private plaintiffs in an effort to hold energy companies accountable for the effects of climate change. Other public nuisance lawsuits have been brought in the past against power, coal, oil and gas companies alleging that their operations are contributing to climate change. The plaintiffs in these suits sought various remedies, including punitive and compensatory damages and injunctive relief. While the U.S. Supreme Court held that federal common law provided no basis for public nuisance claims against the defendants in those cases, tort-type liabilities remain a possibility and a source of concern. For instance, we have been named as a defendant in litigation brought by the City of Baltimore seeking to hold us and other energy companies liable for the effects of climate change caused by the release of GHGs. The outcome of this litigation is uncertain, and we could incur substantial legal costs associated with defending this and similar lawsuits in the future. Government entities in other states (including California and New York) have brought similar claims seeking to hold a wide variety of companies that produce fossil fuels liable for the alleged impacts of the GHG emissions attributable to those fuels or for other grounds related to climate change, such as improper disclosure of climate change risks. Those lawsuits allege damages as a result of climate change and the plaintiffs are seeking unspecified damages and abatement under various tort theories. We have not been made a party to these other suits, but it is possible that we could be included in similar future lawsuits initiated by state and local governments as well as private claimants.

Existing and future government laws, regulations and other legal requirements relating to protection of the environment, and others that govern our business may increase our costs of doing business for coal and may restrict our coal operations.

We are subject to laws, regulations and other legal requirements enacted or adopted by federal, state and local authorities, as well as foreign authorities, relating to protection of the environment. These include those legal requirements that govern discharges of substances into the air and water, the management and disposal of hazardous substances and wastes, the cleanup of contaminated sites, groundwater quality and availability, threatened and endangered plant and wildlife protection, reclamation and restoration of mining properties after mining is completed, the installation of various safety equipment in our mines, remediation of impacts of surface subsidence from underground mining, and work practices related to employee health and safety. Complying with these requirements, including the terms of our permits, has had, and will continue to have, a significant effect on our costs of operations and competitive position.

In addition, there is the possibility that we could incur substantial costs as a result of violations under environmental laws. Any additional laws, regulations and other legal requirements enacted or adopted by federal, state and local authorities, as well as foreign authorities, or new interpretations of existing legal requirements by regulatory bodies relating to the protection of the environment could further affect our costs of operations and competitive position. At CONSOL Energy's subsidiary Fola Coal Company, LLC ("Fola"), nine citizen suits have been filed challenging water discharge permits. Fola retained liability for six of these suits, and was indemnified from the remaining three suits in accordance with the 2016 sale of Fola's assets to Southeastern Land, LLC. Of the six suits retained by Fola, one was dismissed, and the remaining suits were settled.

Our business involves many hazards and operating risks, some of which may not be fully covered by insurance. The occurrence of a significant accident or other event that is not fully insured could curtail our operations and have a material adverse effect on our results of operations, financial condition and cash flows.

Our coal mining operations are underground mines. Underground mining and related processing activities present inherent risks of injury or death to persons, damage to property and equipment and other potential legal or other liabilities. Our mines are subject to a number of operating risks that could disrupt operations, decrease production and increase the cost of mining at particular mines for varying lengths of time, thereby adversely affecting our operating results. In addition, if an operating risk occurs in our mining operations, we may not be able to produce sufficient amounts of coal to deliver under our multi-year coal contracts. Our inability to satisfy contractual obligations could result in our customers initiating claims against us or canceling their contracts. The operating risks that may have a significant impact on our coal operations include:

- variations in thickness of the layer, or seam, of coal;
- adverse geological conditions, including amounts of rock and other natural materials intruding into the coal seam that could affect the stability of the roof and the side walls of the mine - for example, unit costs were negatively impacted in 2017 and 2016 due to adverse geological conditions at the Enlow Fork Mine, primarily related to sandstone intrusions, which resulted in reduced coal production at that mine;
- environmental hazards;
- equipment failures or unexpected maintenance problems;
- fires or explosions, including as a result of methane, coal, coal dust or other explosive materials and/or other accidents;
- inclement or hazardous weather conditions and natural disasters or other force majeure events;
- seismic activities, ground failures, rock bursts or structural cave-ins or slides;
- delays in moving our longwall equipment;
- railroad derailments;
- security breaches or terroristic acts; and
- other hazards that could also result in personal injury and loss of life, pollution and suspension of operations.

The occurrence of any of these risks at our coal mining operations could adversely affect our ability to conduct our operations or result in substantial loss to us, either of which could materially and adversely affect our business, financial condition, results of operations and cash flows. In addition, the occurrence of any of these events in our coal mining operations which prevents our delivery of coal to a customer and which is not excusable as a force majeure event under our coal sales agreement could result in economic penalties, suspension or cancellation of shipments or ultimately termination of the coal sales agreement, any of which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Although we maintain insurance for a number of risks and hazards, we may not be insured or fully insured against the losses or liabilities that could arise from a significant accident in our coal operations. We may elect not to obtain insurance for any or all of these risks if we believe that the cost of available insurance is excessive relative to the risks presented. In addition, pollution and environmental risks generally are not fully insurable. Moreover, a significant mine accident could potentially cause a mine shutdown. The occurrence of an event that is not fully covered by insurance could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Failure to obtain or renew surety bonds on acceptable terms could affect our ability to secure reclamation and coal lease obligations and failure to obtain adequate insurance coverages could both have a material adverse effect on our business and results of operations.

Federal and state laws require us to obtain surety bonds or post letters of credit to secure performance or payment of certain long-term obligations, such as mine closure or reclamation costs, federal and state workers' compensation costs, coal leases and other obligations. The costs of surety bonds have fluctuated in recent years while the market terms of such bonds have generally become less favorable to mine operators. These changes in the terms of the bonds have been accompanied at times by a decrease in the number of companies willing to issue surety bonds. In addition, federal and state regulators are considering making financial assurance requirements with respect to mine closure and reclamation more stringent. Because we are required by federal and state law to have these bonds in place before mining can commence or continue, our failure to maintain surety bonds, letters of credit or other guarantees or security arrangements would materially and adversely affect our ability to mine or lease coal. Additionally, coal and other mining companies are increasingly struggling to obtain adequate insurance coverage for their business and operations. Our failure to obtain adequate insurance coverages could have a material adverse effect on our business and results of operations.

All of our operating mines are part of a single mining complex and are exclusively located in the Northern Appalachian Basin, making us vulnerable to risks associated with operating in a single geographic area.

All of our mining operations are conducted at a single mining complex located in the NAPP in southwestern Pennsylvania and northern West Virginia. The geographic concentration of our operations at the Pennsylvania Mining Complex may disproportionately expose us to disruptions in our operations if the region experiences adverse conditions or events, including severe weather, transportation capacity constraints, constraints on the availability of required equipment, facilities, personnel or services, significant governmental regulation or natural disasters. If any of these factors were to impact the NAPP more than other coal producing regions, our business, financial condition, results of operations and cash flows will be adversely affected relative to other mining companies that have a more geographically diversified asset portfolio.

Our mines are located in areas containing oil and natural gas shale plays, which may require us to coordinate our operations with oil and natural gas drillers and transporters.

Substantially all of our coal reserves are in areas containing shale oil and natural gas plays, including the Marcellus Shale, which are currently the subject of substantial exploration for oil and natural gas, particularly by horizontal drilling. If we have received a permit for our mining activities, then while we may have to coordinate our mining with such oil and natural gas drillers and transporters, our mining activities will have priority over any oil and natural gas drillers and transporters with respect to the land covered by our permit. Oil and natural gas drillers and transporters may be subject to law and regulations that are enforced by regulators that do not have jurisdiction over our activities. Any conflict between our rights and the enforcement actions by any regulator of oil or natural gas-specific rights that conflict with our rights to mine could result in additional costs and possible delays to mining.

For reserves outside of our permits, we engage in discussions with drilling and transport companies on potential areas on which they can drill that may have a minimal effect on our mine plan. If a well is in the path of our mining for coal on land that has not yet been permitted for our mining activities, we may not be able to mine through the well unless we purchase it. Although in the past we have purchased vertical wells, the cost of purchasing a producing horizontal well could be substantially greater than that of a vertical well. Horizontal wells with multiple laterals extending from the well pad may access larger oil and natural gas reserves than a vertical well, which would typically result in a higher cost to acquire. The cost associated with purchasing oil and natural gas wells that are in the path of our coal mining activities could likewise make mining through those wells uneconomical, thereby effectively causing a loss of significant portions of our coal reserves, which could materially and adversely affect our business, financial condition, results of operations and cash flows.

To maintain and grow our business, we will be required to make substantial capital expenditures. If we are unable to obtain needed capital or financing on satisfactory terms, our financial leverage could increase.

In order to maintain and grow our business, we will need to make substantial capital expenditures to fund our share of capital expenditures associated with our mines. Maintaining and expanding mines and infrastructure is capital intensive. Specifically, the exploration, permitting and development of coal reserves, mining costs, the maintenance of machinery and equipment and compliance with applicable laws and regulations requires substantial capital expenditures. While a significant amount of the capital expenditures required to build out our mining infrastructure has been spent, we must continue to invest capital to maintain or to increase our production. Decisions to increase our production levels could also affect our capital needs. Our production levels may decrease or may not be able to generate sufficient cash flow, or we may not have access to sufficient financing to continue our production, exploration, permitting and development activities at or above our present levels, and we may be required to defer all or a portion of our capital expenditures. If we do not make sufficient or effective capital expenditures, we will be unable to maintain and grow our business. To fund our capital expenditures, we will be required to use cash from our operations, incur debt or sell additional equity securities. Our ability to obtain bank financing or our ability to access the capital markets for future equity or debt offerings may be limited by our financial condition at the time of any such financing or offering and the covenants in our existing debt agreements, as well as by general economic conditions, contingencies and uncertainties that are beyond our control, such as financial institutions abandoning the thermal coal sector. In addition, incurring additional debt may significantly increase our interest expense and financial leverage, and issuing additional equity securities may result in significant stockholder dilution.

A low ESG or sustainability score could result in the exclusion of our securities from consideration by certain investment funds and a negative perception of us by certain investors.

Certain organizations that provide corporate governance and other corporate risk information to investors and stockholders have developed scores and ratings to evaluate companies and investment funds based upon ESG or “sustainability” metrics. Currently, there are no universal standards for such scores or ratings, but the importance of sustainability evaluations is becoming more broadly accepted by investors and stockholders. Indeed, many investment funds focus on positive ESG business practices and sustainability scores when making investments. In addition, investors, particularly institutional investors, use these scores to benchmark companies against their peers and if a company is perceived as lagging, these investors may engage with companies to require improved ESG disclosure or performance. Moreover, certain members of the broader investment community may consider a company's sustainability score as a reputational or other factor in making an investment decision. Companies in the energy industry, and in particular those focused on coal, natural gas or petroleum extraction and refining, often perform less well under ESG assessments compared to companies in other industries. Consequently, a low ESG or sustainability score could result in our securities, both debt and equity, being excluded from the portfolios of certain investment funds and investors. As such, this could restrict our access to capital to fund our continuing operations and growth opportunities.

New or existing tariffs and other trade measures could adversely affect our results of operations, financial position and cash flows.

New or existing tariffs and other trade measures could adversely affect our results of operations, financial position and cash flows, either directly or indirectly through various adverse impacts on our significant customers. During the last several years, the Trump Administration imposed tariffs on steel and aluminum and a broad range of other products imported into the U.S. In response to the tariffs imposed by the U.S., the European Union, Canada, Mexico and China have announced tariffs on U.S. goods and services. Although some of these tariffs have been rescinded or suspended, these tariffs, along with any additional tariffs or trade restrictions that may be implemented by the U.S. or retaliatory trade measures or tariffs implemented by other countries, could result in reduced economic activity, increased costs in operating our business, reduced demand and changes in purchasing behaviors for thermal and metallurgical coal, limits on trade with the United States or other potentially adverse economic outcomes. Additionally, we sell coal into the export thermal market and the export metallurgical market. Accordingly, our international sales may also be impacted by the tariffs and other restrictions on trade between the U.S. and other countries. While tariffs and other retaliatory trade measures imposed by other countries on U.S. goods have not yet had a significant impact on our business or results of operations, we cannot predict further developments, and such existing or future tariffs could have a material adverse effect on our results of operations, financial position and cash flows.

We may be unsuccessful in finding suitable acquisition targets or integrating the operations of any future acquisitions, including acquisitions involving new lines of business, with our existing operations, and in realizing all or any part of the anticipated benefits of any such acquisitions.

From time to time, we may evaluate and acquire assets and businesses that we believe complement our existing assets and business. However, our ability to grow our business through acquisitions may be limited by both our ability to identify appropriate acquisition candidates and our financial resources, including our available cash and borrowing capacity. Additionally, the assets and businesses we acquire may be dissimilar from our existing lines of business. Acquisitions may require substantial capital or the incurrence of substantial indebtedness. Our capitalization and results of operations may change significantly as a result of future acquisitions. Acquisitions and business expansions involve numerous risks, including the following:

- difficulties in the integration of the assets and operations of the acquired businesses;
- inefficiencies and difficulties that arise because of unfamiliarity with new assets and the businesses associated with them and new geographic areas;
- the possibility that we have insufficient expertise to engage in such activities profitably or without incurring inappropriate amounts of risk; and
- the diversion of management's attention from other operating issues.

Further, unexpected costs and challenges may arise whenever businesses with different operations or management are combined, and we may experience unanticipated delays in realizing the benefits of an acquisition. Entry into certain lines of business may subject us to new laws and regulations with which we are not familiar, and may lead to increased litigation and regulatory risk. Also, following an acquisition, we may discover previously unknown liabilities associated with the acquired business or assets for which we have no recourse under applicable indemnification provisions. If a new business generates insufficient revenue or if we are unable to efficiently manage our expanded operations, our results of operations may be adversely affected.

We must obtain, maintain and renew governmental permits and approvals which, if we cannot obtain in a timely manner, would reduce our production, cash flow and results of operations.

Our coal production is dependent on our ability to obtain various federal and state permits and approvals to mine our coal reserves. The permitting rules, and the interpretations of these rules, are complex, change frequently and are often subject to discretionary interpretations by regulators. The EPA also has the authority to veto permits issued by the Army Corps of Engineers under the Clean Water Act's Section 404 program that prohibits the discharge of dredged or fill material into regulated waters without a permit. In addition, the public, including non-governmental organizations and individuals, has certain statutory rights to comment upon and otherwise impact the permitting process, including through court intervention. The slow pace with which the government issues permits needed for new operations and/or for on-going operations to continue mining continues to have significant negative effects and could materially and adversely affect our business.

Our mines are subject to stringent federal and state safety regulations that increase our cost of doing business at active operations and may place restrictions on our methods of operation. In addition, government inspectors, under certain circumstances, have the ability to order our operations to be shutdown based on safety considerations.

The Federal Coal Mine Safety and Health Act and Mine Improvement and New Emergency Response Act impose stringent health and safety standards on mining operations. Regulations that have been adopted are comprehensive and affect numerous aspects of mining operations, including training of mine personnel, mining procedures, the equipment used in mine emergency procedures and other matters. States in which we operate have programs for mine safety and health regulation and enforcement. The various requirements mandated by law or regulation can place restrictions on our methods of operations, and potentially lead to penalties for the violation of such requirements, creating a significant effect on operating costs and productivity. In addition, government inspectors, under certain circumstances, have the ability to order our operation to be shutdown based on safety considerations. If an incident were to occur at one of our coal mines, it could be shut down for an extended period of time and our reputation with our customers could be materially damaged.

Our operations may impact the environment or cause exposure to hazardous substances, and our properties may have environmental contamination, which could result in liabilities to us.

Our operations currently use hazardous materials and generate limited quantities of hazardous wastes from time to time. Drainage flowing from or caused by mining activities can be acidic with elevated levels of dissolved metals, a condition referred to as "acid mine drainage." We could become subject to claims for toxic torts, natural resource damages and other damages, as well as for the investigation and clean-up of soil, surface water, groundwater and other media. Such claims may arise, for example, out of conditions at sites that we currently own or operate, as well as at sites that we previously owned or operated, or may acquire. Our liability for such claims may be joint and several, so that we may be held responsible for more than our share of the contamination or other damages, or for the entire share.

We maintain coal refuse areas and slurry impoundments at the Pennsylvania Mining Complex. Such areas and impoundments are subject to extensive regulation. Structural failure of a slurry impoundment or coal refuse area could result in extensive damage to the environment and natural resources, such as bodies of water that the coal slurry reaches, as well as liability for related personal injuries and property damages, and injuries to wildlife. Some of our impoundments overlie mined out areas, which can pose a heightened risk of failure and of damages arising out of failure. If one of our impoundments were to fail, we could be subject to claims for the resulting environmental contamination and associated liability, as well as for fines and penalties. Our coal refuse areas and slurry impoundments are designed, constructed, and inspected by our company and by regulatory authorities according to stringent environmental and safety standards.

These and other similar unforeseen impacts that our operations may have on the environment, as well as exposures to hazardous substances or wastes associated with our operations, could result in costs and liabilities that could adversely affect us.

We have asset retirement obligations. If the assumptions underlying our accruals are inaccurate, we could be required to expend greater amounts than anticipated.

The Surface Mining Control and Reclamation Act (“SMCRA”) and various state laws establish operational, reclamation and closure standards for all our coal mining operations and require us, under certain circumstances, to plug natural gas wells. We accrue for the costs of current mine disturbance, gas well plugging and of final mine closure, including the cost of treating mine water discharge where necessary. Estimates of our total asset retirement obligations, which are based upon permit requirements and our experience, were approximately \$272 million at December 31, 2019. The amounts recorded are dependent upon a number of variables, including the estimated future expenditures, estimated mine lives, assumptions involving profit margins, inflation rates, and the assumed credit-adjusted risk-free interest rates. If these accruals are insufficient, our future operating results could be adversely affected.

Under SMCRA, we are required to obtain surety bonds or other acceptable security to secure payment of our asset retirement obligations. In most states where we have operating and/or non-operating mines, including Pennsylvania, we are required to post bonds for the full cost of coal mine reclamation. Other states, such as West Virginia, maintain an alternative bond system for coal mine reclamation which consists of (i) individual site bonds posted by the permittee that are less than the full estimated reclamation cost plus (ii) a bond pool (“Special Reclamation Fund”) funded by a per ton fee on coal mined in the State which is used to supplement the site specific bonds if needed in the event of bond forfeiture. If these states were to move to full cost bonding in the future, individual mining companies and/or surety companies could exceed bonding capacity, resulting in the need to post cash bonds or letters of credit, which reduces operating capital.

To date, we have been able to post surety bonds to secure our reclamation obligations. However, the costs of surety bonds have fluctuated in recent years and the market terms of such bonds have generally become more unfavorable to mine operators. These changes in the terms of the bonds have been accompanied at times by a decrease in the number of companies willing to issue surety bonds. In addition, federal and state regulators are considering making financial assurance requirements with respect to mine closure and reclamation more stringent. If our creditworthiness declines, states may seek to require us to post letters of credit or cash collateral to secure those obligations, or we may be unable to obtain surety bonds, in which case we would be required to post letters of credit. Additionally, the sureties that post bonds on our behalf may require us to post security in order to secure the obligations underlying these bonds. Posting letters of credit in place of surety bonds or posting security to support these surety bonds would have an adverse effect on our liquidity. Furthermore, because we are required by state and federal law to have these bonds in place before mining can commence or continue, our failure to maintain surety bonds, letters of credit or other guarantees or security arrangements would materially and adversely affect our ability to mine coal. That failure could result from a variety of factors, including lack of availability, higher expense or unfavorable market terms, the exercise by third-party surety bond issuers of their right to refuse to renew the surety, and restrictions on availability of collateral for current and future third-party surety bond issuers under the terms of our financing arrangements.

We face uncertainties in estimating our economically recoverable coal reserves, and inaccuracies in our estimates could result in lower than expected revenues, higher than expected costs and decreased profitability.

Coal reserves are economically recoverable when the price at which they are expected to be sold exceeds their expected cost of production and selling. Forecasts of our future performance are based on, among other things, estimates of our recoverable coal reserves. We base our coal reserve information on geologic data, coal ownership information and current and proposed mine plans. These estimates are periodically updated to reflect past coal production, new drilling information and other geologic or mining data. There are numerous uncertainties inherent in estimating quantities and qualities of economically recoverable coal reserves, including many factors beyond our control. As a result, estimates of economically recoverable coal reserves are by their nature uncertain. Information about our reserves consists of estimates based on engineering, economic and geological data assembled and analyzed by our staff. Some of the factors and assumptions which impact economically recoverable coal reserve estimates include:

- geologic and mining conditions;
- historical production from the area compared with production from other producing areas;
- the assumed effects of regulations and taxes by governmental agencies;
- our ability to obtain, maintain and renew all required permits;
- future improvements in mining technology;
- assumptions governing future prices; and
- future operating costs, including the cost of materials and capital expenditures.

In addition, we hold substantial coal reserves in areas containing Marcellus Shale and other shales. These areas are currently the subject of substantial exploration for oil and natural gas, particularly by horizontal drilling. If a natural gas well is in the path of our mining for coal, we may not be able to mine through the well unless we purchase it. Although in the past we have purchased vertical wells, the cost of purchasing a producing horizontal well could be substantially greater. Horizontal wells with multiple laterals extending from the well pad may access larger natural gas reserves than a vertical well which could result in higher costs. In future years, the cost associated with purchasing natural gas wells which are in the path of our coal mining may make mining through those wells uneconomical, thereby effectively causing a loss of significant portions of our coal reserves.

Each of the factors which impacts reserve estimation may vary considerably from the assumptions used in estimating the reserves. For these reasons, estimates of coal reserves may vary substantially. Actual production, revenues and expenditures with respect to our coal reserves will likely vary from estimates, and these variances may be material. As a result, our estimates may not accurately reflect our actual coal reserves. Additionally, our estimates of coal reserves may be adversely affected in future fiscal periods by the SEC's recent rule amendments revising property disclosure requirements for publicly-traded mining companies. We will be required to comply with these new rules in 2021.

Defects may exist in our chain of title for our undeveloped coal reserves where we have not done a thorough chain of title examination of our undeveloped coal reserves. We may incur additional costs and delays to mine coal because we have to acquire additional property rights to perfect our title to coal rights. If we fail to acquire additional property rights to perfect our title to coal rights, we may have to reduce our estimated reserves.

Title to most of our owned or leased properties and mineral rights is not usually verified until we make a commitment to mine a property, which may not occur until after we have obtained necessary permits and completed exploration of the property. In some cases, we rely on title information or representations and warranties provided by our lessors or grantors. Our right to mine certain of our reserves has in the past been, and may again in the future be, adversely affected if defects in title, boundaries or other rights necessary for mining exist or if a lease expires. Any challenge to our title or leasehold interests could delay the mining of the property and could ultimately result in the loss of some or all of our interest in the property. From time to time, we also may be in default with respect to leases for properties on which we have mining operations. In such events, we may have to close down or significantly alter the sequence of such mining operations which may adversely affect our future coal production and future revenues. If we mine on property that we do not own or lease, we could incur liability for such mining and be subject to regulatory sanction and penalties.

In order to obtain, maintain or renew leases or mining contracts to conduct our mining operations on property where these defects exist, we may in the future have to incur unanticipated costs. In addition, we may not be able to successfully negotiate new leases or mining contracts for properties containing additional reserves, or maintain our leasehold interests in properties where we have not commenced mining operations during the term of the lease. As a result, our results of operations, business and financial condition may be materially adversely affected.

We have obligations for long-term employee benefits for which we accrue based upon assumptions which, if inaccurate, could result in our being required to expense greater amounts than anticipated.

We provide various long-term employee benefits to inactive and retired employees. We accrue amounts for these obligations. At December 31, 2019, the current and non-current portions of these obligations included:

- postretirement medical and life insurance (\$464 million);
- coal workers' pneumoconiosis benefits (\$214 million);
- pension benefits (\$52 million);
- workers' compensation (\$71 million); and
- long-term disability (\$13 million)

However, if our assumptions are inaccurate, we could be required to expend greater amounts than anticipated. Salary retirement benefits are funded in accordance with Employer Retirement Income Security Act of 1974 (“ERISA”) regulations. The other obligations are unfunded. In addition, the federal government and several states in which we operate consider changes in workers’ compensation and black lung laws from time to time. Such changes, if enacted, could increase our benefit expense and our collateral requirements. Additionally, former miners and their family members asserting claims for pneumoconiosis benefits have generally been more successful asserting such claims in recent years as a result of the presumption within the PPACA of 2010 that a coal miner with 15 or more years of underground coal mining experience (or the equivalent) who develops a respiratory condition and meets the requirements for total disability under the Federal Act is presumed to be disabled due to coal dust exposure, thereby shifting the burden of proof from the employee to the employer/insurer to establish that this disability is not due to coal dust. The increasing success rate of such claims based upon the PPACA changed presumption and, as a result, the increasing expense incurred by us to insure against such claims could increase our expenses for long-term employee benefit obligations.

The provisions of our debt agreements and the risks associated with our debt could adversely affect our business, financial condition, liquidity and results of operations.

As of December 31, 2019, our total long-term indebtedness was approximately \$725 million, of which approximately \$222 million was under our 11.00% senior secured notes due November 2025, \$103 million was under our Maryland Economic Development Corporation Port Facilities Refunding Revenue Bonds (“MEDCO”) 5.75% revenue bonds due September 2025, \$89 million was under our Term Loan A Facility, \$272 million was under our Term Loan B Facility, \$27 million was associated with finance leases due through 2024, and \$12 million was miscellaneous debt. At December 31, 2019, no borrowings were outstanding under our \$400 million revolving credit facility or our \$100 million accounts receivable securitization facility. The degree to which we are leveraged could have important consequences, including, but not limited to:

- increasing our vulnerability to general adverse economic and industry conditions;
- requiring us to dedicate a substantial portion of our cash flow from operations to the payment of interest and principal due under our outstanding debt, which will limit our ability to obtain additional financing to fund future working capital, capital expenditures, share buy-back programs, acquisitions, pay dividends, development of our coal reserves or other general corporate requirements;
- limiting our flexibility in planning for, or reacting to, changes in our business and in the coal industry;
- placing us at a competitive disadvantage compared to our competitors with lower leverage and better access to capital resources; and
- limiting our ability to implement our business strategy.

Our senior secured credit agreement and the indenture governing our 11.00% senior secured notes limit the incurrence of additional indebtedness unless specified tests or exceptions are met. In addition, our senior secured credit agreement and the indenture governing our 11.00% senior secured notes subject us to financial and/or other restrictive covenants. Under our senior secured credit agreement, we must comply with certain financial covenants on a quarterly basis including a minimum fixed charge coverage ratio, as defined therein. Our senior secured credit agreement and the indenture governing our 11.00% senior secured notes impose a number of restrictions upon us, such as restrictions on granting liens on our assets, making investments, paying dividends, stock repurchases, selling assets and engaging in acquisitions. Failure by us to comply with these covenants could result in an event of default that, if not cured or waived, could have a material adverse effect on us.

If our cash flows and capital resources are insufficient to fund our debt service obligations, we may be forced to sell assets, seek additional capital or seek to restructure or refinance our indebtedness. These alternative measures may not be successful and may not permit us to meet our scheduled debt service obligations. In the absence of such operating results and resources, we could face substantial liquidity problems and might be required to sell material assets or operations to attempt to meet our debt service and other obligations. Our senior secured credit agreement and the indenture governing our 11.00% senior secured notes restrict our ability to sell assets and use the proceeds from the sales. We may not be able to consummate those sales or to obtain the proceeds which we could realize from them and these proceeds may not be adequate to meet any debt service obligations then due.

Increases in interest rates or changes in the underlying base rate could adversely affect our business.

We have exposure to increases in interest rates. Based on our current variable debt level of \$361 million as of December 31, 2019, primarily comprised of funds drawn on our Term Loan A and Term Loan B Facilities, an increase of one percentage point in the interest rate will result in an increase in annual interest expense of \$4 million. As a result, our results of operations, cash flows and financial condition could be materially adversely affected by significant increases in interest rates. In addition, our Term Loan A, Term Loan B, revolving credit and securitization facilities, as well as other short-term financing arrangements, utilize LIBOR as a basis for calculating interest. Those facilities allow for an alternative base rate in calculating interest. In the event that LIBOR would no longer be a published rate index, the allowable alternative base rate may increase our interest costs associated with those facilities.

Hedging transactions may limit our potential gains or cause us to lose money.

We enter into hedging arrangements in an effort to limit our exposure to interest rate volatility. These hedging arrangements may reduce, but will not eliminate, the potential effects of changing interest rates on our cash flow from operations for the periods covered by these arrangements. Furthermore, while intended to help reduce the effects of volatile interest rates, such transactions, depending on the hedging instrument used, may limit our potential gains if interest rates were to fall substantially over the price established by the hedge. In addition, these arrangements expose us to risks of financial loss in a variety of circumstances, including when:

- a counterparty is unable to satisfy its obligations; or
- there is an adverse change in the expected differential between the underlying interest rate in the derivative instrument and actual interest rates.

However, it is not always possible for us to engage in a derivative transaction that completely mitigates our exposure to interest rates. Furthermore, our price hedging strategy and future hedging transactions will be determined at the discretion of management. Our financial statements may reflect a gain or loss arising from an exposure to interest rates for which we are unable to enter into a completely effective hedge transaction.

Currently, our hedging arrangements partially mitigate our exposure to fluctuations in LIBOR interest rates through December 2022. In the event that LIBOR would no longer be a published rate index, we would have to modify, settle, or exchange the existing hedging arrangements. This could result in a loss of money and could adversely affect our results of operations, business and financial condition.

We have entered into an affiliated company credit agreement with CONSOL Coal Resources LP and we may need to secure additional financing for our own operations.

We have entered into an affiliated company credit agreement with CONSOL Coal Resources LP (the “Affiliated Company Credit Agreement”) pursuant to which we, as lender, will provide for CCR a revolving credit facility in an aggregate principal amount of up to \$275 million. In funding the Affiliated Company Credit Agreement, we have less cash flow available to support our operations and other activities. If we are unable to generate sufficient cash flows in the future to support our operations and service our debt as a result of funding the Affiliated Company Credit Agreement, we may be required to refinance all or a portion of our existing debt or to obtain additional financing. There can be no assurance that any refinancing will be possible or that any additional financing could be obtained on acceptable terms. The inability to service or refinance our existing debt or to obtain additional financing would have a material adverse effect on our financial position, liquidity and results of operations. Furthermore, because we finance CCR’s operations through the Affiliated Company Credit Agreement and because that credit agreement contains covenants that may prevent CCR from acquiring additional indebtedness, CCR may be unable to finance the acquisition of any assets we wish to drop down to it which could materially impact our financial condition and cash flows.

A failure by certain third parties to perform liabilities acquired by such third parties from our former parent could require us to indemnify it for those liabilities.

Prior to the separation, our former parent entered into arrangements with one or more third parties pursuant to which such third parties acquired certain of its liabilities in connection with the sale of certain assets to such third parties. Such liabilities include certain postemployment benefits and payment obligations, performance guarantees, and obligations under certain equipment leases and subleases. Such third parties are primarily liable for these obligations; however, our former parent agreed to be secondarily liable for these obligations. As part of the separation, we agreed to indemnify our former parent for these obligations. If such third parties fail to satisfy such assumed liabilities, we could be forced to indemnify our former parent for such liabilities, and such indemnification obligations could be substantial.

Terrorist attacks or cyber incidents could result in information theft, data corruption, operational disruption and/or financial loss.

We have become increasingly dependent upon digital technologies, including information systems, infrastructure and cloud applications and services, to operate our businesses, to process and record financial and operating data, communicate with our employees and business partners, estimate quantities of coal reserves, as well as other activities related to our businesses. Strategic targets, such as energy-related assets, may be at greater risk of future terrorist or cyber attacks than other targets in the United States. Deliberate attacks on our assets, or security breaches in our systems or infrastructure, or cloud-based applications could lead to corruption or loss of our proprietary data and potentially sensitive data, delays in production or delivery, difficulty in completing and settling transactions, challenges in maintaining our books and records, environmental damage, communication interruptions, other operational disruptions and third-party liability. Similarly, our vendors or service providers could be the subject of such attacks or breaches that result in the risks of corruption or loss of our proprietary and sensitive data and/or the other disruptions as described above. In addition to the existing risks, the adoption of new technologies may also increase our exposure to data breaches or our ability to detect and remediate effects of a breach. Our insurance may not protect us against such occurrences. Consequently, it is possible that any of these occurrences, or a combination of them, could have a material adverse effect on our business, financial condition, results of operations and cash flows. Further, as cyber incidents continue to evolve, we may be required to expend additional resources to continue to modify or enhance our protective measures or to investigate and remediate any vulnerability to cyber incidents.

Certain provisions in our multi-year coal sales contracts may provide limited protection during adverse economic conditions, may result in economic penalties to us or permit the customer to terminate the contract.

Price adjustment, “price reopener” and other similar provisions in our multi-year coal sales contracts may reduce the protection from coal price volatility traditionally provided by coal supply contracts. Price reopener provisions are present in several of our multi-year coal sales contracts. These price reopener provisions may automatically set a new price based on prevailing market price or, in some instances, require the parties to agree on a new price, sometimes within a specified range of prices. In a limited number of agreements, failure of the parties to agree on a price under a price reopener provision can lead to termination of the contract. Any adjustment or renegotiations leading to a significantly lower contract price could adversely affect our profitability. Most of our coal sales agreements contain provisions requiring us to deliver coal within certain ranges for specific coal quality characteristics such as heat content, sulfur, ash, moisture, volatile matter, grindability, ash fusion temperature and size consistency. Failure to meet these conditions could result in penalties or rejection of the coal at the election of the customer. Our coal sales contracts also typically contain force majeure provisions allowing for the suspension of performance by either party for the duration of specified events. Force majeure events include, but are not limited to, floods, earthquakes, storms, fire, faults in the coal seam or other geologic conditions, other natural catastrophes, wars, terrorist acts, civil disturbances or disobedience, strikes, railroad transportation delays caused by a force majeure event and actions or restraints by court order and governmental authority or arbitration award. Depending on the language of the contract, some contracts may terminate upon continuance of an event of force majeure that extends for a period greater than three to twelve months and some contracts may obligate us to perform notwithstanding what would typically be a force majeure event.

Our ability to operate our business effectively could be impaired if we fail to attract and retain qualified personnel, or if a meaningful segment of our employees become unionized.

Our ability to operate our business and implement our strategies depends, in part, on our continued ability to attract and retain the qualified personnel necessary to conduct our business. Efficient coal mining using modern techniques and equipment requires skilled employees in multiple disciplines such as electricians, equipment operators, mechanics, engineers and welders, among others. Although we have not historically encountered shortages for these types of skilled employees, competition in the future may increase for such positions, especially as it relates to needs of other industries with respect to these positions, including oil and gas. If we experience shortages of skilled employees in the future, our labor and overall productivity or costs could be materially adversely affected. In the future, we may utilize a greater number of external contractors for portions of our operations. The costs of these contractors have historically been higher than that of our employees. If our labor and contractor prices increase, or if we experience materially increased health and benefit costs with respect to our employees, our results of operations could be materially adversely affected.

Except for 37 of our employees at the CONSOL Marine Terminal who unionized in 2018, none of our employees are currently represented by a labor union or covered under a collective bargaining agreement, although many employers in our industry have employees who belong to a union. It is possible that our employees who conduct mining operations at the Pennsylvania Mining Complex may join or seek recognition to form a labor union, or we may be required to become a labor agreement signatory. If some or all of our current non-union operations were to become unionized, we could incur an increased risk of work stoppages, reduced productivity and higher labor costs. Also, if we fail to maintain good relations with our employees at the CONSOL Marine Terminal, we could potentially experience labor disputes, work stoppages or other disruptions in the business of the CONSOL Marine Terminal, which could negatively impact the profitability of the CONSOL Marine Terminal.

We may not receive distributions from CONSOL Coal Resources LP.

In August 2019, all CCR subordinated units we held were converted to CCR common units. As a result, as of December 31, 2019, we held approximately 16.8 million common units (representing, collectively, a 59.8% limited partnership interest) in CCR. The balance of our economic interest in CCR is in the form of incentive distribution rights, which represent a right to receive increasing percentages of quarterly distributions in excess of specified amounts. Since CCR's initial public offering, CCR made minimum distributions per subordinated unit equal to the distribution per common unit for all quarters during which such subordinated units were outstanding as of the end of such quarter except for the fiscal quarter ended June 30, 2016, during which CCR did not meet the requirement for a subordinated unit distribution. We cannot assure you that CCR will continue to be able to make or will make the required minimum quarterly distribution on its common units.

If we do not maintain effective internal controls over financial reporting, we could fail to accurately report our financial results.

During the course of the preparation of our financial statements, we evaluate our internal controls to identify and correct deficiencies in our internal controls over financial reporting. If we fail to maintain an effective system of disclosure controls or internal control over financial reporting, including satisfaction of the requirements of the Sarbanes-Oxley Act, we may not be able to accurately or timely report on our financial results or adequately identify and reduce fraud. As a result, the financial condition of our business could be adversely affected, current and potential future stockholders could lose confidence in us and/or our reported financial results, which may cause a negative effect on the trading price of our common stock, and we could be exposed to litigation or regulatory proceedings, which may be costly or divert management attention.

Risks Related to the Separation

There are certain risks related to our separation from our former parent that, if realized, could materially impact our financial conditions, results of operations and cash flows.

Although we separated from our former parent more than two years ago, there are certain risks related to the separation that could materially impact our financial condition, results of operations and cash flows. These risks include:

- The terms of some of the agreements we entered into in connection with the separation were negotiated by our former parent and, thus, may be less favorable to us than the terms we could have obtained from an unaffiliated third party;
- Under the separation and distribution agreement, we could be required to indemnify our former parent for liabilities relating to our business, whether occurring prior to or after the separation and certain other amounts, including defense costs, settlement amounts and judgments;
- Some contracts and other assets which were transferred or assigned from our former parent or its affiliates to us in connection with the separation and distribution may still require the consent or involvement of a third party. If such consent is not given, we may not be entitled to the benefit of such contracts and other assets in the future, which could negatively impact our financial condition, results of operations and cash flows;
- Our former parent may fail to indemnify us against certain liabilities related to its business as required by the separation and distribution agreement, or any such indemnity provided by our former parent may be insufficient to make us whole against any third party claims brought against us in connection with such liabilities; and
- If the Company files for bankruptcy or is deemed insolvent under federal bankruptcy laws, a court could deem the separation and distribution and related internal reorganization transactions a fraudulent conveyance, which could lead to the court imposing substantial liabilities on the Company or voiding the transactions altogether.

If the distribution, together with certain related transactions, does not continue to qualify as a transaction that is generally tax-free for U.S. federal income tax purposes, our former parent, the Company and the Company's stockholders could be subject to significant tax liabilities and, in certain circumstances, the Company could be required to indemnify our former parent for material taxes and other related amounts pursuant to indemnification obligations under the tax matters agreement.

It was a condition to the distribution that our former parent receive a private letter ruling from the IRS, which was received on October 16, 2017, and one or more opinions of its tax advisors, in each case satisfactory to the Board of Directors of our former parent, regarding certain U.S. federal income tax matters relating to the separation and the distribution, including the opinion of Wachtell, Lipton, Rosen & Katz that the separation and distribution will be a transaction described in Section 355(a) of the Internal Revenue Code of 1986, as amended (the "Code"). The IRS private letter ruling and the opinion(s) of tax advisors were based upon and rely on, among other things, various facts and assumptions, as well as certain representations, statements and undertakings of our former parent and the Company, including those relating to the past and future conduct of our former parent and the Company. If any of these representations, statements or undertakings is, or becomes, inaccurate or incomplete, or if our former parent or the Company breaches any of its representations or covenants contained in any of the separation-related agreements and documents or in any documents relating to the IRS private letter ruling and/or the opinion(s) of tax advisors, the IRS private letter ruling and/or opinion(s) of tax advisors may be invalid and the conclusions reached therein could be jeopardized.

Notwithstanding receipt of the IRS private letter ruling and the opinion(s) of tax advisors, the IRS could determine that the distribution and/or certain related transactions should be treated as taxable transactions for U.S. federal income tax purposes if it determines that any of the representations, assumptions or undertakings upon which the IRS private letter ruling or the opinion(s) of tax advisors were based are false or have been violated. In addition, neither the IRS private letter ruling nor the opinion(s) of tax advisors addressed all of the issues that are relevant to determining whether the distribution, together with certain related transactions, qualifies as a transaction that is generally tax-free for U.S. federal income tax purposes, and the opinion(s) of tax advisors represent the judgment of such tax advisors and are not binding on the IRS or any court, and the IRS or a court may disagree with the conclusions in the opinion(s) of tax advisors. Accordingly, notwithstanding receipt by our former parent of the IRS private letter ruling and the opinion(s) of tax advisors, there can be no assurance that the IRS will not assert that the distribution and/or certain related transactions do not qualify for tax-free treatment for U.S. federal income tax purposes or that a court would not sustain such a challenge. In the event the IRS were to prevail with such challenge, our former parent, the Company and the Company's stockholders could be subject to significant U.S. federal income tax liability.

If the distribution, together with related transactions, fails to qualify as a transaction that is generally tax-free for U.S. federal income tax purposes, under Section 355 of the Code, in general, for U.S. federal income tax purposes, our former parent would recognize taxable gain as if it had sold the Company's common stock in a taxable sale for its fair market value, unless our former parent and the Company jointly make an election under Section 336(e) of the Code with respect to the distribution, in which case, in general, (i) our former parent would recognize taxable gain as if the Company had sold all of its assets in a taxable sale in exchange for an amount equal to the fair market value of the Company's common stock and the assumption of all the Company's liabilities and (ii) the Company would obtain a related step up in the basis of its assets and, if the distribution fails to qualify as a transaction that is generally tax-free for U.S. federal income tax purposes under Section 355 of the Code, in general, for U.S. federal income tax purposes, our former parent's stockholders who received Company shares in the distribution would be subject to tax as if they had received a taxable distribution equal to the fair market value of such shares.

Even if the distribution, together with certain related transactions, qualifies as a tax-free transaction for U.S. federal income tax purposes, taxable gain to our former parent under Section 355(e) of the Code may result if the distribution was later deemed to be part of a plan (or series of related transactions) pursuant to which one or more persons acquire, directly or indirectly, shares representing a 50% or greater interest (by vote or value) in the Company. As a result, for a two-year period following the separation, we were restricted, except in specific circumstances, from (i) entering into any transaction pursuant to which all or a portion of the shares of the Company's common stock would be acquired, whether by merger or otherwise; (ii) issuing equity securities beyond certain thresholds; (iii) repurchasing shares of the Company's capital stock other than in certain open-market transactions; and (iv) ceasing to actively conduct certain of our businesses.

Under the tax matters agreement that we entered into with our former parent, we may be required to indemnify our former parent against any additional taxes and related amounts that arise as a result of (i) an acquisition of all or a portion of the equity securities or assets of the Company, whether by merger or otherwise (and regardless of whether the Company participated in or otherwise facilitated the acquisition), (ii) our taking or failing to take, as the case may be, certain actions that would prevent the distribution, together with certain related transactions, from qualifying as a transaction that is generally tax-free for U.S. federal income tax purposes under Section 355 of the Code, or (iii) any of the Company's representations, covenants or undertakings contained in any of the separation-related agreements and documents or in any documents relating to the IRS private letter ruling and/or the opinion(s) of tax advisors being incorrect or violated. Any such indemnity obligations could be material.

Risks Related to Our Common Stock and the Securities Market

Our stock price may fluctuate significantly.

The market price of our common stock may fluctuate significantly due to a number of factors, some of which may be beyond our control, including:

- our quarterly or annual earnings, or those of other companies in our industry;
- actual or anticipated fluctuations in our operating results;
- changes in earnings estimates by securities analysts or our ability to meet those estimates or our earnings guidance;
- the operating and stock price performance of other comparable companies;
- overall market fluctuations and domestic and worldwide economic conditions;
- other factors described in these “Risk Factors” and elsewhere in this Annual Report on Form 10-K.

Stock markets in general have experienced volatility that has often been unrelated to the operating performance of a particular company. These broad market fluctuations may adversely affect the trading price of our common stock. As a result of these factors, holders of our common stock may not be able to resell their shares at or above the initial market price or may not be able to resell them at all. In addition, price volatility with our common stock may be greater if trading volume is low.

Furthermore, shares of our common stock are freely tradeable without restriction or further registration under the U.S. Securities Act of 1933, as amended (the “Securities Act”), unless the shares are owned by one of our “affiliates,” as that term is defined in Rule 405 under the Securities Act. As a result, a sale of a substantial amount of our common stock, or the perception that such a sale may take place, could cause our stock price to decline.

If securities analysts do not publish research or reports about our Company, or issue unfavorable commentary about us or downgrade our shares, the price of our shares could decline.

The trading market for our shares depends in part on the research and reports that third-party securities analysts publish about our Company and our industry. Because our ordinary shares were initially distributed to the public through the separation and distribution, there was not a marketing effort relating to the initial distribution of our shares of the type that would typically be part of an initial public offering of shares. We may be unable or slow to attract research coverage and if one or more analysts cease coverage of our Company, we could lose visibility in the market. The impact of the revised EU Markets in Financial Instruments Directive (“MiFID”), which requires that investment managers and investment advisors located in the EU “unbundle” research costs from commissions, may result in fewer securities analysts covering our Company. This is because investment firms subject to MiFID are no longer permitted to pay for research using client commissions or “soft dollars” and instead must pay such costs directly or through a research payment account funded by clients and governed by a budget that is agreed by the client, thereby raising their costs of providing research coverage. In addition, one or more analysts providing research coverage of our Company could use estimation or valuation methods that we do not agree with, downgrade our shares or issue other negative commentary about our company or our industry. As a result of one or more of these factors, the trading price of our shares could decline.

We cannot guarantee the timing, amount, or payment of dividends on our common stock in the future.

The payment and amount of any future dividend will be subject to the sole discretion of our board of directors and will depend upon many factors, including our financial condition and prospects, our capital requirements and access to capital markets, covenants associated with certain of our debt obligations, legal requirements and other factors that our board of directors may deem relevant, and there can be no assurance that we will pay a dividend in the future.

Your percentage of ownership in us may be diluted in the future.

Your percentage of ownership in us may be diluted because of equity issuances for acquisitions, capital market transactions or otherwise, including, without limitation, equity awards that we may be granting to our directors, officers and employees. Such issuances may have a dilutive effect on our earnings per share, which could adversely affect the market price of our common stock.

It is anticipated that the compensation committee of the board of directors of the Company will grant additional equity awards to Company employees and directors, from time to time, under the Company’s compensation and employee benefit plans. These additional awards will have a dilutive effect on the Company’s earnings per share, which could adversely affect the market price of the Company’s common stock.

In addition, our amended and restated certificate of incorporation authorizes us to issue, without the approval of our stockholders, one or more classes or series of preferred stock having such designation, powers, preferences and relative, participating, optional and other special rights, including preferences over our common stock with respect to dividends and distributions, as our board of directors generally may determine. The terms of one or more classes or series of preferred stock could dilute the voting power or reduce the value of our common stock. For example, we could grant the holders of preferred stock the right to elect some number of our directors in all events or on the happening of specified events or to veto specified transactions. Similarly, the repurchase or redemption rights or liquidation preferences we could assign to holders of preferred stock could affect the residual value of our common stock.

There can be no assurance that we will continue to repurchase shares of our common stock or outstanding debt securities.

In December 2017, CONSOL Energy's Board of Directors approved a program to repurchase, from time to time, the Company's outstanding shares of common stock or its 11.00% Senior Secured Second Lien Notes due 2025, in an aggregate amount of up to \$50 million through the period ending June 30, 2019. The program was subsequently amended by CONSOL Energy's Board of Directors on three separate occasions, the most recent of which occurred in July 2019. As a result of such amendments, CONSOL may now repurchase up to \$200 million of the Company's common stock or its 11.00% Senior Secured Second Lien Notes due 2025 through the period ending June 30, 2020, and up to \$50 million of the \$200 million can be used to purchase CCR's outstanding common units, in each case subject to certain limitations in the Company's credit agreement and the tax matters agreement. Our share repurchase program does not obligate us to repurchase any specific number of debt securities or common shares and may be suspended from time to time or terminated at any time prior to its expiration. There can be no assurance that we will repurchase shares or debt securities under the repurchase program in the future in any particular amounts or at all. A reduction in, or elimination of, share repurchases could have a negative effect on our share price.

Certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws, and of Delaware law, may prevent or delay an acquisition of us, which could decrease the trading price of our common stock.

The Company's amended and restated certificate of incorporation and amended and restated by-laws and Delaware law contain provisions that are intended to deter coercive takeover practices and inadequate takeover bids by making such practices or bids unacceptably expensive to the bidder and to encourage prospective acquirers to negotiate with the Company's board of directors rather than to attempt a hostile takeover. These provisions include, among others:

- the inability of our stockholders to act by written consent unless such written consent is unanimous;
- the inability of our stockholders to call special meetings;
- rules regarding how stockholders may present proposals or nominate directors for election at stockholder meetings;
- the right of our board of directors to issue preferred stock without stockholder approval;
- the fact that our board of directors will initially be divided into three classes; and
- the ability of our directors, and not stockholders, to fill vacancies (including those resulting from an enlargement of our board of directors) on our board of directors.

In addition, we are subject to Section 203 of the Delaware General Corporation Law ("DGCL"). Section 203 provides that, subject to limited exceptions, persons that (without prior board approval) acquire, or are affiliated with a person that acquires, more than 15% of the outstanding voting stock of a Delaware corporation shall not engage in any business combination with that corporation, including by merger, consolidation or acquisitions of additional shares, for a three-year period following the date on which that person or its affiliate becomes the holder of more than 15% of the corporation's outstanding voting stock.

We believe these provisions will protect our stockholders from coercive or otherwise unfair takeover tactics by requiring potential acquirers to negotiate with our board of directors and by providing our board of directors with more time to assess any acquisition proposal. These provisions are not intended to make us immune from takeovers. However, these provisions could have the effect of delaying, deferring or preventing a change in control or the removal of the existing board of directors and/or management, of deterring potential acquirers from making an offer to our stockholders and of limiting any opportunity to realize premiums over prevailing market prices for our common stock in connection therewith. This could be the case notwithstanding that a majority of our stockholders might benefit from such a change in control or offer.

In addition, an acquisition or further issuance of the Company's stock could trigger the application of Section 355(e) of the Code, causing the distribution to be taxable to our former parent. Under the tax matters agreement, the Company would be required to indemnify our former parent for the resulting tax, and this indemnity obligation might discourage, delay or prevent a change of control that could be considered favorable.

Our certificate of incorporation designates the State Courts of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain an alternative judicial forum for disputes with us or our directors, officers, employees or agents.

Our certificate of incorporation provides that unless we consent in writing to the selection of an alternative forum, a state court sitting in the State of Delaware (or, if no state court located within the State of Delaware has jurisdiction, the federal court for the District of Delaware) will, to the fullest extent permitted by applicable law, be the sole and exclusive forum for:

- any derivative action or proceeding brought on our behalf;
- any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, employees or agents to us or our stockholders;
- any action asserting a claim arising pursuant to any provision of the DGCL, our amended and restated certificate of incorporation or our bylaws;
- any action asserting a claim that is governed by the internal affairs doctrine, in each such case subject to such Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein; or
- any action asserting an internal corporate claim as defined in Section 115 of the DGCL.

Any person or entity purchasing or otherwise holding any interest in shares of our capital stock will be deemed to have notice of, and consented to, the provisions of our certificate of incorporation described in the preceding sentence. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, employees or agents, which may discourage such lawsuits against us and such persons. Alternatively, if a court were to find these provisions of our amended and restated certificate of incorporation inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions.

ITEM 1B. Unresolved Staff Comments

None.

ITEM 2. Properties

See "Detail Coal Operations" in Item 1 of this Annual Report on Form 10-K for a description of our mining properties, incorporated herein by this reference. In addition to our mining properties referenced in the prior sentence, through our CONSOL Marine Terminal located in the Port of Baltimore, we provide coal and export terminal services. Our principal executive offices are located at 1000 CONSOL Energy Drive, Suite 100, Canonsburg, Pennsylvania 15317-6506. See the map under "Our Company" in Item 1 of this Annual Report on Form 10-K for the location of the Company's significant properties.

ITEM 3. Legal Proceedings

Our operations are subject to a variety of risks and disputes normally incidental to our business. As a result, we may, at any given time, be a defendant in various legal proceedings and litigation arising in the ordinary course of business. However, we are not currently subject to any material litigation. Refer to Note 21, "Commitments and Contingent Liabilities," in the Notes to the Audited Consolidated Financial Statements in Item 8 of this Form 10-K, incorporated herein by this reference.

ITEM 4. Mine Safety and Health Administration Safety Data

Information concerning mine safety violations or other regulatory matters required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K is included in Exhibit 95 to this annual report.

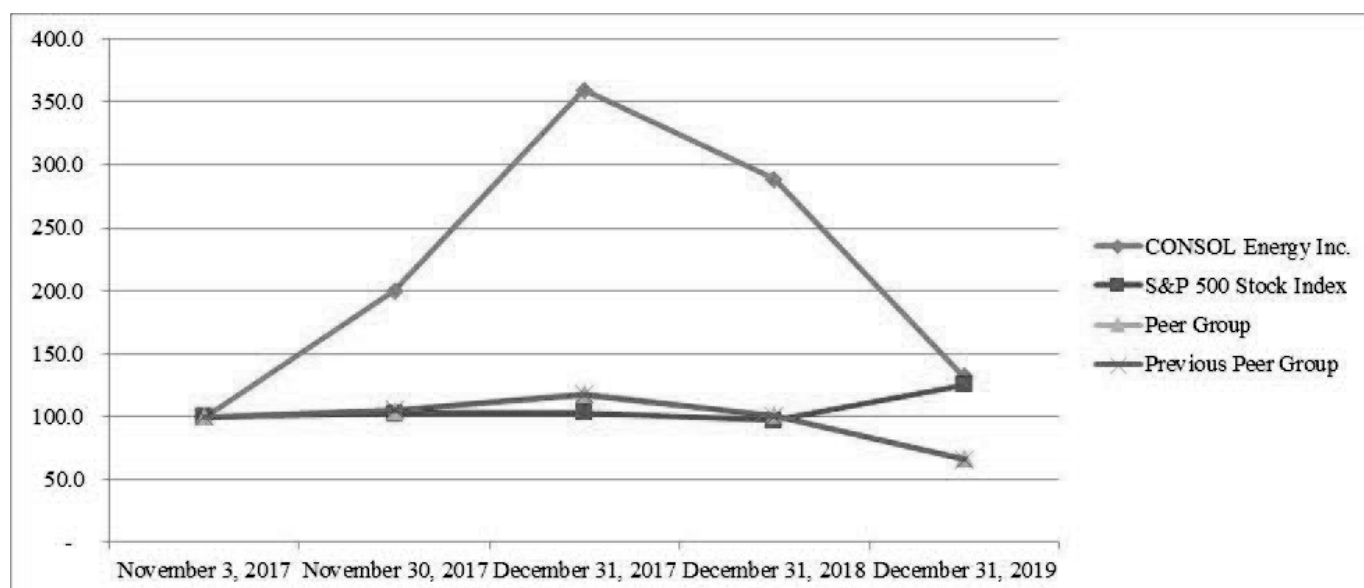
PART II

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

Shares of the Company's common stock are listed on the New York Stock Exchange and trade under the symbol "CEIX". Trading of the Company's common stock began as "when-issued" trading on November 3, 2017 and began as "regular-way" trading on November 29, 2017.

As of January 27, 2020, there were 91 holders of record of our common stock.

The following performance graph compares CONSOL Energy's cumulative total shareholder return to that of the Company's peer group and the Standard & Poor's 500 Stock Index. The previous peer group, for the purposes of the information presented below, is comprised of Alliance Resource Partners LP, Arch Coal Inc., Contura Energy, Inc., Cloud Peak Energy, Inc., Foresight Energy LP, Hallador Energy Company, Peabody Energy Corporation, Warrior Met Coal, Inc. and Westmoreland Coal Company. The current peer group excludes Cloud Peak Energy Inc. and Westmoreland Coal Company, as these companies are in bankruptcy and do not adequately reflect the trends of the peer group, and Ramaco Resources, Inc. was added to provide a comprehensive industry comparison.



The graph above tracks the performance of an initial investment of \$100 in CONSOL Energy's common stock and each member of the peer group and the Standard & Poor's 500 Stock Index, including the reinvestment of any dividends, from November 3, 2017 (beginning of "when-issued" trading) through December 31, 2019.

	November 3, 2017	November 30, 2017	December 31, 2017	December 31, 2018	December 31, 2019
CONSOL Energy Inc.	100.0	200.0	359.2	288.4	132.1
S&P 500 Stock Index	100.0	102.3	103.3	96.9	124.9
Peer Group	100.0	104.8	117.8	100.7	66.7
Previous Peer Group	100.0	105.1	117.2	100.2	66.1

The above information is being furnished pursuant to Regulation S-K, Item 201 (e) (Performance Graph).

Repurchases of Equity Securities

The following table sets forth repurchases of the Company's common stock during the three months ended December 31, 2019:

Period	(a) Total Number of Shares Purchased ⁽¹⁾	(b) Average Price Paid per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	(d) Maximum Number (or Approximate Dollar Value) of Shares that May Yet be Purchased Under the Plans or Programs (000s omitted) ⁽²⁾
October 1, 2019 - October 31, 2019	—	\$ —	—	\$ 60,977 ⁽³⁾
November 1, 2019 - November 30, 2019	—	\$ —	—	\$ 57,897 ⁽³⁾
December 1, 2019 - December 31, 2019	—	\$ —	—	\$ 56,102 ⁽³⁾
Total	—	\$ —	—	—

(1) In December 2017, CONSOL Energy's Board of Directors approved a program to repurchase, from time to time, the Company's outstanding shares of common stock or its 11.00% Senior Secured Second Lien Notes due 2025, in an aggregate amount of up to \$50 million through the period ending June 30, 2019. The program was subsequently amended in July 2018 to allow for the repurchase of up to \$100 million of the Company's outstanding shares of common stock or its 11.00% Senior Secured Second Lien Notes due 2025. The Company's Board of Directors also authorized the Company to use up to \$25 million of the program to purchase CCR's common units in the open market. The program was further amended in May 2019 to allow for the repurchase of up to \$175 million of the Company's outstanding shares of common stock or its 11.00% Senior Secured Second Lien Notes due 2025. The May 2019 expansion also increased the aggregate limit of the amount of CCR's common units that can be purchased under the program to \$50 million, which is consistent with the Company's credit facility covenants that prohibit the Company from using more than \$50 million for the purchase of CCR's outstanding common units. The program's termination date was also extended, from June 30, 2019 to June 30, 2020. In July 2019, CONSOL Energy's Board of Directors approved an expansion of the program in the amount of \$25 million, bringing the aggregate limit of the program to \$200 million. The repurchases will be effected from time to time on the open market or in privately negotiated transactions or under a Rule 10b5-1 plan.

(2) Management cannot estimate the number of shares that will be repurchased because purchases are made based upon the Company's stock price, the Company's financial outlook and alternative investment options.

(3) In October 2019, CONSOL Energy utilized approximately \$11.362 million to repurchase its 11.00% Senior Secured Second Lien Notes due 2025. In November 2019, CONSOL Energy utilized approximately \$3.080 million to repurchase its 11.00% Senior Secured Second Lien Notes due 2025. In December 2019, CONSOL Energy utilized approximately \$1.795 million to repurchase its 11.00% Senior Secured Second Lien Notes due 2025.

Dividends

The declaration and payment of dividends by CONSOL Energy is subject to the discretion of CONSOL Energy's Board of Directors, and no assurance can be given that CONSOL Energy will pay dividends in the future. The determination to pay dividends in the future will depend upon, among other things, general business conditions, CONSOL Energy's financial results, contractual and legal restrictions regarding the payment of dividends by CONSOL Energy, planned investments by CONSOL Energy and such other factors as the Board of Directors deems relevant. The Company's senior secured credit facilities limit CONSOL Energy's ability to pay dividends up to \$25 million annually, which increases to \$50 million annually when the Company's total net leverage ratio is less than 1.50 to 1.00 and subject to an aggregate amount up to a cumulative credit calculation set forth in the facilities. The total net leverage ratio was 1.93 to 1.00 and the cumulative credit was approximately \$35 million at December 31, 2019. The cumulative credit starts with \$50 million and builds with excess cash flow commencing in 2018. The calculation of the total net leverage ratio excludes the Partnership. The credit facilities do not permit dividend payments in the event of default. The indenture to the 11.00% Senior Secured Second Lien Notes limits dividends when the Company's total net leverage ratio exceeds 2.00 to 1.00 and subject to an amount not to exceed an annual rate of 4.0% of the quoted public market value per share of such common stock at the time of the declaration. The indenture does not permit dividend payments in the event of default.

See Part III, Item 12. "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" for information relating to CONSOL Energy's equity compensation plans.

ITEM 6. Selected Financial Data

The following table presents the selected consolidated financial and operating data for, and as of the end of, each of the years ended December 31, 2019, 2018, 2017, 2016 and 2015, which is derived from the Company's audited Consolidated Financial Statements. The Company did not operate as a separate, stand-alone entity for all five of the years listed below. See Note 1, "Significant Accounting Policies," in the Notes to the Audited Consolidated Financial Statements in Item 8 of this Form 10-K for a discussion of the Company's accounting treatment of periods prior to November 28, 2017 when the Company separated from its former parent. The selected consolidated financial and operating data are not necessarily indicative of the results that may be expected for any future period, and should be read in conjunction with Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and accompanying notes included in this Annual Report.

(Dollars in thousands, except per share data)

	For the Years Ended December 31,				
	2019	2018	2017	2016	2015
Statement of Income Information:					
Coal Revenue	\$ 1,288,529	\$ 1,364,292	\$ 1,187,654	\$ 1,065,582	\$ 1,289,036
Terminal Revenue	67,363	64,926	60,066	31,464	30,967
Freight Revenue	19,667	43,572	73,692	46,468	20,499
Miscellaneous Other Income	53,349	58,660	73,279	82,120	68,193
Gain on Sale of Assets	1,995	565	17,212	5,228	13,025
Total Revenue and Other Income	\$ 1,430,903	\$ 1,532,015	\$ 1,411,903	\$ 1,230,862	\$ 1,421,720
Net Income	\$ 93,558	\$ 178,785	\$ 82,569	\$ 50,450	\$ 317,421
Net Income Attributable to CONSOL Energy Inc. Shareholders	\$ 76,001	\$ 152,976	\$ 67,629	\$ 41,496	\$ 307,011
Dilutive Earnings per Share ⁽¹⁾	\$ 2.81	\$ 5.38	\$ 2.40	\$ 1.48	\$ 10.98
Balance Sheet Data (at period end):					
Total Assets	\$ 2,693,802	\$ 2,760,727	\$ 2,707,099	\$ 2,687,434	\$ 2,867,733
Total Long-Term Debt	\$ 662,838	\$ 734,226	\$ 865,289	\$ 313,639	\$ 286,526
Cash Dividends Declared per Share of Common Stock	N/A	N/A	N/A	N/A	N/A

(1) Prior to 2017, the earnings per share was calculated based on the 27,967,509 shares of CONSOL Energy common stock distributed in conjunction with the completion of the separation and distribution, and is considered pro forma in nature. Prior to November 28, 2017, CONSOL Energy did not have any issued or outstanding common stock.

OTHER OPERATING DATA**(unaudited)**

	Years Ended December 31,				
	2019	2018	2017	2016	2015
Coal:					
Tons sold (in thousands)	27,314	27,682	26,091	24,604	22,873
Tons produced (in thousands)	27,285	27,592	26,109	24,666	22,790
Average sales price of tons produced (\$ per ton produced)	\$ 47.17	\$ 49.28	\$ 45.52	\$ 43.31	\$ 56.36
Average cost of goods sold (\$ per ton produced)	\$ 37.37	\$ 35.46	\$ 35.03	\$ 34.35	\$ 41.78
Recoverable coal reserves at end of period (tons in millions)	2,226	2,261	2,298	2,361	3,047
Number of active mining complexes (at end of period)	1	1	1	1	1

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

2019 Highlights:

- Net income of \$94 million
- Net payments, including premiums, on total debt of \$183.9 million during the year
- Repurchased 1,717,497 CONSOL Energy common shares outstanding at an average price of \$19.06 per share
- Coal sales volume of 27.3 million tons is the second strongest year ever for the PAMC.
- The Harvey mine set an individual production record of 5.0 million tons, exceeding its previous record set in 2018 and marking its third consecutive record-setting year.
- The CONSOL Marine Terminal achieved record annual revenue of \$67.4 million, marking its third consecutive record-setting year.

Outlook for 2020 and 2021

- We expect that the PAMC will produce approximately 24.5 million to 26.5 million tons in 2020.
- We will continue to focus on sales in domestic and international markets. These markets provide us with pricing upside when markets are strong and with volume stability when markets are weak. For 2020 and 2021, our contracted position, as of February 11, 2020, is at 95% and 43%, respectively, assuming an annual coal sales volume at the midpoint of our guidance range. We believe our committed and contracted position is well-balanced and provides diversification benefits.
- We are planning to make capital expenditures during 2020 in the range of \$125 million to \$145 million.

How We Evaluate Our Operations

Our management team uses a variety of financial and operating metrics to analyze our performance. These metrics are significant factors in assessing our operating results and profitability. The metrics include: (i) coal production, sales volumes and average revenue per ton; (ii) cost of coal sold, a non-GAAP financial measure; (iii) cash cost of coal sold, a non-GAAP financial measure; and (iv) average cash margin per ton, an operating ratio derived from non-GAAP financial measures.

Cost of coal sold, cash cost of coal sold, and average cash margin per ton normalize the volatility contained within comparable GAAP measures by adjusting certain non-operating or non-cash transactions. Each of these non-GAAP metrics are used as supplemental financial measures by management and by external users of our financial statements, such as investors, industry analysts, lenders and ratings agencies, to assess:

- our operating performance as compared to the operating performance of other companies in the coal industry, without regard to financing methods, historical cost basis or capital structure;
- the ability of our assets to generate sufficient cash flow;
- our ability to incur and service debt and fund capital expenditures;
- the viability of acquisitions and other capital expenditure projects and the returns on investment of various investment opportunities; and
- the attractiveness of capital projects and acquisitions and the overall rates of return on alternative investment opportunities.

The non-GAAP financial measures should not be considered an alternative to total costs, net income, operating cash flow, or any other measure of financial performance or liquidity presented in accordance with GAAP. These measures exclude some, but not all, items that affect net income or net cash, and these measures and the way we calculate them may vary from those of other companies. As a result, the items presented below may not be comparable to similarly titled measures of other companies.

Reconciliation of Non-GAAP Financial Measures

We evaluate our cost of coal sold and cash cost of coal sold on an aggregate basis. We define cost of coal sold as operating and other production costs related to produced tons sold, along with changes in coal inventory, both in volumes and carrying values. The cost of coal sold includes items such as direct operating costs, royalty and production taxes, direct administration costs, and depreciation, depletion and amortization costs on production assets. Our costs exclude any indirect costs, such as selling, general and administrative costs, freight expenses, interest expenses, depreciation, depletion and amortization costs on non-production assets and other costs not directly attributable to the production of coal. The GAAP measure most directly comparable to cost of coal sold is total costs and expenses. The cash cost of coal sold includes cost of coal sold less depreciation, depletion and amortization costs on production assets. The GAAP measure most directly comparable to cash cost of coal sold is total costs and expenses.

The following table presents a reconciliation of cost of coal sold and cash cost of coal sold to total costs and expenses, the most directly comparable GAAP financial measure, on a historical basis, for each of the periods indicated (in thousands).

	Years Ended December 31,		
	2019	2018	2017
Total Costs and Expenses	\$ 1,332,806	\$ 1,344,402	\$ 1,242,106
Freight Expense	(19,667)	(43,572)	(73,692)
Selling, General and Administrative Costs	(67,111)	(65,346)	(83,605)
Loss on Debt Extinguishment	(24,455)	(3,922)	—
Interest Expense, net	(66,464)	(83,848)	(26,098)
Other Costs (Non-Production)	(101,900)	(135,081)	(129,620)
Depreciation, Depletion and Amortization (Non-Production)	(32,388)	(30,961)	(15,001)
Cost of Coal Sold	\$ 1,020,821	\$ 981,672	\$ 914,090
Depreciation, Depletion and Amortization (Production)	(174,709)	(170,303)	(157,001)
Cash Cost of Coal Sold	\$ 846,112	\$ 811,369	\$ 757,089

We define average cash margin per ton sold as average coal revenue per ton, net of average cash cost of coal sold per ton. The GAAP measure most directly comparable to average cash margin per ton sold is total coal revenue.

The following table presents a reconciliation of average cash margin per ton sold to total coal revenue, the most directly comparable GAAP financial measure, on a historical basis, for each of the periods indicated (in thousands, except per ton information).

	Years Ended December 31,		
	2019	2018	2017
Total Coal Revenue	\$ 1,288,529	\$ 1,364,292	\$ 1,187,654
Operating and Other Costs	948,012	946,450	886,709
Less: Other Costs (Non-Production)	(101,900)	(135,081)	(129,620)
Total Cash Cost of Coal Sold	846,112	811,369	757,089
Add: Depreciation, Depletion and Amortization	207,097	201,264	172,002
Less: Depreciation, Depletion and Amortization (Non-Production)	(32,388)	(30,961)	(15,001)
Total Cost of Coal Sold	\$ 1,020,821	\$ 981,672	\$ 914,090
Total Tons Sold (in millions)	27.3	27.7	26.1
Average Revenue per Ton Sold	\$ 47.17	\$ 49.28	\$ 45.52
Average Cash Cost of Coal Sold per Ton	30.97	29.29	29.02
Depreciation, Depletion and Amortization Costs per Ton Sold	6.40	6.17	6.01
Average Cost of Coal Sold per Ton	37.37	35.46	35.03
Average Margin per Ton Sold	9.80	13.82	10.49
Add: Depreciation, Depletion and Amortization Costs per Ton Sold	6.40	6.17	6.01
Average Cash Margin per Ton Sold	\$ 16.20	\$ 19.99	\$ 16.50

Results of Operations: Year Ended December 31, 2019 Compared with the Year Ended December 31, 2018

Net Income Attributable to CONSOL Energy Inc. Shareholders

CONSOL Energy reported net income attributable to CONSOL Energy Inc. shareholders of \$76 million for the year ended December 31, 2019, compared to net income attributable to CONSOL Energy Inc. shareholders of \$153 million for the year ended December 31, 2018.

CONSOL Energy consists of the Pennsylvania Mining Complex, as well as various corporate and other business activities that are not allocated to the PAMC. The other business activities include the CONSOL Marine Terminal, development of the Itmann Mine, the Greenfield Reserves, closed and idle mine activities, selling, general and administrative activities, interest expense and income taxes, as well as various other non-operated activities.

PAMC ANALYSIS:

The PAMC division's principal activities consist of mining, preparation and marketing of thermal coal, sold primarily to power generators. The division also includes selling, general and administrative costs, as well as various other activities assigned to the PAMC division, but not included in the cost components on a per unit basis.

The PAMC division had earnings before income tax of \$197 million for the year ended December 31, 2019, compared to earnings before income tax of \$291 million for the year ended December 31, 2018. Variances are discussed below.

<i>(in millions)</i>	For the Years Ended December 31,		
	2019	2018	Variance
Revenue:			
Coal Revenue	\$ 1,289	\$ 1,364	\$ (75)
Freight Revenue	20	44	(24)
Miscellaneous Other Income	23	21	2
Total Revenue and Other Income	<u>1,332</u>	<u>1,429</u>	<u>(97)</u>
Cost of Coal Sold:			
Operating Costs	846	811	35
Depreciation, Depletion and Amortization	175	170	5
Total Cost of Coal Sold	<u>1,021</u>	<u>981</u>	<u>40</u>
Other Costs:			
Other Costs	20	44	(24)
Depreciation, Depletion and Amortization	11	9	2
Total Other Costs	<u>31</u>	<u>53</u>	<u>(22)</u>
Freight Expense	20	44	(24)
Selling, General and Administrative Costs	63	60	3
Total Costs and Expenses	<u>1,135</u>	<u>1,138</u>	<u>(3)</u>
Earnings Before Income Tax	<u>\$ 197</u>	<u>\$ 291</u>	<u>\$ (94)</u>

Coal Production

The table below presents total tons produced (in thousands) from the Pennsylvania Mining Complex for the periods indicated:

Mine	For the Years Ended December 31,		
	2019	2018	Variance
Bailey	12,218	12,735	(517)
Enlow	10,043	9,876	167
Harvey	5,024	4,981	43
Total	27,285	27,592	(307)

Coal production was 27.3 million tons for the year ended December 31, 2019, compared to 27.6 million tons for the year ended December 31, 2018. The PAMC division's coal production decreased slightly, mainly due to reduced production at the Bailey mine resulting from one additional longwall move and other operational delays. This was partially offset by increased production at the Enlow Fork mine, as geological conditions improved throughout the first half of 2019 compared to the year-ago period. The Harvey mine set an individual production record in 2019, exceeding its previous record set in 2018, and marking its third consecutive record-setting year.

Coal Operations

The PAMC division's coal revenue and cost components on a per unit basis for these periods were as follows:

	For the Years Ended December 31,		
	2019	2018	Variance
Total Tons Sold (<i>in millions</i>)	27.3	27.7	(0.4)
Average Revenue per Ton Sold	\$ 47.17	\$ 49.28	\$ (2.11)
Average Cash Cost of Coal Sold per Ton ⁽¹⁾	\$ 30.97	\$ 29.29	\$ 1.68
Depreciation, Depletion and Amortization Costs per Ton Sold (Non-Cash Cost)	6.40	6.17	0.23
Average Cost of Coal Sold per Ton ⁽¹⁾	\$ 37.37	\$ 35.46	\$ 1.91
Average Margin per Ton Sold	\$ 9.80	\$ 13.82	\$ (4.02)
Add: Depreciation, Depletion and Amortization Costs per Ton Sold	6.40	6.17	0.23
Average Cash Margin per Ton Sold ⁽¹⁾	\$ 16.20	\$ 19.99	\$ (3.79)

(1) Average cash cost of coal sold per ton and average cost of coal sold per ton are non-GAAP measures and average cash margin per ton sold is an operating ratio derived from non-GAAP measures. See "How We Evaluate Our Operations - Reconciliation of Non-GAAP Financial Measures" for a reconciliation of non-GAAP measures to the most directly comparable GAAP measures.

Coal Revenue

Coal revenue was \$1,289 million for the year ended December 31, 2019, compared to \$1,364 million for the year ended December 31, 2018. The \$75 million decrease was primarily attributable to a \$2.11 lower average sales price per ton sold in the 2019 period, mainly driven by lower domestic netback contract pricing compared to the year-ago period, as well as a decrease in tons sold. This decrease was partially offset by an increase in prices the Company received for its export coal.

Freight Revenue and Freight Expense

Freight revenue is the amount billed to customers for transportation costs incurred. This revenue is based on the weight of coal shipped, negotiated freight rates and method of transportation, primarily rail, used by the customers to which the Company contractually provides transportation services. Freight revenue is completely offset by freight expense. Freight revenue and freight expense were both \$20 million for the year ended December 31, 2019, compared to \$44 million for the year ended December 31, 2018. The \$24 million decrease was due to decreased shipments to customers where the Company was contractually obligated to provide transportation services.

Miscellaneous Other Income

Miscellaneous other income was \$23 million for the year ended December 31, 2019, compared to \$21 million for the year ended December 31, 2018. The \$2 million increase was primarily the result of customer contract buyouts totaling \$10 million in the year ended December 31, 2019, offset, in part, by a decrease in sales of externally purchased coal to blend and resell.

Cost of Coal Sold

Cost of coal sold is comprised of operating costs related to produced tons sold, along with changes in both the volumes and carrying values of coal inventory. The costs of coal sold include items such as direct operating costs, royalties and production taxes, direct administration costs and depreciation, depletion, and amortization costs on production assets. Total cost of coal sold was \$1,021 million for the year ended December 31, 2019, or \$40 million higher than the \$981 million for the year ended December 31, 2018. Total costs per ton sold were \$37.37 per ton in the year ended December 31, 2019, compared to \$35.46 per ton in the year ended December 31, 2018. The increase in the total cost of coal sold was primarily driven by additional equipment rebuilds and longwall overhauls due to the timing of longwall moves and panel development. Also, the Company faced atypical challenges during 2019, including a roof fall and equipment breakdowns. These geological and equipment-related issues resulted in higher mine maintenance and project expenses. Subsidence expense also increased in the year-to-year comparison, primarily due to the timing and nature of the properties undermined.

Other Costs

Other costs include items that are assigned to the PAMC division but are not included in unit costs, such as coal reserve holding costs and purchased coal costs. Total other costs decreased \$22 million in the year ended December 31, 2019 compared to the year ended December 31, 2018. The decrease was primarily attributable to additional costs incurred in the year-ago period related to externally purchased coal to blend and resell, discretionary employee benefit expenses and demurrage charges.

Selling, General and Administrative Costs

At December 31, 2019, CONSOL Energy was party to a service agreement with CCR that required CONSOL Energy to provide certain selling, general and administrative services to CCR. These services are paid monthly based on an agreed-upon fixed fee that is reset at least annually. See Note 24 - Related Party Transactions of the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information. An additional portion of CONSOL Energy's selling, general and administrative costs are allocated to the PAMC division, outside of the service agreement, based on a percentage of total revenue and a percentage of total projected capital expenditures. The amount of selling, general and administrative costs related to the PAMC division was \$63 million for the year ended December 31, 2019, compared to \$60 million for the year ended December 31, 2018. The \$3 million increase in the period-to-period comparison was primarily related to accelerated non-cash amortization recorded in the year ended December 31, 2019 for retiree-eligible employees who received awards under the Company's Performance Incentive Plan and an increase in expenditures related to the conversion to and implementation of a different Enterprise Resource and Planning system, partially offset by the reversal of stock-based compensation expense related to forfeitures of awards under the Company's Performance Incentive Plan during the year ended December 31, 2019.

OTHER ANALYSIS:

The other division includes revenue and expenses from various corporate and diversified business activities that are not allocated to the PAMC division. The diversified business activities include the CONSOL Marine Terminal, development of the Itmann Mine, the Greenfield Reserves, closed and idle mine activities, selling, general and administrative activities, interest expense and income taxes, as well as various other non-operated activities.

Other business activities had a loss before income tax of \$99 million for the year ended December 31, 2019, compared to a loss before income tax of \$103 million for the year ended December 31, 2018. Variances are discussed below.

<i>(in millions)</i>	For the Years Ended December 31,		
	2019	2018	Variance
Revenue:			
Terminal Revenue	\$ 67	\$ 65	\$ 2
Miscellaneous Other Income	30	38	(8)
Gain on Sale of Assets	2	1	1
Total Revenue and Other Income	<u>99</u>	<u>104</u>	<u>(5)</u>
Other Costs and Expenses:			
Operating and Other Costs	83	92	(9)
Depreciation, Depletion and Amortization	21	22	(1)
Selling, General, and Administrative Costs	4	5	(1)
Loss on Debt Extinguishment	24	4	20
Interest Expense, net	66	84	(18)
Total Other Costs and Expenses	<u>198</u>	<u>207</u>	<u>(9)</u>
Loss Before Income Tax	<u>\$ (99)</u>	<u>\$ (103)</u>	<u>\$ 4</u>

Terminal Revenue

Terminal revenue consists of sales from the CONSOL Marine Terminal, which is located on approximately 200 acres in the Port of Baltimore, Maryland and provides access to international coal markets. CONSOL Marine Terminal sales were \$67 million for the year ended December 31, 2019, compared to \$65 million for the year ended December 31, 2018. The \$2 million increase in the period-to-period comparison resulted from additional revenue earned in the year ended December 31, 2019 from one of the Company's customers.

Miscellaneous Other Income

Miscellaneous other income was \$30 million for the year ended December 31, 2019, compared to \$38 million for the year ended December 31, 2018. The change is due to the following items:

<i>(in millions)</i>	For the Years Ended December 31,		
	2019	2018	Variance
Royalty Income - Non-Operated Coal	\$ 22	\$ 25	\$ (3)
Property Easements and Option Income	2	6	(4)
Rental Income	3	4	(1)
Interest Income	3	2	1
Other Income	—	1	(1)
Total Miscellaneous Other Income	<u>\$ 30</u>	<u>\$ 38</u>	<u>\$ (8)</u>

Operating and Other Costs

Operating and other costs were \$83 million for the year ended December 31, 2019, compared to \$92 million for the year ended December 31, 2018. Operating and other costs decreased in the period-to-period comparison due to the following items:

<i>(in millions)</i>	For the Years Ended December 31,		
	2019	2018	Variance
Terminal Operating Costs	\$ 22	\$ 24	\$ (2)
Employee-Related Legacy Liability Expense	37	42	(5)
Lease Rental Expense	1	2	(1)
Coal Reserve Holding Costs	5	2	3
Closed and Idle Mines	4	4	—
Bank Fees	1	3	(2)
Litigation Expense	4	4	—
Other	9	11	(2)
Total Operating and Other Costs	<u>\$ 83</u>	<u>\$ 92</u>	<u>\$ (9)</u>

Employee-Related Legacy Liability Expense decreased \$5 million in the period-to-period comparison primarily due to changes in the actuarial measurement of net periodic benefit cost at the beginning of each year. See Note 14 - Pension and Other Postretirement Benefits Plans in the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information.

Depreciation, Depletion and Amortization

Depreciation, depletion and amortization decreased \$1 million in the period-to-period comparison due to adjustments to the Company's asset retirement obligations during the year ended December 31, 2019 based on current projected cash outflows.

Selling, General and Administrative Costs

Selling, general and administrative costs are allocated to the Company's Other division based on a percentage of total revenue and a percentage of total projected capital expenditures. Selling, general and administrative costs remained materially consistent in the period-to-period comparison.

Loss on Debt Extinguishment

Loss on debt extinguishment of \$24 million was recognized in the year ended December 31, 2019 due to the open market repurchases of the Company's 11.00% Senior Secured Second Lien Notes due 2025, the \$110 million required repayment on the Term Loan B Facility, and the refinancing of the Company's Revolving Credit Facility, Term Loan A Facility and Term Loan B Facility. See Note 12 - Debt in the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information.

Loss on debt extinguishment of \$4 million was recognized in the year ended December 31, 2018 due to accelerated payments made on the Term Loan A Facility and the open market repurchases of the Company's 11.00% Senior Secured Second Lien Notes due 2025.

Interest Expense, net

Interest expense, net of amounts capitalized, is comprised of interest on the Company's Senior Secured Credit Facilities, the 11.00% Senior Secured Second Lien Notes due 2025 and the 5.75% MEDCO Revenue Bonds. Interest expense, net of amounts capitalized, decreased \$18 million in the period-to-period comparison, primarily related to the \$110 million required repayment on the Term Loan B Facility, as well as the refinancing of the Company's Revolving Credit Facility, Term Loan A Facility and Term Loan B Facility, both of which occurred during the first quarter of 2019. The decrease is also attributable to repurchases of the Company's 11.00% Senior Secured Second Lien Notes during the year ended December 31, 2019 (see Note 5 - Stock, Unit and Debt Repurchases of the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information).

Results of Operations: Year Ended December 31, 2018 Compared with the Year Ended December 31, 2017

Net Income Attributable to CONSOL Energy Inc. Shareholders

CONSOL Energy reported net income attributable to CONSOL Energy Inc. shareholders of \$153 million for the year ended December 31, 2018, compared to net income attributable to CONSOL Energy Inc. shareholders of \$68 million for the year ended December 31, 2017.

CONSOL Energy consists of the Pennsylvania Mining Complex, as well as various corporate and other business activities that are not allocated to the PAMC. The other business activities include the CONSOL Marine Terminal, the Greenfield Reserves, closed and idle mine activities, selling, general and administrative activities, interest expense and income taxes, as well as various other non-operated activities.

PAMC ANALYSIS:

The PAMC division's principal activities consist of mining, preparation and marketing of thermal coal, sold primarily to power generators. The division also includes selling, general and administrative costs, as well as various other activities assigned to the PAMC division, but not included in the cost components on a per unit basis.

The PAMC division had earnings before income tax of \$291 million for the year ended December 31, 2018, compared to earnings before income tax of \$189 million for the year ended December 31, 2017. Variances are discussed below.

<i>(in millions)</i>	For the Years Ended December 31,		
	2018	2017	Variance
Revenue:			
Coal Revenue	\$ 1,364	\$ 1,188	\$ 176
Freight Revenue	44	74	(30)
Miscellaneous Other Income	21	23	(2)
Gain on Sale of Assets	—	6	(6)
Total Revenue and Other Income	1,429	1,291	138
Cost of Coal Sold:			
Operating Costs	811	757	54
Depreciation, Depletion and Amortization	170	157	13
Total Cost of Coal Sold	981	914	67
Other Costs:			
Other Costs	44	22	22
Depreciation, Depletion and Amortization	9	10	(1)
Total Other Costs	53	32	21
Freight Expense	44	74	(30)
Selling, General and Administrative Costs	60	72	(12)
Interest Expense, net	—	10	(10)
Total Costs and Expenses	1,138	1,102	36
Earnings Before Income Tax	\$ 291	\$ 189	\$ 102

Coal Production

The table below presents total tons produced (in thousands) from the Pennsylvania Mining Complex for the periods indicated:

Mine	For the Years Ended December 31,		
	2018	2017	Variance
Bailey	12,735	12,124	611
Enlow	9,876	9,180	696
Harvey	4,981	4,805	176
Total	27,592	26,109	1,483

Coal production was 27.6 million tons for the year ended December 31, 2018, compared to 26.1 million tons for the year ended December 31, 2017. The PAMC division's coal production increased 1.5 million tons, primarily to satisfy increased demand for its products in the domestic and export markets, as well as improved productivity, initial benefits from automation projects and improved geological conditions at the Enlow Fork mine.

Coal Operations

The PAMC division's coal revenue and cost components on a per unit basis for these periods were as follows:

	For the Years Ended December 31,		
	2018	2017	Variance
Total Tons Sold (<i>in millions</i>)	27.7	26.1	1.6
Average Revenue per Ton Sold	\$ 49.28	\$ 45.52	\$ 3.76
Average Cash Cost of Coal Sold per Ton ⁽¹⁾	\$ 29.29	\$ 29.02	\$ 0.27
Depreciation, Depletion and Amortization Costs per Ton Sold (Non-Cash Cost)	6.17	6.01	0.16
Average Cost of Coal Sold per Ton ⁽¹⁾	\$ 35.46	\$ 35.03	\$ 0.43
Average Margin per Ton Sold	\$ 13.82	\$ 10.49	\$ 3.33
Add: Depreciation, Depletion and Amortization Costs per Ton Sold	6.17	6.01	0.16
Average Cash Margin per Ton Sold ⁽¹⁾	\$ 19.99	\$ 16.50	\$ 3.49

(1) Average cash cost of coal sold per ton and average cost of coal sold per ton are non-GAAP measures and average cash margin per ton sold is an operating ratio derived from non-GAAP measures. See "How We Evaluate Our Operations - Reconciliation of Non-GAAP Financial Measures" for a reconciliation of non-GAAP measures to the most directly comparable GAAP measures.

Coal Revenue

Coal revenue was \$1,364 million for the year ended December 31, 2018, compared to \$1,188 million for the year ended December 31, 2017. The \$176 million increase was attributable to a 1.6 million increase in tons sold and a \$3.76 higher average sales price per ton sold. The increase in tons sold was driven by increased demand from the Company's domestic customers, largely due to higher burn. The higher average sales price per ton sold in the 2018 period was primarily the result of higher realizations on the Company's netback contracts due to strong power prices and an increased demand in the international thermal and crossover metallurgical coal markets the Company serves.

Freight Revenue and Freight Expense

Freight revenue is the amount billed to customers for transportation costs incurred. This revenue is based on the weight of coal shipped, negotiated freight rates and method of transportation, primarily rail, used by the customers to which the Company contractually provides transportation services. Freight revenue is completely offset by freight expense. Freight revenue and freight expense were both \$44 million for the year ended December 31, 2018, compared to \$74 million for the year ended December 31, 2017. The \$30 million decrease was due to decreased shipments to customers where the Company was contractually obligated to provide transportation services.

Miscellaneous Other Income

Miscellaneous other income was \$21 million for the year ended December 31, 2018, compared to \$23 million for the year ended December 31, 2017. The \$2 million decrease was primarily the result of a customer contract buyout in the amount of \$10 million in the year ended December 31, 2017, offset, in part, by an increase in sales of externally purchased coal to blend and resell in the year ended December 31, 2018.

Gain on Sale of Assets

Gain on sale of assets decreased \$6 million in the period-to-period comparison primarily due to the sale of certain coal rights during the year ended December 31, 2017.

Cost of Coal Sold

Cost of coal sold is comprised of operating costs related to produced tons sold, along with changes in both the volumes and carrying values of coal inventory. The costs of coal sold include items such as direct operating costs, royalties and production taxes, direct administration costs and depreciation, depletion, and amortization costs on production assets. Total cost of coal sold was \$981 million for the year ended December 31, 2018, or \$67 million higher than the \$914 million for the year ended December 31, 2017. Total costs per ton sold were \$35.46 per ton in the year ended December 31, 2018, compared to \$35.03 per ton in the year ended December 31, 2017. The increase in the total cost of coal sold was primarily driven by an increase in production-related costs as more coal was mined to meet market demand. The increase in the average cost per ton sold was the result of additional royalties and production taxes due to a \$3.76 per ton higher average sales price. Since the fourth quarter of 2017, the Company has seen modest inflation in the cost of supplies that contain steel and other commodities for which prices are strengthening, as well as in the cost of contract labor. The Company has been able to successfully offset these inflationary pressures through productivity gains, initial benefits from automation investments and a reduction in lease/rental expense.

Other Costs

Other costs include items that are assigned to the PAMC division but are not included in unit costs, such as coal reserve holding costs and purchased coal costs. Total other costs increased \$21 million in the year ended December 31, 2018 compared to the year ended December 31, 2017. The increase was primarily attributable to an increase in costs related to externally purchased coal to blend and resell, discretionary employee benefit expenses and demurrage charges in the year ended December 31, 2018. This increase was partially offset by prior year severance costs related to organizational restructuring.

Selling, General and Administrative Costs

At December 31, 2018, CONSOL Energy was party to a service agreement with CCR that required CONSOL Energy to provide certain selling, general and administrative services to CCR. These services are paid monthly based on an agreed-upon fixed fee that is reset at least annually. See Note 24 - Related Party Transactions of the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information. An additional portion of CONSOL Energy's selling, general and administrative costs are allocated to the PAMC division, outside of the service agreement, based on a percentage of total revenue and a percentage of total projected capital expenditures. The amount of selling, general and administrative costs related to the PAMC division was \$60 million for the year ended December 31, 2018, compared to \$72 million for the year ended December 31, 2017. The \$12 million decrease in the period-to-period comparison was primarily due to long-term incentive compensation recognized in the prior year in relation to an award modification due to organizational restructuring. This was offset, in part, by an increase in short-term incentive compensation paid to employees based on the results of operations achieved at the Company's mines and increases in purchased services related to the conversion to a different Enterprise Resource and Planning system.

Interest Expense, net

Interest expense, net of amounts capitalized, decreased \$10 million in the period-to-period comparison. For the year ended December 31, 2017, net interest expense was primarily comprised of interest on the Original CCR Credit Facility (see Note 24 - Related Party Transactions of the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information). No such interest expense was incurred during the year ended December 31, 2018, as the Original CCR Credit Facility was refinanced through the Affiliated Company Credit Agreement on November 28, 2017.

OTHER ANALYSIS:

The other division includes revenue and expenses from various corporate and diversified business activities that are not allocated to the PAMC division. The diversified business activities include the CONSOL Marine Terminal, the Greenfield Reserves, closed and idle mine activities, selling, general and administrative activities, interest expense and income taxes, as well as various other non-operated activities.

Other business activities had a loss before income tax of \$103 million for the year ended December 31, 2018, compared to a loss before income tax of \$19 million for the year ended December 31, 2017. Variances are discussed below.

<i>(in millions)</i>	For the Years Ended December 31,		
	2018	2017	Variance
Revenue:			
Terminal Revenue	\$ 65	\$ 60	\$ 5
Miscellaneous Other Income	38	50	(12)
Gain on Sale of Assets	1	11	(10)
Total Revenue and Other Income	104	121	(17)
Other Costs and Expenses:			
Operating and Other Costs	92	108	(16)
Depreciation, Depletion and Amortization	22	5	17
Selling, General and Administrative Costs	5	11	(6)
Loss on Debt Extinguishment	4	—	4
Interest Expense, net	84	16	68
Total Other Costs and Expenses	207	140	67
Loss Before Income Tax	\$ (103)	\$ (19)	\$ (84)

Terminal Revenue

Terminal revenue consists of sales from the CONSOL Marine Terminal, which is located on 200 acres in the Port of Baltimore, Maryland and provides access to international coal markets. CONSOL Marine Terminal sales were \$65 million for the year ended December 31, 2018, compared to \$60 million for the year ended December 31, 2017. The \$5 million increase in the period-to-period comparison resulted from additional revenue earned in the year ended December 31, 2018 from one of the Company's customers. This customer's contractual arrangement contains a take-or-pay element, which provides a certain level of monthly throughput tons for a fixed amount.

Miscellaneous Other Income

Miscellaneous other income was \$38 million for the year ended December 31, 2018, compared to \$50 million for the year ended December 31, 2017. The change is due to the following items:

<i>(in millions)</i>	For the Years Ended December 31,		
	2018	2017	Variance
Royalty Income - Non-Operated Coal	\$ 25	\$ 28	\$ (3)
Property Easements and Option Income	6	2	4
Rental Income	4	14	(10)
Interest Income	2	3	(1)
Other Income	1	3	(2)
Total Miscellaneous Other Income	\$ 38	\$ 50	\$ (12)

Rental Income decreased \$10 million primarily due to a decrease in lease payments received as a result of the sale of certain subleased equipment to a third party in the second quarter of 2017.

Gain on Sale of Assets

Gain on sale of assets decreased \$10 million in the period-to-period comparison primarily due to the sale of certain coal reserves during the year ended December 31, 2017.

Operating and Other Costs

Operating and other costs were \$92 million for the year ended December 31, 2018, compared to \$108 million for the year ended December 31, 2017. Operating and other costs decreased in the period-to-period comparison due to the following items:

<i>(in millions)</i>	For the Years Ended December 31,		
	2018	2017	Variance
Terminal Operating Costs	\$ 24	\$ 21	\$ 3
Employee-Related Legacy Liability Expense	42	55	(13)
Lease Rental Expense	2	10	(8)
Coal Reserve Holding Costs	2	5	(3)
Closed and Idle Mines	4	7	(3)
Bank Fees	3	—	3
Litigation Expense	4	—	4
Other	11	10	1
Total Operating and Other Costs	<u>\$ 92</u>	<u>\$ 108</u>	<u>\$ (16)</u>

- Employee-Related Legacy Liability Expense decreased \$13 million in the period-to-period comparison primarily due to modifications made to the actuarial calculation of net periodic benefit cost at the beginning of each year. Additionally, pension settlement expense is required when lump sum distributions made for a given plan year exceed the total of the service and interest costs for that same plan year. Settlement accounting was triggered in the year ended December 31, 2017. See Note 14 - Pension and Other Postretirement Benefit Plans in the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information.
- Lease Rental Expense decreased \$8 million primarily due to the sale of certain subleased equipment to a third party in the second quarter of 2017.
- Bank Fees represent costs associated with the Company's securitization facility (see Note 10 - Accounts Receivable Securitization in the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information).

Depreciation, Depletion and Amortization

Depreciation, depletion, and amortization increased \$17 million in the period-to-period comparison, mainly as a result of a credit adjustment related to changes in the Company's asset retirement obligations during the year ended December 31, 2017.

Selling, General and Administrative Costs

Selling, general and administrative costs are allocated to the Company's Other division based on a percentage of total revenue and a percentage of total projected capital expenditures. The decrease of \$6 million is primarily due to additional costs incurred in the year ended December 31, 2017 related to modifications of stock-based compensation awards as a result of the separation and distribution. Prior to the separation and distribution, additional selling, general and administrative costs were allocated from the Company's former parent to the Other division, which did not occur in the year ended December 31, 2018.

Loss on Debt Extinguishment

Loss on debt extinguishment of \$4 million was recognized in the year ended December 31, 2018 due to accelerated payments made on the Term Loan A Facility and the open market repurchases of the 11.00% Senior Secured Second Lien Notes due 2025.

Interest Expense, net

Interest expense, net of amounts capitalized, of \$84 million and \$16 million for the years ended December 31, 2018 and 2017, respectively, is primarily comprised of interest on the 5.75% MEDCO Revenue Bonds, as well as interest and fees on the Company's Revolving Credit Facility, Term Loan A Facility, Term Loan B Facility and the 11.00% Senior Secured Second Lien Notes. These debt facilities were entered into as a result of the separation and distribution that occurred on November 28, 2017.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make judgments, estimates and assumptions that affect reported amounts of assets and liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities in the Consolidated Financial Statements and at the date of the financial statements. See Note 1 - Significant Accounting Policies in the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for further discussion. CONSOL Energy bases its estimates on historical experience and on various other assumptions that it believes are reasonable under the circumstances, the results of which form the basis for making the judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. The Company evaluates its estimates on an on-going basis. Actual results could differ from those estimates upon subsequent resolution of identified matters. Management believes that the estimates utilized are reasonable. The following critical accounting policies are materially impacted by judgments, assumptions and estimates used in the preparation of the Consolidated Financial Statements.

Asset Retirement Obligations

The Surface Mining Control and Reclamation Act established operational, reclamation and closure standards for all aspects of surface mining as well as most aspects of deep mining. CONSOL Energy accrues for the costs of current coal mine disturbance and final coal mine and gas well closure, including the cost of treating mine water discharge where necessary. Estimates of the Company's total asset retirement obligations, which are based upon permit requirements and CONSOL Energy engineering expertise related to these requirements, including the current portion, were approximately \$272 million at December 31, 2019. This liability is reviewed annually, or when events and circumstances indicate an adjustment is necessary, by CONSOL Energy management and engineers. The estimated liability can significantly change if actual costs vary from assumptions or if governmental regulations change significantly.

Accounting for asset retirement obligations requires that the fair value of an asset retirement obligation be recognized in the period in which it is incurred if a reasonable estimate of fair value can be made. For active locations, the present value of the estimated asset retirement obligations is capitalized as part of the carrying amount of the long-lived asset. For locations that have been fully depleted or closed, the present value of the change is recorded directly to the consolidated statements of income. Asset retirement obligations primarily relate to the reclamation of land upon mine closure, the treatment of mine water discharge where necessary, and the plugging of gas wells acquired for mining purposes. Changes in the assumptions used to calculate the liabilities can have a significant effect on the asset retirement obligations. The amounts of assets and liabilities recorded are dependent upon a number of variables, including the estimated future expenditures, estimated mine lives, assumptions involving profit margins, inflation rates and the assumed credit-adjusted risk-free interest rate.

Accounting for asset retirement obligations also requires depreciation of the capitalized asset retirement obligation and accretion of the asset retirement obligation over time. The depreciation will generally be determined on a units-of-production basis, whereas the accretion to be recognized will escalate over the life of the producing assets.

The Company believes that the accounting estimates related to asset retirement obligations are "critical accounting estimates" because the Company must assess the expected amount and timing of asset retirement obligations. In addition, the Company must determine the estimated present value of future liabilities. Future results of operations for any particular quarterly or annual period could be materially affected by changes in the Company's assumptions.

Income Taxes

Deferred tax assets and liabilities are recognized using enacted tax rates for the estimated future tax effects of temporary differences between the book and tax basis of recorded assets and liabilities. Deferred tax assets are reduced by a valuation allowance if it is more likely than not that some portion of the deferred tax asset will not be realized. All available evidence, both positive and negative, must be considered in determining the need for a valuation allowance. At December 31, 2019, CONSOL Energy has deferred tax assets in excess of deferred tax liabilities of approximately \$104 million. At December 31, 2019, CONSOL Energy had a valuation allowance of \$1 million on deferred tax assets.

CONSOL Energy evaluates all tax positions taken on the state and federal tax filings to determine if the position is more likely than not to be sustained upon examination. For positions that meet the more likely than not to be sustained criteria, an evaluation to determine the largest amount of benefit, determined on a cumulative probability basis, that is more likely than not to be realized upon ultimate settlement is determined. A previously recognized tax position is reversed when it is subsequently determined that a tax position no longer meets the more likely than not threshold to be sustained. The evaluation of the sustainability of a tax position and the probable amount that is more likely than not is based on judgment, historical experience and on various other assumptions that CONSOL Energy believes are reasonable under the circumstances. The results of these estimates, that are not readily apparent from other sources, form the basis for recognizing an uncertain tax liability. Actual results could differ from those estimates upon subsequent resolution of identified matters.

The Company believes that accounting estimates related to income taxes are “critical accounting estimates” because the Company must assess the likelihood that deferred tax assets will be recovered from future taxable income and exercise judgment regarding the amount of financial statement benefit to record for uncertain tax positions. When evaluating whether or not a valuation allowance must be established on deferred tax assets, the Company exercises judgment in determining whether it is more likely than not (a likelihood of more than 50%) that some portion or all of the deferred tax assets will not be realized. The Company considers all available evidence, both positive and negative, to determine whether, based on the weight of the evidence, a valuation allowance is needed, including carrybacks, tax planning strategies, reversal of deferred tax assets and liabilities and forecasted future taxable income. In making the determination related to uncertain tax positions, the Company considers the amounts and probabilities of the outcomes that could be realized upon ultimate settlement of an uncertain tax position using the facts, circumstances and information available at the reporting date to establish the appropriate amount of financial statement benefit. To the extent that an uncertain tax position or valuation allowance is established or increased or decreased during a period, the Company must include an expense or benefit within tax expense in the income statement. Future results of operations for any particular quarterly or annual period could be materially affected by changes in the Company’s assumptions.

Recoverable Coal Reserves

There are numerous uncertainties inherent in estimating quantities and values of economically recoverable coal reserves, including many factors beyond the Company's control. As a result, estimates of economically recoverable coal reserves are by their nature uncertain. Information about CONSOL Energy's reserves consists of estimates based on engineering, economic and geological data assembled and analyzed by the Company's staff. CONSOL Energy's coal reserves are periodically reviewed by an independent third party consultant. Some of the factors and assumptions which impact economically recoverable reserve estimates include:

- geological conditions;
- historical production from the area compared with production from other producing areas;
- the assumed effects of regulations and taxes by governmental agencies;
- assumptions governing future prices; and
- future operating costs.

Each of these factors may in fact vary considerably from the assumptions used in estimating reserves. For these reasons, estimates of the economically recoverable quantities of coal attributable to a particular group of properties, and classifications of these reserves based on risk of recovery and estimates of future net cash flows, may vary substantially. Actual production, revenues and expenditures with respect to the Company's reserves will likely vary from estimates, and these variances may be material. See “Risk Factors” in Item 1A of this report for a discussion of the uncertainties in estimating CONSOL Energy's reserves.

Liquidity and Capital Resources

CONSOL Energy's sources of liquidity include cash generated from operations, cash on hand, borrowings under the revolving credit facility and securitization facility (which are discussed below), and, if necessary, the ability to issue additional equity or debt securities. The Company believes that cash generated from these sources will be sufficient to meet its short-term working capital requirements, long-term capital expenditure requirements, and debt servicing obligations, as well as to provide required letters of credit.

The Company expects to generate adequate cash flow from operations in 2020 due to its strong contracted position and consistent cost control measures. As further discussed below, the Company experienced delays in collections of accounts receivable in 2019. If these delays continue or increase, the Company may have less cash flow from operations and may have less borrowing capacity under its Securitization Facility (which borrowing capacity is based on certain current accounts receivable). As the Company moves into 2020, it will continue to monitor the creditworthiness of its customers.

The Company started a capital construction project on the course refuse disposal area in 2017, which is expected to continue through 2021. The Company began construction of the Itmann Mine in the second half of 2019. Full production from the mine is expected in 2021 upon completion of a new preparation plant. The Company's 2020 capital needs are expected to be between \$125 million to \$145 million, which is decreased from 2019 levels due to lower expected equipment-related expenditures and reduced spending on buildings and structures.

CONSOL Energy believes its business will generate adequate cash flows and liquidity to meet reasonable increases in the cost of supplies that are passed on from suppliers. CONSOL Energy will also continue to seek alternative sources of supplies and replacement materials to offset any unexpected increase in the cost of supplies.

Uncertainty in the financial markets brings additional potential risks to CONSOL Energy. These risks include declines in the Company's stock price, less availability and higher costs of additional credit, potential counterparty defaults, and commercial bank failures. Financial market disruptions may impact the Company's collection of trade receivables. As a result, CONSOL Energy regularly monitors the creditworthiness of its customers and counterparties and manages credit exposure through payment terms, credit limits, prepayments and security. Given the state of the current global coal market, as well as the impact of trade tariffs, CONSOL Energy has experienced a slowing of collections within its customer group. CONSOL Energy does not believe that this represents an abnormal business risk, and expects this trend to reverse in 2020 given the anticipated implementation of and adherence to the executed 'Phase I' trade agreement with China.

The Company owns an undivided interest in 75% of the PAMC and the Partnership owns the remaining undivided 25% interest of the PAMC. As of December 31, 2019, the Company had a 61.5% economic ownership interest in the Partnership through its various holdings of the general partner and limited partnership interests of the Partnership.

Cash Flows (in millions)

	For the Years Ended December 31,		
	2019	2018	Change
Cash Provided by Operating Activities	\$ 245	\$ 414	\$ (169)
Cash Used in Investing Activities	\$ (173)	\$ (154)	\$ (19)
Cash Used in Financing Activities	\$ (257)	\$ (149)	\$ (108)

Cash provided by operating activities decreased \$169 million in the period-to-period comparison, primarily due to an \$85 million decrease in net income, a slowing of customer collections in 2019 compared to an acceleration of customer collections in 2018, and other working capital changes that occurred throughout both periods.

Cash used in investing activities increased \$19 million in the period-to-period comparison. Capital expenditures increased primarily due to an increase in airshaft construction projects, belt system related expenditures, purchases of land and equipment, and rebuilds of owned equipment, as well as expenditures related to the development of the Itmann Mine.

	For the Years Ended December 31,		
	2019	2018	Change
Building and Infrastructure	\$ 66	\$ 46	\$ 20
Equipment Purchases and Rebuilds	57	43	14
Refuse Storage Area	32	34	(2)
IS&T Infrastructure	5	11	(6)
Other	10	12	(2)
Total Capital Expenditures	\$ 170	\$ 146	\$ 24

Cash used in financing activities increased \$108 million in the period-to-period comparison. During the year ended December 31, 2019, total payments of \$188 million were made on the Company's Term Loan B Facility, 11.00% Senior Secured Second Lien Notes and the Term Loan A Facility, which included a required excess cash flow repayment of \$110 million on the Term Loan B Facility (see Note 12 - Debt for additional information). The Company received additional proceeds on its Term Loan A Facility in the amount of \$26 million as a result of the debt refinancing that occurred during the first quarter of 2019. In connection with the debt refinancing, approximately \$18 million of financing-related fees and charges were paid. Also during the year ended December 31, 2019, CONSOL Energy shares were repurchased and CONSOL Coal Resources LP units were purchased, totaling \$33 million.

During the year ended December 31, 2018, total payments of \$56 million were made on the Company's Term Loan A Facility, Term Loan B Facility and 11.00% Senior Secured Second Lien Notes. The Company paid its former parent \$18 million related to the final settlement of shared, spin-related fees. Additionally, CONSOL Energy shares were repurchased and CONSOL Coal Resources LP units were purchased, totaling \$29 million.

Senior Secured Credit Facilities

In November 2017, the Company entered into a revolving credit facility with commitments up to \$300 million (the "Revolving Credit Facility"), a Term Loan A Facility of up to \$100 million (the "TLA Facility") and a Term Loan B Facility of up to \$400 million (the "TLB Facility", and together with the Revolving Credit Facility and the TLA Facility, the "Senior Secured Credit Facilities"). On March 28, 2019, the Company amended the Senior Secured Credit Facilities (the "amendment") to increase the borrowing commitment of the Revolving Credit Facility to \$400 million and reallocate the principal amounts outstanding under the TLA Facility and TLB Facility. As a result, the principal amount outstanding under the TLA Facility was \$100 million and the principal amount outstanding under the TLB Facility was \$275 million. Borrowings under the Company's Senior Secured Credit Facilities bear interest at a floating rate which can be, at the Company's option, either (i) LIBOR plus an applicable margin or (ii) an alternate base rate plus an applicable margin. The applicable margin for the Revolving Credit Facility and TLA Facility depends on the total net leverage ratio, whereas the applicable margin for the TLB Facility is fixed. The amendment reduced the applicable margin by 50 basis points on both the Revolving Credit Facility and the TLA Facility, and by 150 basis points on the TLB Facility. The amendment also extended the maturity dates of the Senior Secured Credit Facilities. The maturity date of the Revolving Credit and TLA Facilities was extended from November 28, 2021 to March 28, 2023. The TLB Facility's maturity date was extended from November 28, 2022 to September 28, 2024. Beginning in June 2019, the TLA Facility is being amortized in equal quarterly installments of (i) 3.75% of the original principal amount thereof, for the first four quarterly installments, (ii) 6.25% of the original principal amount thereof for the subsequent eight quarterly installments and (iii) 8.75% of the original principal amount thereof

for the quarterly installments thereafter, with the remaining balance due at final maturity. Beginning in June 2019, the TLB Facility is being amortized in equal quarterly installments in an amount equal to 0.25% per annum of the amended principal amount thereof, with the remaining balance due at final maturity.

Obligations under the Senior Secured Credit Facilities are guaranteed by (i) all owners of the 75% undivided economic interest in the PAMC held by the Company, (ii) any other members of the Company's group that own any portion of the collateral securing the Revolving Credit Facility, and (iii) subject to certain customary exceptions and agreed materiality thresholds, all other existing or future direct or indirect wholly owned restricted subsidiaries of the Company (excluding the Partnership and its wholly-owned subsidiaries). The obligations are secured by, subject to certain exceptions (including a limitation of pledges of equity interests in certain subsidiaries and certain thresholds with respect to real property), a first-priority lien on (i) the Company's 75% undivided economic interest in the Pennsylvania Mining Complex, (ii) the limited partner units of the Partnership held by the Company, (iii) the equity interests in CONSOL Coal Resources GP LLC held by the Company (iv) the CONSOL Marine Terminal and (v) the 1.5 billion tons of Greenfield Reserves. The Senior Secured Credit Facilities contain a number of customary affirmative covenants. In addition, the Senior Secured Credit Facilities contain a number of negative covenants, including (subject to certain exceptions) limitations on (among other things): indebtedness, liens, investments, acquisitions, dispositions, restricted payments, and prepayments of junior indebtedness. The amendment expanded the covenants relating to finance leases, general investments, joint venture investments and annual share repurchase baskets. The amendment also amended the restricted payments covenant to permit up to a \$50 million annual dividend.

The Revolving Credit Facility and TLA Facility also include financial covenants, including (i) a maximum first lien gross leverage ratio, (ii) a maximum total net leverage ratio, and (iii) a minimum fixed charge coverage ratio. CONSOL Energy must maintain a maximum first lien gross leverage ratio covenant of no more than 2.00 to 1.00, measured quarterly, stepping down to 1.75 to 1.00 in March 2020. The maximum first lien gross leverage ratio is calculated as the ratio of Consolidated First Lien Debt to Consolidated EBITDA, excluding the Partnership. The maximum first lien gross leverage ratio was 1.19 to 1.00 at December 31, 2019. CONSOL Energy must maintain a maximum total net leverage ratio covenant of no more than 3.00 to 1.00, measured quarterly, stepping down to 2.75 to 1.00 in March 2020. The maximum total net leverage ratio is calculated as the ratio of Consolidated Indebtedness, minus Cash on Hand, to Consolidated EBITDA, excluding the Partnership. The maximum total net leverage ratio was 1.93 to 1.00 at December 31, 2019. Consolidated EBITDA, as used in the covenant calculation, excludes non-cash compensation expenses, non-recurring transaction expenses, extraordinary gains and losses, gains and losses on discontinued operations, non-cash charges related to legacy employee liabilities and gains and losses on debt extinguishment, and includes cash distributions received from the Partnership and subtracts cash payments related to legacy employee liabilities. The facilities also include a minimum fixed charge coverage covenant of no less than 1.10 to 1.00, measured quarterly. The minimum fixed charge coverage ratio is calculated as the ratio of Consolidated EBITDA to Consolidated Fixed Charges, excluding the Partnership. Consolidated Fixed Charges, as used in the covenant calculation, include cash interest payments, cash payments for income taxes, scheduled debt repayments, dividends paid, and Maintenance Capital Expenditures. The minimum fixed charge coverage ratio was 1.36 to 1.00 at December 31, 2019.

The TLB Facility also includes a financial covenant that requires the Company to repay a certain amount of its borrowings under the TLB Facility within ten business days after the date it files its Form 10-K with the Securities and Exchange Commission if the Company has excess cash flow (as defined in the credit agreement for the Senior Secured Credit Facilities) during the year covered by the applicable Form 10-K. During the year ended December 31, 2019, CONSOL Energy made the required repayment of approximately \$110 million based on the amount of the Company's excess cash flow as of December 31, 2018. For fiscal year 2018, such repayment was equal to 75% of the Company's excess cash flow less any voluntary prepayments of its borrowings under the TLB Facility made by the Company during 2018. For all subsequent fiscal years, the required repayment is equal to a certain percentage of the Company's excess cash flow for such year, ranging from 0% to 75% depending on the Company's total net leverage ratio, less the amount of certain voluntary prepayments made by the Company, if any, under the TLB Facility during such fiscal year. The amendment reduced the maximum amount of the mandatory annual excess cash flow sweep under the TLB Facility by 25%. Based on the Company's excess cash flow calculation, no repayment is required with respect to the year ended December 31, 2019. As such, as of December 31, 2019, no amount related to the prepayment of the TLB Facility in connection with the excess cash flow requirement has been classified as Current Portion of Long-Term Debt in the Consolidated Balance Sheets.

During the year ended December 31, 2019, the Company entered into interest rate swaps, which effectively converted \$150 million of the TLB Facility's floating interest rate to a fixed interest rate for the twelve months ending December 31, 2020 and 2021, and \$50 million of the TLB Facility's floating interest rate to a fixed interest rate for the twelve months ending December 31, 2022.

The Senior Secured Credit Facilities contain customary events of default, including with respect to a failure to make payments when due, cross-default and cross-judgment default and certain bankruptcy and insolvency events.

At December 31, 2019, the Revolving Credit Facility had no borrowings outstanding and \$70 million of letters of credit outstanding, leaving \$330 million of unused capacity. From time to time, CONSOL Energy is required to post financial assurances to satisfy contractual and other requirements generated in the normal course of business. Some of these assurances are posted to comply with federal, state or other government agencies' statutes and regulations. CONSOL Energy sometimes uses letters of credit to satisfy these requirements and these letters of credit reduce the Company's borrowing facility capacity.

Securitization Facility

On November 30, 2017, (1)(i) CONSOL Marine Terminals LLC, as an originator of receivables, (ii) CONSOL Pennsylvania Coal Company LLC (“CONSOL Pennsylvania”), as an originator of receivables and as initial servicer of the receivables for itself and the other originators (collectively, the “Originators”), each a wholly-owned subsidiary of CONSOL Energy, and (iii) CONSOL Funding LLC (the “SPV”), a Delaware special purpose entity and wholly-owned subsidiary of CONSOL Energy, as buyer, entered into a Purchase and Sale Agreement (the “Purchase and Sale Agreement”) and (2)(i) CONSOL Thermal Holdings LLC, an indirect, wholly-owned subsidiary of the Partnership, as sub-originator (the “Sub-Originator”), and (ii) CONSOL Pennsylvania, as buyer and as initial servicer of the receivables for itself and the Sub-Originator, entered into a Sub-Originator Sale Agreement (the “Sub-Originator PSA”). In addition, on that date, the SPV entered into a Receivables Financing Agreement (the “Receivables Financing Agreement”) by and among (i) the SPV, as borrower, (ii) CONSOL Pennsylvania, as initial servicer, (iii) PNC Bank, as administrative agent, LC Bank and lender, and (iv) the additional persons from time to time party thereto as lenders. Together, the Purchase and Sale Agreement, the Sub-Originator PSA and the Receivables Financing Agreement establish the primary terms and conditions of an accounts receivable securitization program (the “Securitization”). In August 2018, the securitization facility was amended to, among other things, extend the term of the securitization facility for three years ending August 30, 2021.

Pursuant to the Securitization, (i) the Sub-Originator sells current and future trade receivables to CONSOL Pennsylvania and (ii) the Originators sell and/or contribute current and future trade receivables (including receivables sold to CONSOL Pennsylvania by the Sub-Originator) to the SPV and the SPV, in turn, pledges its interests in the receivables to PNC Bank, which either makes loans or issues letters of credit on behalf of the SPV. The maximum amount of advances and letters of credit outstanding under the Securitization may not exceed \$100 million.

Loans under the Securitization accrue interest at a reserve-adjusted LIBOR market index rate equal to the one-month Eurodollar rate. Loans and letters of credit under the Securitization also accrue a program fee and a letter of credit participation fee, respectively, ranging from 2.00% to 2.50% per annum depending on the total net leverage ratio of CONSOL Energy. In addition, the SPV paid certain structuring fees to PNC Capital Markets LLC and will pay other customary fees to the lenders, including a fee on unused commitments equal to 0.60% per annum.

The SPV's assets and credit are not available to satisfy the debts and obligations owed to the creditors of CONSOL Energy, the Sub-Originator or any of the Originators. The Sub-Originator, the Originators and CONSOL Pennsylvania as servicer are independently liable for their own customary representations, warranties, covenants and indemnities. In addition, CONSOL Energy has guaranteed the performance of the obligations of the Sub-Originator, the Originators and CONSOL Pennsylvania as servicer, and will guarantee the obligations of any additional originators or successor servicer that may become party to the Securitization. However, neither CONSOL Energy nor its affiliates will guarantee collectability of receivables or the creditworthiness of obligors thereunder.

The agreements comprising the Securitization contain various customary representations and warranties, covenants and default provisions which provide for the termination and acceleration of the commitments and loans under the Securitization in certain circumstances including, but not limited to, failure to make payments when due, breach of representation, warranty or covenant, certain insolvency events or failure to maintain the security interest in the trade receivables, and defaults under other material indebtedness.

At December 31, 2019, eligible accounts receivable totaled approximately \$41 million. At December 31, 2019, the facility had no outstanding borrowings and \$41 million of letters of credit outstanding, leaving available borrowing capacity of \$71 thousand. Costs associated with the receivables facility totaled \$1,441 thousand for the year ended December 31, 2019. These costs have been recorded as financing fees which are included in Operating and Other Costs in the Consolidated Statements of Income. The Company has not derecognized any receivables due to its continued involvement in the collections efforts.

11.00% Senior Secured Second Lien Notes due 2025

On November 13, 2017, the Company issued \$300 million in aggregate principal amount of 11.00% Senior Secured Second Lien Notes due 2025 (the “Second Lien Notes”) pursuant to an indenture (the “Indenture”) dated as of November 13, 2017, by and between the Company and UMB Bank, N.A., a national banking association, as trustee and collateral trustee (the “Trustee”).

On November 28, 2017, certain subsidiaries of the Company executed a supplement to the Indenture and became party to the Indenture as a guarantor (the “Guarantors”). The Second Lien Notes are secured by second priority liens on substantially all of the assets of the Company and the Guarantors that are pledged and on a first-priority basis as collateral securing the Company’s obligations under the Senior Secured Credit Facilities (described above), subject to certain exceptions under the Indenture.

On or after November 15, 2021, the Company may redeem all or part of the Second Lien Notes at the redemption prices set forth below, plus accrued and unpaid interest, if any, to, but not including, the redemption date (subject to the rights of holders of the Second Lien Notes on the relevant record date to receive interest due on the relevant interest payment date), beginning on November 15 of the years indicated:

Year	Percentage
2021	105.50%
2022	102.75%
2023 and thereafter	100.00%

Prior to November 15, 2020, the Company may on one or more occasions redeem up to 35% of the principal amount of the Second Lien Notes with an amount of cash not greater than the amount of the net cash proceeds from one or more equity offerings at a redemption price equal to 111.00% of the principal amount of the Second Lien Notes to be redeemed, plus accrued and unpaid interest, if any, to, but not including, the date of redemption, as long as at least 65% of the aggregate principal amount of the Second Lien Notes originally issued on the issue date (excluding Second Lien Notes held by the Company and its subsidiaries) remains outstanding after each such redemption and the redemption occurs within less than 180 days after the date of the closing of the equity offering.

At any time or from time to time prior to November 15, 2021, the Company may also redeem all or a part of the Second Lien Notes, at a redemption price equal to 100% of the principal amount thereof plus the Applicable Premium, as defined in the Indenture, plus accrued and unpaid interest, if any, to, but not including, the redemption date (subject to the rights of holders of the Second Lien Notes on the relevant record date to receive interest due on the relevant interest payment date).

The Indenture contains covenants that will limit the ability of the Company and the Guarantors, to (i) incur, assume or guarantee additional indebtedness or issue preferred stock; (ii) create liens to secure indebtedness; (iii) declare or pay dividends on the Company’s common stock, redeem stock or make other distributions to the Company’s stockholders; (iv) make investments; (v) restrict dividends, loans or other asset transfers from the Company’s restricted subsidiaries; (vi) merge or consolidate, or sell, transfer, lease or dispose of substantially all of the Company’s assets; (vii) sell or otherwise dispose of certain assets, including equity interests in subsidiaries; (viii) enter into transactions with affiliates; and (ix) create unrestricted subsidiaries. These covenants are subject to important exceptions and qualifications. If the Second Lien Notes achieve an investment grade rating from both Standard & Poor’s Ratings Services and Moody’s Investors Service, Inc. and no default under the Indenture exists, many of the foregoing covenants will terminate and cease to apply. The Indenture also contains customary events of default, including (i) default for 30 days in the payment when due of interest on the Notes; (ii) default in payment when due of principal or premium, if any, on the Notes at maturity, upon redemption or otherwise; (iii) covenant defaults, (iv) cross-defaults to certain indebtedness and (v) certain events of bankruptcy or insolvency with respect to the Company or any of the Guarantors. If an event of default occurs and is continuing, the Trustee or the holders of at least 25% in aggregate principal amount of the then outstanding Second Lien Notes may declare all the Notes to be due and payable immediately. If an event of default arises from certain events of bankruptcy or insolvency, with respect to the Company, any restricted subsidiary of the Company that is a significant subsidiary or any group of restricted subsidiaries of the Company that, taken together, would constitute a significant subsidiary, all outstanding Second Lien Notes will become due and payable immediately without further action or notice.

If the Company experiences certain kinds of changes of control, holders of the Second Lien Notes will be entitled to require the Company to repurchase all or any part of that holder’s Second Lien Notes pursuant to an offer on the terms set forth in the Indenture. The Company will offer to make a cash payment equal to 101% of the aggregate principal amount of the Second Lien Notes repurchased plus accrued and unpaid interest on the Second Lien Notes repurchased to, but not including, the date of purchase, subject to the rights of holders of the Notes on the relevant record date to receive interest due on the relevant interest payment date.

The Second Lien Notes were issued in a private offering that is exempt from the registration requirements of the Securities Act, to qualified institutional buyers in accordance with Rule 144A and to persons outside of the United States pursuant to Regulation S under the Securities Act.

Affiliated Company Credit Agreement with Partnership

On November 28, 2017, the Company also entered into an Affiliated Company Credit Agreement with the Partnership and certain of its subsidiaries (the “Partnership Credit Parties”) under which the Company provides as lender a revolving credit facility in an aggregate principal amount of up to \$275 million to the Partnership Credit Parties. In connection with the completion of the separation, the Partnership drew an initial \$201 million, the net proceeds of which were used to repay the Original CCR Credit Facility and to provide working capital for the Partnership following the separation and for other general corporate purposes.

On March 28, 2019, the Affiliated Company Credit Agreement was amended to extend the maturity date from February 27, 2023 to December 28, 2024. The collateral obligations under the Affiliated Company Credit Agreement generally mirror the Original CCR Credit Facility, as does the list of entities that will act as guarantors thereunder. The Affiliated Company Credit Agreement is subject to financial covenants relating to a maximum first lien gross leverage ratio and a maximum total net leverage ratio, which will be calculated on a consolidated basis for the Partnership and its restricted subsidiaries at the end of each fiscal quarter. The Partnership was in compliance with each of these financial covenants at December 31, 2019. The Affiliated Company Credit Agreement also contains a number of customary affirmative covenants and negative covenants, including limitations on the ability of the Partnership to incur additional indebtedness, grant liens, and make investments, acquisitions, dispositions, restricted payments, and prepayments of junior indebtedness (subject to certain limited exceptions).

Contractual Obligations

CONSOL Energy is required to make future payments under various contracts. CONSOL Energy also has commitments to fund its pension plans, provide payments for other postretirement benefit plans, and fund capital projects. The following is a summary of the Company's significant contractual obligations at December 31, 2019 (in thousands):

	Payments due by Year				
	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years	Total
Purchase Order Firm Commitments	\$ 1,237	\$ 425	\$ —	\$ —	\$ 1,662
Long-Term Debt	32,053	65,084	275,139	325,089	697,365
Interest on Long-Term Debt	52,865	100,676	94,430	31,050	279,021
Finance Lease Obligations	18,219	7,722	1,314	—	27,255
Interest on Finance Lease Obligations	901	257	64	—	1,222
Operating Lease Obligations	24,065	36,473	12,619	15,958	89,115
Long-Term Liabilities—Employee Related (a)	56,821	108,118	104,213	493,879	763,031
Other Long-Term Liabilities (b)	149,574	39,082	27,822	184,301	400,779
Total Contractual Obligations (c)	<u>\$ 335,735</u>	<u>\$ 357,837</u>	<u>\$ 515,601</u>	<u>\$ 1,050,277</u>	<u>\$ 2,259,450</u>

- (a) Employee related long-term liabilities include other post-employment benefits and work-related injuries and illnesses. Estimated salaried retirement contributions required to meet minimum funding standards under ERISA are excluded from the pay-out table due to the uncertainty regarding amounts to be contributed. CONSOL Energy does not expect to contribute to the pension plan in 2020.
- (b) Other long-term liabilities include asset retirement obligations and other long-term liability costs.
- (c) The significant obligations table does not include obligations to taxing authorities due to the uncertainty surrounding the ultimate settlement of amounts and timing of these obligations.

Debt

At December 31, 2019, CONSOL Energy had total long-term debt and finance lease obligations of \$725 million outstanding, including the current portion of long-term debt of \$50 million. This long-term debt consisted of:

- An aggregate principal amount of \$273 million in connection with the Term Loan B (TLB) Facility, due in September 2024, less \$1 million of unamortized bond discount. Borrowings under the TLB Facility bear interest at a floating rate.
- An aggregate principal amount of \$222 million of 11.00% Senior Secured Second Lien Notes due in November 2025. Interest on the notes is payable May 15 and November 15 of each year.
- An aggregate principal amount of \$89 million in connection with the Term Loan A (TLA) Facility, due in March 2023. Borrowings under the TLA Facility bear interest at a floating rate.
- An aggregate principal amount of \$103 million of industrial revenue bonds which were issued to finance the Baltimore port facility, bear interest at 5.75% per annum and mature in September 2025. Interest on the industrial revenue bonds is payable March 1 and September 1 of each year. Payment of the principal and interest on the notes is guaranteed by CONSOL Energy.
- An aggregate principal amount of \$10 million in connection with asset-backed financing. Approximately \$6 million is due in December 2020 at a weighted average interest rate of 5.96%, and approximately \$4 million is due in September 2024 at an interest rate of 3.61%.
- Advance royalty commitments of \$2 million with a weighted average interest rate of 10.78% per annum.
- An aggregate principal amount of \$27 million of finance leases with a weighted average interest rate of 5.20% per annum.

At December 31, 2019, CONSOL Energy had no borrowings outstanding and approximately \$70 million of letters of credit outstanding under the \$400 million senior secured Revolving Credit Facility. At December 31, 2019, CONSOL Energy had no borrowings outstanding and approximately \$41 million of letters of credit outstanding under the \$100 million Securitization Facility.

Stock, Unit and Debt Repurchases

In December 2017, CONSOL Energy's Board of Directors approved a program to repurchase, from time to time, the Company's outstanding shares of common stock or its 11.00% Senior Secured Second Lien Notes due 2025, in an aggregate amount of up to \$50 million through the period ending June 30, 2019. The program was subsequently amended by CONSOL Energy's Board of Directors in July 2018 to allow up to \$100 million of repurchases of the Company's common stock or its 11.00% Senior Secured Second Lien Notes due 2025, subject to certain limitations in the Company's current credit agreement and that certain tax matters agreement entered into by and between the Company and its former parent on November 28, 2017 (the "TMA"). The Company's Board of Directors also authorized the Company to use up to \$25 million of the program to purchase CONSOL Coal Resources LP's outstanding common units in the open market. In May 2019, CONSOL Energy's Board of Directors approved an expansion of the program in the amount of \$75 million, bringing the aggregate limit of the program to \$175 million. The May 2019 expansion also increased the aggregate limit of the amount of CONSOL Coal Resources LP's common units that can be purchased under the program to \$50 million, which is consistent with the Company's credit facility covenants that prohibit the Company from using more than \$50 million for the purchase of CONSOL Coal Resources LP's outstanding common units. The Company's Board of Directors also approved extending the termination date of the program from June 30, 2019 to June 30, 2020. In July 2019, CONSOL Energy's Board of Directors approved an expansion of the program in the amount of \$25 million, bringing the aggregate limit of the program to \$200 million.

Under the terms of the program, CONSOL Energy is permitted to make repurchases in the open market, in privately negotiated transactions, accelerated repurchase programs or in structured share repurchase programs. CONSOL Energy is also authorized to enter into one or more 10b5-1 plans with respect to any of the repurchases. Any repurchases of common stock, notes or units are to be funded from available cash on hand or short-term borrowings. The program does not obligate CONSOL Energy to acquire any particular amount of its common stock, notes or units, and can be modified or suspended at any time at the Company's discretion. The program is conducted in compliance with applicable legal requirements and within the limits imposed by any credit agreement, receivables purchase agreement, indenture or the TMA and is subject to market conditions and other factors.

During the year ended December 31, 2019, the Company repurchased approximately \$53 million of its 11.00% Senior Secured Second Lien Notes due 2025. Also during the year ended December 31, 2019, 1,717,497 shares of the Company's common stock were repurchased and retired at an average price of \$19.06 per share, and 26,297 of the Partnership's common units were purchased at an average price of \$14.05 per unit.

Total Equity and Dividends

Total equity attributable to CONSOL Energy was \$572 million at December 31, 2019 and \$552 million at December 31, 2018. See the Consolidated Statements of Stockholders' Equity in Item 8 of this Form 10-K for additional details.

The declaration and payment of dividends by CONSOL Energy is subject to the discretion of CONSOL Energy's Board of Directors, and no assurance can be given that CONSOL Energy will pay dividends in the future. The determination to pay dividends in the future will depend upon, among other things, general business conditions, CONSOL Energy's financial results, contractual and legal restrictions regarding the payment of dividends by CONSOL Energy, planned investments by CONSOL Energy and such other factors as the Board of Directors deems relevant. The Company's senior secured credit facilities limit CONSOL Energy's ability to pay dividends up to \$25 million annually, which increases to \$50 million annually when the Company's total net leverage ratio is less than 1.50 to 1.00 and subject to an aggregate amount up to a cumulative credit calculation set forth in the facilities. The total net leverage ratio was 1.93 to 1.00 and the cumulative credit was approximately \$35 million at December 31, 2019. The cumulative credit starts with \$50 million and builds with excess cash flow commencing in 2018. The calculation of the total net leverage ratio excludes the Partnership. The credit facilities do not permit dividend payments in the event of default. The Indenture to the 11.00% Senior Secured Second Lien Notes limits dividends when the Company's total net leverage ratio exceeds 2.00 to 1.00 and subject to an amount not to exceed an annual rate of 4.0% of the quoted public market value per share of such common stock at the time of the declaration. The Indenture does not permit dividend payments in the event of default.

In connection with the separation and distribution, the Partnership entered into an intercompany loan arrangement with the Company with an initial outstanding balance of \$201 million. The Partnership used the initial loan to repay outstanding borrowings under the prior revolving credit facility, which was then terminated. The new intercompany loan arrangement similarly limits the Partnership's ability to pay distributions to its unitholders (including the Company) when the Partnership's net leverage ratio exceeds 3.25 to 1.00 or the Partnership's first lien gross leverage ratio exceeds 2.75 to 1.00.

On January 24, 2020, the Board of Directors of CCR's general partner declared a cash distribution of \$0.5125 per unit to CCR's limited partner unitholders and the holder of the general partner interest. The cash distribution will be paid on February 14, 2020 to the unitholders of record at the close of business on February 10, 2020.

Upon payment of the cash distribution with respect to the quarter ended June 30, 2019, the financial requirements for the conversion of all CCR subordinated units were satisfied. As a result, on August 16, 2019, all 11,611,067 of CCR's subordinated units, owned entirely by CONSOL Energy Inc., were converted into common units on a one-for-one basis. The conversion did not impact the amount of the cash distribution paid or the total number of CCR's outstanding units representing limited partner interests.

Off-Balance Sheet Transactions

CONSOL Energy does not maintain off-balance sheet transactions, arrangements, obligations or other relationships with unconsolidated entities or others that are reasonably likely to have a material current or future effect on CONSOL Energy's financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources which are not disclosed in the Notes to the Consolidated Financial Statements of this Form 10-K. CONSOL Energy participates in the United Mine Workers of America (the "UMWA") Combined Benefit Fund and the UMWA 1992 Benefit Plan which generally accepted accounting principles recognize on a pay-as-you-go basis. These benefit arrangements may result in additional liabilities that are not recognized on the Consolidated Balance Sheet at December 31, 2019. The various multi-employer benefit plans are discussed in Note 16—Other Employee Benefit Plans in the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K. CONSOL Energy's total contributions under the Coal Industry Retiree Health Benefit Act of 1992 were \$6,042, \$6,829 and \$7,647 for the years ended December 31, 2019, 2018 and 2017, respectively. Based on available information at December 31, 2019, CONSOL Energy's obligation for the UMWA Combined Benefit Fund and 1992 Benefit Plan is estimated to be approximately \$62,295. CONSOL Energy also uses a combination of surety bonds, corporate guarantees and letters of credit to secure its financial obligations for employee-related, environmental, performance and various other items which are not reflected on the Consolidated Balance Sheet at December 31, 2019. Management believes these items will expire without being funded. See Note 21—Commitments and Contingent Liabilities in the Notes to the Consolidated Financial Statements included in Item 8 of this Form 10-K for additional details of the various financial guarantees that have been issued by CONSOL Energy.

Recent Accounting Pronouncements

In January 2020, the FASB issued Accounting Standards Update (“ASU”) 2020-01 - Investments - Equity Securities (Topic 321), Investments - Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815) to clarify certain interactions between the guidance to account for certain equity securities under Topic 321, the guidance to account for investments under the equity method of accounting in Topic 323, and the guidance in Topic 815, which could change how an entity accounts for an equity security under the measurement alternative or a forward contract or purchased option to purchase securities that, upon settlement of the forward contract or exercise of the purchased option, would be accounted for under the equity method of accounting or the fair value option in accordance with Topic 825, Financial Instruments. These amendments improve current GAAP by reducing diversity in practice and increasing comparability of the accounting for these interactions. These changes will be effective for fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. Early adoption is permitted. Management does not expect this update to have a material impact on the Company's financial statements.

In December 2019, the FASB issued ASU 2019-12 - Income Taxes (Topic 740) to reduce the complexity of accounting for income taxes while maintaining or improving the usefulness of the information provided to users of financial statements. The amendments in Update 2019-12 will remove the following exceptions: (1) the exception to the incremental approach for intra-period tax allocation; (2) exceptions to accounting for basis differences when there are ownership changes in foreign investments; and (3) the exception to the general methodology for calculating income taxes in an interim period when a year-to-date loss exceeds the anticipated loss for the year. The amendments in Update 2019-12 will also simplify the accounting for income taxes in the areas of franchise tax, step up in the tax basis of goodwill associated with a business combination, allocation of current and deferred tax expense to a legal entity that is not subject to tax in its separate financial statements, and presentation of the effect of an enacted change in tax laws or rates in the annual effective tax rate computation in the interim period that includes the enactment date. The update adds minor codification improvements for income taxes related to employee stock ownership plans and investments in qualified affordable housing projects accounted for using the equity method. These changes will be effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years. Early adoption is permitted. Management does not expect this update to have a material impact on the Company's financial statements.

In August 2018, the FASB issued ASU 2018-15 - Intangibles - Goodwill and Other - Internal Use Software (Subtopic 350-40) to help entities evaluate the accounting for fees paid by a customer in a cloud computing arrangement (hosting arrangement) by providing guidance for determining when the arrangement includes a software license. The amendments in Update 2018-15 align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements of capitalizing implementation costs incurred to develop or obtain internal-use software. These changes will be effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Management does not expect this update to have a material impact on the Company's financial statements.

In August 2018, the FASB issued ASU 2018-14 - Compensation - Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20) to improve the effectiveness of disclosures in the notes to the financial statements by facilitating clear communication of the information required by GAAP. The amendments modify the disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. These changes will be effective for fiscal years ending after December 15, 2020, including interim periods within those fiscal years. Management is currently evaluating the impact this guidance may have on the Company's financial statements.

In August 2018, the FASB issued ASU 2018-13 - Fair Value Measurement (Topic 820) to improve the effectiveness of disclosures in the notes to the financial statements by facilitating clear communication of the information required by GAAP. The amendments modify the disclosure requirements on fair value measurements including the consideration of costs and benefits. These changes will be effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Management does not expect this update to have a material impact on the Company's financial statements.

In June 2016, the FASB issued ASU 2016-13 - Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, which provides financial statement users with more decision-useful information about the expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. To achieve this, the amendments in this Update replace the incurred loss impairment methodology in current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The measurement of expected credit losses will be based on relevant information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. In May 2019, the FASB updated Topic 326 by issuing ASU 2019-05, Financial Instruments-Credit Losses (Topic 326): Targeted Transition Relief, which provides entities that have certain instruments within the scope of Subtopic 326-20, Financial Instruments-Credit Losses - Measured at Amortized Cost, with an option to irrevocably elect the fair value option in Subtopic 825-10, Financial Instruments-Overall, applied on an instrument-by-instrument basis for eligible instruments, upon

adoption of Topic 326. The amendments in these Updates will be applied using a modified-retrospective approach and, for public entities, are effective for fiscal years beginning after December 15, 2019 and interim periods within those fiscal years. CONSOL Energy's exposure to credit losses is concentrated on trade and other receivables arising from contractual agreements. Additional disclosures will be required to describe the nature and amount of the Company's credit losses, including the significant assumptions and judgments required to value the losses, and the accounting policy elections taken. The Company is implementing processes and controls to review the credit losses for appropriate accounting treatment in the context of the standards and to generate disclosures required under the standards, which the Company expects to disclose in its Quarterly Report on Form 10-Q for the first quarter of 2020. As of the filing date of this Form 10-K, based on the Company's historical collection efforts, current industry trends in the markets the Company serves and the financial health of the Company's counterparties, the expected credit losses recognized upon adoption of this guidance are not expected to have a material impact on the Company's financial statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

In addition to the risks inherent in operations, CONSOL Energy is exposed to financial, market, political and economic risks. The following discussion provides additional detail regarding the Company's exposure to the risks related to changes in commodity prices, interest rates and foreign exchange rates.

Commodity Price Risk

CONSOL Energy is exposed to market price risk in the normal course of selling coal. CONSOL Energy sells coal in the spot market and under both short-term and multi-year contracts that may contain base prices subject to pre-established price adjustments that reflect (i) variances in the quality characteristics of coal delivered to the customer beyond threshold quality characteristics specified in the applicable sales contract, (ii) the actual calorific value of coal delivered to the customer, and/or (iii) changes in electric power prices in the markets in which the Company's customers operate, as adjusted for any factors set forth in the applicable contract.

CONSOL Energy has established risk management policies and procedures to strengthen the internal control environment of the marketing of commodities produced from its asset base. CONSOL Energy's market risk strategy incorporates fundamental risk management tools to assess market price risk and establish a framework in which management can maintain a portfolio of transactions within pre-defined risk parameters.

Interest Rate Risk

CONSOL Energy's interest expense is sensitive to changes in the general level of interest rates in the United States. At December 31, 2019, CONSOL Energy had \$352 million aggregate principal amount of debt outstanding under fixed-rate instruments, including unamortized debt issuance costs of \$5 million, and \$361 million of debt outstanding under variable-rate instruments, including unamortized debt issuance costs of \$5 million. CONSOL Energy's primary exposure to market risk for changes in interest rates relates to the Company's senior secured credit facilities, under which there were \$361 million of borrowings at December 31, 2019. A hypothetical 100 basis-point increase in the average rate for CONSOL Energy's senior secured credit facilities would decrease pre-tax future earnings by \$4 million.

Foreign Exchange Rate Risk

All of CONSOL Energy's transactions are denominated in U.S. dollars, and, as a result, the Company does not have material exposure to currency exchange-rate risks. However, because coal is sold internationally in U.S. dollars, general economic conditions in foreign markets and changes in foreign currency exchange rates may provide the Company's international competitors with a competitive advantage. If CONSOL Energy's competitors' currencies decline against the U.S. dollar or against the Company's international customers' local currencies, those competitors may be able to offer lower prices for coal to the Company's customers. Furthermore, if the currencies of CONSOL Energy's overseas customers were to significantly decline in value in comparison to the U.S. dollar, those customers may seek decreased prices for the coal the Company sells to them. Consequently, currency fluctuations could adversely affect the competitiveness of CONSOL Energy's coal in international markets.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of CONSOL Energy Inc. and Subsidiaries

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of CONSOL Energy Inc. and Subsidiaries (the Company) as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2019, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 14, 2020 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

Critical Audit Matter

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

Asset Retirement Obligations - Closed Mines

Description of the Matter

CONSOL Energy accrues for the costs of current coal mine disturbance and final coal mine and gas well closure, including the cost of treating mine water discharge where necessary. Estimates of the Company's asset retirement obligations are based upon permit requirements and CONSOL Energy's assessment of these requirements. The total asset retirement obligations, including the current portion, were approximately \$272 million at December 31, 2019. This liability is reviewed annually, or when events and circumstances indicate an adjustment is necessary, by CONSOL Energy management and engineers. The estimated liability can significantly change if actual costs vary from the assumptions used in estimating the obligation or if governmental regulations change significantly. As discussed in Note 1 and Note 7 of the consolidated financial statements, the Company's accounting for Asset Retirement Obligations requires that the fair value of an Asset Retirement Obligation be recognized in the period in which it is incurred if a reasonable estimate of fair value can be made. For active locations, the present value of the estimated asset retirement costs is capitalized as part of the carrying amount of the long-lived asset. For locations that have been fully depleted, or closed, the present value of the change is recorded directly to the consolidated statements of income.

Auditing the amounts recorded for closed-mine asset retirement obligations is complex due to the nature of the assumptions used in the measurement process. The amounts recorded for asset retirement obligations are dependent upon a number of factors, including the estimated future expenditures, estimated mine life, inflation rates and the assumed credit-adjusted risk-free interest rate.

How We Addressed the Matter in Our Audit

We tested controls that address the risk of material misstatement relating to the measurement of the closed-mine asset retirement obligation. For example, we tested controls over management's review of the asset retirement obligation calculation, management's review over the timing and amount of expected asset retirement costs and management's review over the significant assumptions discussed above.

To test the closed-mine asset retirement obligation calculation, our audit procedures included, among others, assessing the methodology, testing the significant assumptions discussed above and testing the underlying data used by the Company in its analyses. We compared the assumptions used in developing the inflation rate, credit-adjusted risk-free rate and proved reserves used by management to historical trends, published reports and publicly available information. We compared the expected amounts and timing of asset retirement obligations costs to historical data and evaluated the changes in those amounts. For example, we evaluated management's methodology for determining the amount and timing of asset retirement obligation costs which is utilized to measure the asset retirement obligation, to current year activity, published pricing data and historical amounts. In addition, we also involved our specialist to assist in our evaluation of management's assumptions of its closed mines, including regulatory requirements, reclamation plans, estimated asset retirement obligation costs, and engineering drawings for consistency with permit requirements. We also tested the completeness and accuracy of the data used in the Company's calculation.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2017.

Pittsburgh, Pennsylvania
February 14, 2020

CONSOL ENERGY INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME
(Dollars in thousands, except per share data)

For the Years Ended December 31,

	2019	2018	2017
Revenue and Other Income:			
Coal Revenue	\$ 1,288,529	\$ 1,364,292	\$ 1,187,654
Terminal Revenue	67,363	64,926	60,066
Freight Revenue	19,667	43,572	73,692
Miscellaneous Other Income (Note 4)	53,349	58,660	73,279
Gain on Sale of Assets	1,995	565	17,212
Total Revenue and Other Income	1,430,903	1,532,015	1,411,903
Costs and Expenses:			
Operating and Other Costs	948,012	946,450	886,709
Depreciation, Depletion and Amortization	207,097	201,264	172,002
Freight Expense	19,667	43,572	73,692
Selling, General and Administrative Costs	67,111	65,346	83,605
Loss on Debt Extinguishment	24,455	3,922	—
Interest Expense, net	66,464	83,848	26,098
Total Costs and Expenses	1,332,806	1,344,402	1,242,106
Earnings Before Income Tax	98,097	187,613	169,797
Income Tax Expense (Note 6)	4,539	8,828	87,228
Net Income	93,558	178,785	82,569
Less: Net Income Attributable to Noncontrolling Interest	17,557	25,809	14,940
Net Income Attributable to CONSOL Energy Inc. Shareholders	\$ 76,001	\$ 152,976	\$ 67,629
Earnings per Share:			
Total Basic Earnings per Share	\$ 2.82	\$ 5.48	\$ 2.42
Total Dilutive Earnings per Share	\$ 2.81	\$ 5.38	\$ 2.40

The accompanying notes are an integral part of these financial statements.

CONSOL ENERGY INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Dollars in thousands)

	For the Years Ended December 31,		
	2019	2018	2017
Net Income	\$ 93,558	\$ 178,785	\$ 82,569
Other Comprehensive Income (Loss):			
Actuarially Determined Long-Term Liability Adjustments:			
Amortization of Prior Service Credits (net of tax: \$697, \$662, \$1,076)	(2,075)	(2,246)	(1,832)
Recognized Net Actuarial Loss (net of tax: \$(3,958), \$(5,590), \$(9,039))	11,773	18,960	15,391
Settlement Loss (net of tax: \$0, \$0, \$(2,312))	—	—	7,841
Other Comprehensive (Loss) Gain before Reclassifications (net of tax: \$11,690, \$(14,986), \$(26,360))	(34,830)	49,627	73,519
Unrecognized Loss on Derivatives:			
Unrealized Loss on Cash Flow Hedges (net of tax: \$37, \$0, \$0)	(117)	—	—
Other Comprehensive (Loss) Income	(25,249)	66,341	94,919
Comprehensive Income	\$ 68,309	\$ 245,126	\$ 177,488
Less: Comprehensive Income Attributable to Noncontrolling Interest	17,551	25,803	14,896
Comprehensive Income Attributable to CONSOL Energy Inc. Shareholders	<u>\$ 50,758</u>	<u>\$ 219,323</u>	<u>\$ 162,592</u>

The accompanying notes are an integral part of these financial statements.

CONSOL ENERGY INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(Dollars in thousands)

	<u>December 31, 2019</u>	<u>December 31, 2018</u>
ASSETS		
Current Assets:		
Cash and Cash Equivalents	\$ 80,293	\$ 235,677
Restricted Cash	—	29,258
Accounts and Notes Receivable		
Trade Receivables, net of Allowance	131,688	87,589
Other Receivables	40,984	41,355
Inventories (Note 8)	54,131	48,646
Prepaid Expenses and Other Assets	30,933	31,430
Total Current Assets	<u>338,029</u>	<u>473,955</u>
Property, Plant and Equipment (Note 9):		
Property, Plant and Equipment	5,008,180	4,838,171
Less—Accumulated Depreciation, Depletion and Amortization	2,916,015	2,731,643
Total Property, Plant and Equipment—Net	<u>2,092,165</u>	<u>2,106,528</u>
Other Assets:		
Deferred Income Taxes (Note 6)	103,505	77,545
Right of Use Asset - Operating Leases (Note 13)	72,632	—
Other	87,471	102,699
Total Other Assets	<u>263,608</u>	<u>180,244</u>
TOTAL ASSETS	<u><u>\$ 2,693,802</u></u>	<u><u>\$ 2,760,727</u></u>

The accompanying notes are an integral part of these financial statements.

CONSOL ENERGY INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(Dollars in thousands)

	December 31, 2019	December 31, 2018
LIABILITIES AND EQUITY		
Current Liabilities:		
Accounts Payable	\$ 106,223	\$ 130,930
Current Portion of Long-Term Debt (Note 12 and Note 13)	50,272	134,812
Other Accrued Liabilities (Note 11)	235,769	226,434
Total Current Liabilities	392,264	492,176
Long-Term Debt:		
Long-Term Debt (Note 12)	653,802	708,536
Finance Lease Obligations (Note 13)	9,036	25,690
Total Long-Term Debt	662,838	734,226
Deferred Credits and Other Liabilities:		
Postretirement Benefits Other Than Pensions (Note 14)	432,496	441,246
Pneumoconiosis Benefits (Note 15)	202,142	165,001
Asset Retirement Obligations (Note 7)	250,211	235,984
Workers' Compensation (Note 15)	61,194	59,742
Salary Retirement (Note 14)	49,930	64,172
Operating Lease Liability (Note 13)	55,413	—
Other	14,919	16,569
Total Deferred Credits and Other Liabilities	1,066,305	982,714
TOTAL LIABILITIES	2,121,407	2,209,116
Stockholders' Equity:		
Common Stock, \$0.01 Par Value; 62,500,000 Shares Authorized, 25,932,618 Shares Issued and Outstanding at December 31, 2019; 27,437,844 Shares Issued and Outstanding at December 31, 2018	259	274
Capital in Excess of Par Value	523,762	550,995
Retained Earnings	259,903	182,148
Accumulated Other Comprehensive Loss	(348,725)	(323,482)
Total CONSOL Energy Inc. Stockholders' Equity	435,199	409,935
Noncontrolling Interest	137,196	141,676
TOTAL EQUITY	572,395	551,611
TOTAL LIABILITIES AND EQUITY	\$ 2,693,802	\$ 2,760,727

The accompanying notes are an integral part of these financial statements.

CONSOL ENERGY INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Dollars in thousands)

	Common Stock	Capital in Excess of Par Value	Retained (Deficit) Earnings	Parent Net Investment	Accumulated Other Comprehensive (Loss) Income	Total CONSOL Energy Inc. Stockholders' Equity	Non-Controlling Interest	Total Equity
December 31, 2016	\$ —	\$ —	\$ —	\$1,057,694	\$ (400,063)	\$ 657,631	\$ 142,493	\$ 800,124
Net (Loss) Income	—	—	(43,713)	111,342	—	67,629	14,940	82,569
Actuarially Determined Long-Term Liability Adjustments (Net of \$30,323 Tax)	—	—	—	—	94,963	94,963	(44)	94,919
Comprehensive (Loss) Income	—	—	(43,713)	111,342	94,963	162,592	14,896	177,488
Net Parent Distributions	—	—	—	(207,008)	—	(207,008)	—	(207,008)
Spin Distribution to CNX Resources	—	—	—	(425,000)	—	(425,000)	—	(425,000)
Separation Adjustments	—	537,028	—	(537,028)	—	—	—	—
Issuance of Common Stock	280	(280)	—	—	—	—	—	—
Amortization of Stock-Based Compensation Awards	—	16,212	—	—	—	16,212	5,873	22,085
Shares/Units Withheld for Taxes	—	(167)	—	—	—	(167)	(1,989)	(2,156)
Distributions to Noncontrolling Interest	—	—	—	—	—	—	(21,892)	(21,892)
December 31, 2017	<u>\$ 280</u>	<u>\$ 552,793</u>	<u>\$ (43,713)</u>	<u>\$ —</u>	<u>\$ (305,100)</u>	<u>\$ 204,260</u>	<u>\$ 139,381</u>	<u>\$ 343,641</u>
Net Income	—	—	152,976	—	—	152,976	25,809	178,785
Actuarially Determined Long-Term Liability Adjustments (Net of \$19,914 Tax)	—	—	—	—	66,347	66,347	(6)	66,341
Comprehensive Income	—	—	152,976	—	66,347	219,323	25,803	245,126
Separation Adjustments	—	7,216	—	—	—	7,216	—	7,216
Issuance of Common Stock	1	(1)	—	—	—	—	—	—
Repurchases of Common Stock (708,245 Shares)	(7)	(13,988)	(11,844)	—	—	(25,839)	—	(25,839)
Purchase of CCR Units (167,958 Units)	—	(905)	—	—	—	(905)	(2,174)	(3,079)
Reclassification of Stranded Tax Effect of Change in Tax Law	—	—	84,729	—	(84,729)	—	—	—
Amortization of Stock-Based Compensation Awards	—	8,392	—	—	—	8,392	1,843	10,235
Shares/Units Withheld for Taxes	—	(2,512)	—	—	—	(2,512)	(912)	(3,424)
Distributions to Noncontrolling Interest	—	—	—	—	—	—	(22,265)	(22,265)
December 31, 2018	<u>\$ 274</u>	<u>\$ 550,995</u>	<u>\$ 182,148</u>	<u>\$ —</u>	<u>\$ (323,482)</u>	<u>\$ 409,935</u>	<u>\$ 141,676</u>	<u>\$ 551,611</u>
Net Income	—	—	76,001	—	—	76,001	17,557	93,558
Actuarially Determined Long-Term Liability Adjustments (Net of (\$8,429) Tax)	—	—	—	—	(25,126)	(25,126)	(6)	(25,132)
Interest Rate Hedge (Net of (\$37) Tax)	—	—	—	—	(117)	(117)	—	(117)
Comprehensive Income (Loss)	—	—	76,001	—	(25,243)	50,758	17,551	68,309
Issuance of Common Stock	2	(2)	—	—	—	—	—	—
Repurchases of Common Stock (1,717,497 Shares)	(17)	(34,470)	1,754	—	—	(32,733)	—	(32,733)
Purchase of CCR Units (26,297 Units)	—	(29)	—	—	—	(29)	(340)	(369)
Amortization of Stock-Based Compensation Awards	—	11,351	—	—	—	11,351	1,409	12,760
Shares/Units Withheld for Taxes	—	(4,083)	—	—	—	(4,083)	(880)	(4,963)
Distributions to Noncontrolling Interest	—	—	—	—	—	—	(22,220)	(22,220)
December 31, 2019	<u>\$ 259</u>	<u>\$ 523,762</u>	<u>\$ 259,903</u>	<u>\$ —</u>	<u>\$ (348,725)</u>	<u>\$ 435,199</u>	<u>\$ 137,196</u>	<u>\$ 572,395</u>

The accompanying notes are an integral part of these financial statements.

CONSOL ENERGY INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in thousands)

	For the Years Ended December 31,		
	2019	2018	2017
Cash Flows from Operating Activities:			
Net Income	\$ 93,558	\$ 178,785	\$ 82,569
Adjustments to Reconcile Net Income to Net Cash Provided by Operating Activities:			
Depreciation, Depletion and Amortization	207,097	201,264	172,002
Stock/Unit-Based Compensation	12,760	10,235	22,085
Gain on Sale of Assets	(1,995)	(565)	(17,212)
Amortization of Debt Issuance Costs	6,416	8,858	977
Loss on Debt Extinguishment	24,455	3,922	—
Deferred Income Taxes	(17,419)	(16,482)	16,610
Changes in Operating Assets:			
Trade and Other Receivables	(38,960)	39,157	(44,417)
Inventories	(5,485)	4,774	(3,259)
Prepaid Expenses and Other Assets	497	(7,307)	(2,877)
Changes in Other Assets	17,302	15,583	5,729
Changes in Operating Liabilities:			
Accounts Payable	(21,714)	37,488	7,043
Other Operating Liabilities	(7,884)	(38,659)	46,421
Changes in Other Liabilities	(24,062)	(23,526)	(40,765)
Other	—	(2)	3,204
Net Cash Provided by Operating Activities	<u>244,566</u>	<u>413,525</u>	<u>248,110</u>
Cash Flows from Investing Activities:			
Capital Expenditures	(169,739)	(145,749)	(81,413)
Proceeds from Sales of Assets	2,201	2,103	24,582
Other Investing Activity	(5,003)	(10,000)	—
Net Cash Used in Investing Activities	<u>(172,541)</u>	<u>(153,646)</u>	<u>(56,831)</u>
Cash Flows from Financing Activities:			
Payments on Finance Lease Obligations	(18,549)	(15,484)	(3,904)
Proceeds from Term Loan A	26,250	—	100,000
Payments on Term Loan A	(11,250)	(26,250)	—
Proceeds from Term Loan B	—	—	392,147
Payments on Term Loan B	(124,437)	(4,000)	—
Proceeds from Second Lien Notes	—	—	300,000
Payments on Second Lien Notes	(52,648)	(25,724)	—
Proceeds from Asset-Backed Financing	3,757	—	—
Payments on Asset-Backed Financing	(240)	—	—
Net Payments on Revolver - MLP	—	—	(201,000)
Distributions to Noncontrolling Interest	(22,220)	(22,265)	(21,892)
Shares/Units Withheld for Taxes	(4,963)	(3,424)	(2,156)
Repurchases of Common Stock	(32,733)	(25,839)	—
Purchases of CCR Units	(369)	(3,079)	—
Spin Distribution to CNX Resources Corporation	—	(18,234)	(425,000)
Other Parent Net Distributions	—	—	(156,502)
Premium Paid on Extinguishment of Debt	(6,773)	(2,458)	—
Debt Issuance and Financing Fees	(12,492)	(2,166)	(32,304)
Net Cash Used in Financing Activities	<u>(256,667)</u>	<u>(148,923)</u>	<u>(50,611)</u>
Net (Decrease) Increase in Cash and Cash Equivalents and Restricted Cash	(184,642)	110,956	140,668
Cash and Cash Equivalents and Restricted Cash at Beginning of Period	264,935	153,979	13,311
Cash and Cash Equivalents and Restricted Cash at End of Period	<u>\$ 80,293</u>	<u>\$ 264,935</u>	<u>\$ 153,979</u>

The accompanying notes are an integral part of these financial statements.

CONSOL ENERGY INC. AND SUBSIDIARIES
NOTES TO AUDITED CONSOLIDATED FINANCIAL STATEMENTS
(Dollars in thousands, except per share data)

NOTE 1—SIGNIFICANT ACCOUNTING POLICIES:

Unless otherwise indicated or except where the context otherwise requires, references to “we,” “our,” “us,” “our Company,” “the Company” and “CONSOL Energy” refer to CONSOL Energy Inc. and its subsidiaries on or after November 28, 2017 and to CONSOL Mining Corporation and its subsidiaries prior to November 28, 2017, except to the extent of any discussion of the financial condition, results of operations, cash flows, and other business activities of the Company on or prior to November 28, 2017 that relate specifically to the Coal Business, in which case such references shall be to the Predecessor.

A summary of the significant accounting policies of CONSOL Energy Inc. and its subsidiaries is presented below. These, together with the other notes that follow, are an integral part of the Consolidated Financial Statements.

Basis of Consolidation

The Consolidated Financial Statements include the accounts of CONSOL Energy Inc. and its wholly owned and majority-owned and/or controlled subsidiaries. The portion of these entities that is not owned by the Company is presented as non-controlling interest. All significant intercompany transactions and accounts have been eliminated in consolidation.

Prior to the separation, CONSOL Energy did not operate as a separate, standalone entity. The Company's operations were included in its former parent's financial results. Accordingly, for all periods prior to the separation and distribution, the accompanying Consolidated Financial Statements were prepared from the Company's former parent's historical accounting records and were presented on a standalone basis as if the Company's operations had been conducted independently from its former parent. Such Consolidated Financial Statements include the historical operations that were considered to comprise the Company's businesses, as well as certain assets and liabilities that were historically held at the Company's former parent's corporate level but were specifically identifiable or otherwise attributable to the Company. The Company's former parent's net investment in these operations is reflected as Parent Net Investment in the accompanying Consolidated Financial Statements. All significant intercompany transactions between the Company's former parent and the Company were included within Parent Net Investment in the accompanying Consolidated Financial Statements.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, as well as various disclosures. Actual results could differ from those estimates. The most significant estimates included in the preparation of the consolidated financial statements are related to other postretirement benefits, coal workers' pneumoconiosis, workers' compensation, salary retirement benefits, stock-based compensation, asset retirement obligations, deferred income tax assets and liabilities, contingencies and the values of coal properties.

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand and on deposit at banking institutions as well as all highly liquid short-term securities with original maturities of three months or less.

Restricted Cash

Restricted cash represents cash collateral supporting the Company's surety bond portfolio and letters of credit issued under the Company's accounts receivable securitization program.

Trade Receivables and Allowance for Doubtful Accounts

Trade receivables are recorded at the invoiced amount and do not bear interest. Trade credit is extended based upon evaluations of each customer's ability to perform its obligations, which is assessed regularly. An allowance for doubtful accounts is determined based upon an aging of customer accounts and a review for collectibility of specific accounts. Amounts are written off against the allowance in the period in which the receivable is deemed uncollectible. The allowance for doubtful accounts was \$2,100 as of December 31, 2019. No allowance for doubtful accounts was recorded as of December 31, 2018. In addition, there were no material financing receivables with a contractual maturity greater than one year at December 31, 2019 or 2018.

Inventories

Inventories are stated at the lower of cost or net realizable value. The cost of coal inventories is determined by the first-in, first-out (FIFO) method. Coal inventory costs include labor, supplies, equipment costs, operating overhead, depreciation, depletion, amortization, and other related costs. The cost of supplies inventory is determined by the average cost method and includes operating and maintenance supplies to be used in the Company's coal operations.

Property, Plant and Equipment

Property, plant and equipment is recorded at cost upon acquisition. Expenditures which extend the useful lives of existing plant and equipment are capitalized. Interest costs applicable to major asset additions are capitalized during the construction period. Costs of additional mine facilities required to maintain production after a mine reaches the production stage, generally referred to as "receding face costs," are expensed as incurred; however, the costs of additional airshafts and new portals are capitalized. Planned major maintenance costs which do not extend the useful lives of existing plant and equipment are expensed as incurred.

Coal exploration costs are expensed as incurred. Coal exploration costs include those incurred to ascertain existence, location, extent or quality of ore or minerals before beginning the development stage of the mine. Costs of developing new underground mines and certain underground expansion projects are capitalized. Underground development costs, which are costs incurred to make the mineral physically accessible, include costs to prepare property for shafts, driving main entries for ventilation, haulage, personnel, construction of airshafts, roof protection and other facilities.

Airshafts and capitalized mine development associated with a coal reserve are amortized on a units-of-production basis as the coal is produced so that each ton of coal is assigned a portion of the unamortized costs. The Company employs this method to match costs with the related revenues realized in a particular period. Rates are updated when revisions to coal reserve estimates are made. Coal reserve estimates are reviewed when information becomes available that indicates a reserve change is needed, or at a minimum once a year. Any material effect from changes in estimates is disclosed in the period the change occurs. Amortization of development costs begins when the development phase is complete and the production phase begins. At an underground mine, the end of the development phase and the beginning of the production phase takes place when construction of the mine for economic extraction is substantially complete. Coal extracted during the development phase is incidental to the mine's production capacity and is not considered to shift the mine into the production phase.

Coal reserves are either owned in fee or controlled by lease. The duration of the leases vary; however, the lease terms are generally extended automatically to the exhaustion of economically recoverable reserves, as long as active mining continues. Coal interests held by lease provide the same rights as fee ownership for mineral extraction and are legally considered real property interests. Depletion of leased coal interests is computed using the units-of-production method over recoverable coal reserves. The Company also makes advance payments (advanced mining royalties) to lessors under certain lease agreements that are recoupable against future production, and it makes payments that are generally based upon a specified rate per ton or a percentage of gross realization from the sale of the coal. The Company evaluates its properties for impairment issues whenever events or circumstances indicate that the carrying amount may not be recoverable.

Costs to obtain coal lands are capitalized based on the cost at acquisition and are amortized using the units-of-production method over all estimated recoverable reserve tons assigned and accessible to the mine. Recoverable coal reserves are estimated on a clean coal ton equivalent, which excludes non-recoverable coal reserves and anticipated central preparation plant processing refuse. Rates are updated when revisions to coal reserve estimates are made. Coal reserve estimates are reviewed when events and circumstances indicate a reserve change is needed, or at a minimum once a year. Amortization of coal interests begins when the coal reserve is produced. At an underground mine, a ton is considered produced once it reaches the surface area of the mine. Any material effect from changes in estimates is disclosed in the period the change occurs.

Advance mining royalties are advance payments made to lessors under terms of mineral lease agreements that are recoupable against future production using the units-of-production method. Depletion of leased coal interests is computed using the units-of-production method over recoverable coal reserves. Advance mining royalties and leased coal interests are evaluated for impairment issues whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Any revisions are accounted for prospectively as changes in accounting estimates.

When properties are retired or otherwise disposed, the related cost and accumulated depreciation are removed from the respective accounts and any profit or loss on disposition is recognized in Gain on Sale of Assets in the Consolidated Statements of Income.

Depreciation of plant and equipment is calculated using the straight-line method over the estimated useful lives or lease terms, generally as follows:

	Years
Buildings and improvements	10 to 45
Machinery and equipment	3 to 25
Leasehold improvements	Life of Lease

Capitalization of Interest

Interest costs associated with the development of significant properties and projects are capitalized until the project is substantially complete and ready for its intended use. A weighted average cost of borrowing rate is used. For the years ended December 31, 2019, 2018, and 2017, capitalized interest totaled \$6,686, \$6,033 and \$1,444, respectively.

Impairment of Long-lived Assets

Impairment of long-lived assets is recorded when indicators of impairment are present and the undiscounted cash flows estimated to be generated by those assets are less than the assets' carrying value. The carrying value of the assets is then reduced to its estimated fair value which is usually measured based on an estimate of future discounted cash flows. There were no indicators of impairment and therefore, no impairment losses were recorded during the years ended December 31, 2019, 2018, and 2017.

Income Taxes

The Company files a consolidated federal income tax return and utilizes the asset and liability method to account for income taxes. The provision for income taxes represents amounts paid or estimated to be payable, net of amounts refunded or estimated to be refunded, for the current year and the change in deferred taxes, exclusive of amounts recorded in Other Comprehensive (Loss) Income. Any refinements to prior years' taxes made due to subsequent information are reflected as adjustments in the current period.

Deferred income tax assets and liabilities are determined based on temporary differences between the financial reporting and tax bases of assets and liabilities and are recognized using enacted tax rates for the effect of such temporary differences. Deferred tax assets are reduced by a valuation allowance if it is more likely than not that some portion or all of the deferred tax asset will not be realized.

In accounting for uncertainty in income taxes of a tax position taken or expected to be taken in a tax return, the Company utilizes a recognition threshold and measurement attribute for the financial statement recognition and measurement. The recognition threshold requires the Company to determine whether it is more likely than not that a tax position will be sustained upon examination, including resolution of any related appeals or litigation processes, based on the technical merits of the position in order to record any financial statement benefit. If it is more likely than not that a tax position will be sustained, then the Company must measure the tax position to determine the amount of benefit to recognize in the financial statements. The tax position is measured at the largest amount of benefit that is greater than 50% likely of being realized upon ultimate settlement.

Postretirement Benefits Other Than Pensions

Postretirement benefit obligations established by the Coal Industry Retiree Health Benefit Act of 1992 (the Coal Act) are treated as a multi-employer plan which requires expense to be recorded for the associated obligations as payments are made. Postretirement benefits other than pensions, except for those established pursuant to the Coal Act, are accounted for in accordance with the Retirement Benefits Compensation and Non-retirement Postemployment Benefits Compensation Topics of the FASB Accounting Standards Codification, which requires employers to accrue the cost of such retirement benefits for the employees' active service periods. Such liabilities are determined on an actuarial basis and CONSOL Energy administers these liabilities through a combination of self-insured and fully insured agreements. Differences between actual and expected results or changes in the value of obligations are recognized through Other Comprehensive (Loss) Income.

Pneumoconiosis Benefits and Workers' Compensation

CONSOL Energy is required by federal and state statutes to provide benefits to certain current and former totally disabled employees or their dependents for awards related to coal workers' pneumoconiosis. CONSOL Energy is also required by various state statutes to provide workers' compensation benefits for employees who sustain employment-related physical injuries or some types of occupational disease. Workers' compensation benefits include compensation for disability, medical costs, and on some occasions, the cost of rehabilitation. CONSOL Energy is primarily self-insured for these benefits. Provisions for estimated benefits are determined on an actuarial basis.

Asset Retirement Obligations

Mine closing costs and costs associated with dismantling and removing de-gasification facilities are accrued using the accounting treatment prescribed by the Asset Retirement and Environmental Obligations Topic of the FASB Accounting Standards Codification. This topic requires the fair value of an asset retirement obligation be recognized in the period in which it is incurred if a reasonable estimate of fair value can be made. For active locations, the present value of the estimated asset retirement obligation is capitalized as part of the carrying amount of the long-lived asset. For locations that have been fully depleted or closed, the present value of the change is recorded directly to the consolidated statements of income. Generally, the capitalized asset retirement obligation is depreciated on a units-of-production basis. Accretion of the asset retirement obligation is recognized over time and generally will escalate over the life of the producing asset. Accretion is included in Depreciation, Depletion and Amortization on the Consolidated Statements of Income. Asset retirement obligations primarily relate to the closure of mines, which includes treatment of water and the reclamation of land upon exhaustion of coal reserves. Accrued mine closing costs, perpetual care costs, reclamation and costs associated with dismantling and removing de-gasification facilities are regularly reviewed by management and are revised for changes in future estimated costs and regulatory requirements.

Subsidence

Subsidence occurs when there is sinking or shifting of the ground surface due to the removal of underlying coal. Areas affected may include, although are not limited to, streams, property, roads, pipelines and other land and surface structures. Total estimated subsidence claims are recognized in the period when the related coal has been extracted and are included in Operating and Other Costs on the Consolidated Statements of Income and Other Accrued Liabilities on the Consolidated Balance Sheets. On occasion, CONSOL Energy prepays the estimated damages prior to undermining the property, in return for a release of liability. Prepayments are included as assets and either recognized as Prepaid Expenses and Other Assets or in Other Assets on the Consolidated Balance Sheets if the payment is made less than or greater than one year, respectively, prior to undermining the property.

Retirement Plans

CONSOL Energy has non-contributory defined benefit retirement plans. Effective December 31, 2015, CONSOL's qualified defined benefit retirement plan was frozen. The benefits for these plans are based primarily on years of service and employees' pay. These plans are accounted for using the guidance outlined in the Compensation - Retirement Benefits Topic of the FASB Accounting Standards Codification. The cost of these retiree benefits are recognized over the employees' service periods. CONSOL Energy uses actuarial methods and assumptions in the valuation of defined benefit obligations and the determination of expense. Differences between actual and expected results or changes in the value of obligations and plan assets are recognized through Other Comprehensive (Loss) Income.

Stock-Based Compensation

Eligible CONSOL Energy employees have historically participated in equity-based compensation plans. CONSOL Energy recognizes compensation expense for all stock-based compensation awards based on the grant date fair value estimated in accordance with the provisions of the Stock Compensation Topic of the FASB Accounting Standards Codification. CONSOL Energy recognizes these compensation costs on a straight-line basis over the requisite service period of the award, which is generally the award's vesting term. The compensation expense recorded by CONSOL Energy, in all periods presented, includes the expense associated with employees historically attributable to CONSOL Energy operations as well as the operations of its predecessor.

Under the CCR 2015 Long-Term Incentive Plan (the "LTIP"), the General Partner issued long-term equity based awards intended to compensate the recipients thereof based on the performance of CCR's common units and the recipients' continued service during the vesting period, as well as to align CCR's long-term interests with those of the unitholders. The LTIP limits the number of units that may be delivered pursuant to vested awards to 2,300,000 common units, subject to proportionate adjustment in the event of unit splits and similar events. Common units subject to awards that are canceled, forfeited, withheld to satisfy exercise prices or tax withholding obligations or otherwise terminated without delivery of the common units will be available for delivery pursuant to other awards.

The General Partner has also granted equity-based phantom units that vest over a period of a director's continued service. The phantom units will be paid in common units or an amount of cash equal to the fair market value of a unit based on the vesting date. The awards may accelerate upon a change in control of CCR. Compensation expense is recognized on a straight-line basis over the requisite service period, which is generally the vesting term.

Revenue Recognition

Revenues are generally recognized when title passes to the customers and the price is fixed and determinable. Generally, title passes when coal is loaded at the central preparation facility and, on occasion, at terminal locations or other customer destinations. The Company's coal contract revenue per ton is fixed and determinable and adjusted for nominal quality adjustments. Some coal contracts also contain positive electric power price-related adjustments in addition to a fixed base price per ton. None of the Company's coal contracts allow for retroactive adjustments to pricing after title to the coal has passed. See Note 3 - Revenue for additional information.

Freight Revenue and Expense

Shipping and handling costs invoiced to coal customers and paid to third-party carriers are recorded as Freight Revenue and Freight Expense, respectively.

Contingencies

From time to time, CONSOL Energy, or its subsidiaries, is subject to various lawsuits and claims with respect to such matters as personal injury, wrongful death, damage to property, exposure to hazardous substances, governmental regulations (including environmental remediation), employment and contract disputes, and other claims and actions arising out of the normal course of business. Liabilities are recorded when it is probable that obligations have been incurred and the amounts can be reasonably estimated. Estimates are developed through consultation with legal counsel involved in the defense of these matters and are based upon the nature of the lawsuit, progress of the case in court, view of legal counsel, prior experience in similar matters and management's intended response. Environmental liabilities are not discounted or reduced by possible recoveries from third-parties. Legal fees associated with defending these various lawsuits and claims are expensed when incurred.

Derivative Instruments

The Company generally utilizes derivative instruments to manage exposures to interest rate risk on long-term debt. The Company enters into interest rate swaps in order to achieve a mix of fixed and variable rate debt that it deems appropriate. These interest rate swaps have been designated as cash flow hedges of future variable interest payments and are accounted for as an asset or a liability in the accompanying Consolidated Balance Sheets at their fair value (see Note 20 - Fair Value of Financial Instruments for additional information).

In a cash flow hedge, the Company hedges the risk of changes in future cash flows related to the underlying item being hedged. Changes in the fair value of the derivative instrument used as a hedge instrument in a cash flow hedge are recorded in other comprehensive income or loss. Amounts in other comprehensive income or loss are reclassified to earnings when the hedged transaction affects earnings and are classified in a manner consistent with the transaction being hedged. The Company evaluates the effectiveness of its hedging relationships both at the hedge's inception and on an ongoing basis. Any ineffective portion of the change in fair value of a derivative instrument used as a hedge instrument in a cash flow hedge is recognized immediately in earnings.

Earnings per Share

Basic earnings per share are computed by dividing net income attributable to CONSOL Energy Inc. shareholders by the weighted average shares outstanding during the reporting period. Dilutive earnings per share are computed similarly to basic earnings per share, except that the weighted average shares outstanding are increased to include additional shares from restricted stock units and performance share units, if dilutive. The number of additional shares is calculated by assuming that outstanding restricted stock units and performance share units were released, and that the proceeds from such activities were used to acquire shares of common stock at the average market price during the reporting period.

The table below sets forth the share-based awards that have been excluded from the computation of the diluted earnings per share because their effect would be anti-dilutive:

	For the Years Ended		
	December 31,		
	2019	2018	2017
Anti-Dilutive Restricted Stock Units	175,752	620	1,469
Anti-Dilutive Performance Share Units	20,202	6,363	—
	<u>195,954</u>	<u>6,983</u>	<u>1,469</u>

The computations for basic and dilutive earnings per share are as follows:

Dollars in thousands, except per share data	For the Years Ended		
	December 31,		
	2019	2018	2017
Numerator:			
Net Income	\$ 93,558	\$ 178,785	\$ 82,569
Less: Net Income Attributable to Noncontrolling Interest	17,557	25,809	14,940
Net Income Attributable to CONSOL Energy Inc. Shareholders	<u>\$ 76,001</u>	<u>\$ 152,976</u>	<u>\$ 67,629</u>
Denominator:			
Weighted-average shares of common stock outstanding	26,938,339	27,928,245	27,968,188
Effect of dilutive shares	132,769	491,517	206,046
Weighted-average diluted shares of common stock outstanding	<u>27,071,108</u>	<u>28,419,762</u>	<u>28,174,234</u>
Earnings per Share:			
Basic	\$ 2.82	\$ 5.48	\$ 2.42
Dilutive	\$ 2.81	\$ 5.38	\$ 2.40

Prior to November 28, 2017, CONSOL Energy did not have any issued or outstanding common stock. As of December 31, 2019, CONSOL Energy has 500,000 shares of preferred stock, none of which were issued or outstanding.

Shares of common stock outstanding were as follows:

	2019	2018	2017
Balance, Beginning of Year	27,437,844	27,973,281	—
Issuance Related to Separation and Distribution ⁽¹⁾	—	—	27,967,509
Retirement Related to Stock Repurchase ⁽²⁾	(1,717,497)	(708,245)	—
Issuance Related to Stock-Based Compensation ⁽³⁾	212,271	172,808	5,772
Balance, End of Year	<u>25,932,618</u>	<u>27,437,844</u>	<u>27,973,281</u>

(1) See Note 2 - Separation from the Company's Former Parent for additional information.

(2) See Note 5 - Stock, Unit and Debt Repurchases for additional information.

(3) See Note 17 - Stock-Based Compensation for additional information.

Recent Accounting Pronouncements

In January 2020, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2020-01 - Investments - Equity Securities (Topic 321), Investments - Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815) to clarify certain interactions between the guidance to account for certain equity securities under Topic 321, the guidance to account for investments under the equity method of accounting in Topic 323, and the guidance in Topic 815, which could change how an entity accounts for an equity security under the measurement alternative or a forward contract or purchased option to purchase securities that, upon settlement of the forward contract or exercise of the purchased option, would be accounted for under the equity method of accounting or the fair value option in accordance with Topic 825, Financial Instruments. These amendments improve current GAAP by reducing diversity in practice and increasing comparability of the accounting for these interactions. These changes will be effective for fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. Early adoption is permitted. Management does not expect this update to have a material impact on the Company's financial statements.

In December 2019, the FASB issued ASU 2019-12 - Income Taxes (Topic 740) to reduce the complexity of accounting for income taxes while maintaining or improving the usefulness of the information provided to users of financial statements. The amendments in Update 2019-12 will remove the following exceptions: (1) the exception to the incremental approach for intra-period tax allocation; (2) exceptions to accounting for basis differences when there are ownership changes in foreign investments; and (3) the exception to the general methodology for calculating income taxes in an interim period when a year-to-date loss exceeds the anticipated loss for the year. The amendments in Update 2019-12 will also simplify the accounting for income taxes in the areas of franchise tax, step up in the tax basis of goodwill associated with a business combination, allocation of current and deferred tax expense to a legal entity that is not subject to tax in its separate financial statements, and presentation of the effect of an enacted change in tax laws or rates in the annual effective tax rate computation in the interim period that includes the enactment date. The update adds minor codification improvements for income taxes related to employee stock ownership plans and investments in qualified affordable housing projects accounted for using the equity method. These changes will be effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years. Early adoption is permitted. Management does not expect this update to have a material impact on the Company's financial statements.

In August 2018, the FASB issued ASU 2018-15 - Intangibles - Goodwill and Other - Internal Use Software (Subtopic 350-40) to help entities evaluate the accounting for fees paid by a customer in a cloud computing arrangement (hosting arrangement) by providing guidance for determining when the arrangement includes a software license. The amendments in Update 2018-15 align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements of capitalizing implementation costs incurred to develop or obtain internal-use software. These changes will be effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Management does not expect this update to have a material impact on the Company's financial statements.

In August 2018, the FASB issued ASU 2018-14 - Compensation - Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20) to improve the effectiveness of disclosures in the notes to the financial statements by facilitating clear communication of the information required by GAAP. The amendments modify the disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. These changes will be effective for fiscal years ending after December 15, 2020, including interim periods within those fiscal years. Management is currently evaluating the impact this guidance may have on the Company's financial statements.

In August 2018, the FASB issued ASU 2018-13 - Fair Value Measurement (Topic 820) to improve the effectiveness of disclosures in the notes to the financial statements by facilitating clear communication of the information required by GAAP. The amendments modify the disclosure requirements on fair value measurements including the consideration of costs and benefits. These changes will be effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Management does not expect this update to have a material impact on the Company's financial statements.

In June 2016, the FASB issued ASU 2016-13 - Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, which provides financial statement users with more decision-useful information about the expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. To achieve this, the amendments in this Update replace the incurred loss impairment methodology in current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The measurement of expected credit losses will be based on relevant information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. In May 2019, the FASB updated Topic 326 by issuing ASU 2019-05, Financial Instruments-Credit Losses (Topic 326): Targeted Transition Relief, which provides entities that have certain instruments within the scope of Subtopic 326-20, Financial Instruments-Credit Losses - Measured at Amortized Cost, with an option to irrevocably elect the fair value option in Subtopic 825-10, Financial Instruments-Overall, applied on an instrument-by-instrument basis for eligible instruments, upon adoption of Topic 326. The amendments in these Updates will be applied using a modified-retrospective approach and, for public entities, are effective for fiscal years beginning after December 15, 2019 and interim periods within those fiscal years. CONSOL Energy's exposure to credit losses is concentrated on trade and other receivables arising from contractual agreements. Additional disclosures will be required to describe the nature and amount of the Company's credit losses, including the significant assumptions and judgments required to value the losses, and the accounting policy elections taken. The Company is implementing processes and controls to review the credit losses for appropriate accounting treatment in the context of the standards and to generate disclosures required under the standards, which the Company expects to disclose in its Quarterly Report on Form 10-Q for the first quarter of 2020. As of the filing date of this Form 10-K, based on the Company's historical collection efforts, current industry trends in the markets the Company serves and the financial health of the Company's counterparties, the expected credit losses recognized upon adoption of this guidance are not expected to have a material impact on the Company's financial statements.

Reclassifications

Certain amounts in prior periods have been reclassified to conform with the report classifications of the current period, including the reclassification of restricted cash, previously included in Prepaid Expenses and Other Assets on the Consolidated Balance Sheets, as well as the reclassification of amortization of debt issuance costs and loss on debt extinguishment within the Operating Activities section of the Consolidated Statements of Cash Flows. These reclassifications had no effect on previously reported total assets, net income, stockholders' equity or cash flow from operating activities.

NOTE 2—SEPARATION FROM THE COMPANY'S FORMER PARENT:

In December 2016, the Company's former parent announced its intent to separate into two independent, publicly-traded companies - an independent, publicly-traded coal company and an independent, publicly-traded oil and natural gas exploration and production company. In anticipation of the separation, CONSOL Energy was originally formed as CONSOL Mining Corporation in Delaware on June 21, 2017 to hold the following assets of the Company's former parent (collectively, the "Coal Business"): (i) its interest in the Pennsylvania Mining Complex and certain related coal assets, (ii) its ownership interest in CNX Coal Resources LP, which owns a 25% undivided interest stake in the PAMC, (iii) the CONSOL Marine Terminal and, (iv) undeveloped coal reserves (Greenfield Reserves) located in the Northern Appalachian, Central Appalachian and Illinois basins and certain related coal assets and liabilities. The Registration Statement on Form 10 (as amended) filed by the Company with the SEC describes the Company and the assets and liabilities that comprise the Coal Business that it now owns after completion of the separation and distribution.

The separation occurred on November 28, 2017, through the pro rata distribution by the Company's former parent of all of the outstanding common stock of CONSOL Mining Corporation to its shareholders. In connection with the separation, CONSOL Mining Corporation changed its name to CONSOL Energy Inc. and the Company's former parent changed its name to CNX Resources Corporation. In addition, CNX Coal Resources LP changed its name to CONSOL Coal Resources LP and its ticker to CCR.

In connection with the separation and distribution, the Company entered into a separation and distribution agreement with its former parent on November 28, 2017 (the "SDA") that identified the assets of the Coal Business that were transferred to the Company, the liabilities the Company assumed and the contracts that were transferred to the Company. The agreement also implemented the legal and structural separation between the two companies. The Company also entered into additional ancillary agreements that govern the relationship between it and its former parent after the completion of the separation and distribution, and allocate between the Company and its former parent various assets, liabilities and obligations, including, among other things, employee benefits, environmental liabilities, intellectual property, and tax-related assets and liabilities. These additional agreements included a tax matters agreement ("TMA"), employee matters agreement, transition services agreement ("TSA") and certain agreements related to intellectual property.

NOTE 3—REVENUE:

The following table disaggregates CONSOL Energy's revenue from contracts with customers to depict how the nature, amount, timing and uncertainty of the Company's revenues and cash flows are affected by economic factors:

	For the Year Ended December 31, 2019	For the Year Ended December 31, 2018
Coal Revenue	\$ 1,288,529	\$ 1,364,292
Terminal Revenue	67,363	64,926
Freight Revenue	19,667	43,572
Total Revenue from Contracts with Customers	<u>\$ 1,375,559</u>	<u>\$ 1,472,790</u>

CONSOL Energy's coal revenue is recognized when title passes to the customer and the price is fixed and determinable. The Company has determined that each ton of coal represents a separate and distinct performance obligation. The Company's coal supply contracts and other sales and operating revenue contracts vary in length from short-term to long-term contracts and do not typically have significant financing components.

The estimated transaction price from each of the Company's contracts is based on the total amount of consideration to which the Company expects to be entitled under the contract. Included in the transaction price for certain coal supply contracts is the impact of variable consideration, including quality price adjustments, handling services, per ton price fluctuations based on certain coal sales price indices and anticipated payments in lieu of shipments. The estimated transaction price for each contract is allocated to the Company's performance obligations based on relative stand-alone selling prices determined at contract inception.

Coal Revenue

Revenues are generally recognized when title passes to the customers and the price is fixed and determinable. Generally, title passes when coal is loaded at the central preparation facility and, on occasion, at terminal locations or other customer destinations. The Company's coal contract revenue per ton is fixed and determinable and adjusted for nominal quality adjustments. Some coal contracts also contain positive electric power price-related adjustments in addition to a fixed base price per ton. None of the Company's coal contracts allow for retroactive adjustments to pricing after title to the coal has passed.

Some of the Company's contracts span multiple years and have annual pricing modifications, based upon market-driven or inflationary adjustments, where no additional value is exchanged. Also, some of the Company's contracts contain favorable electric power price-related adjustments, which represent market-driven price adjustments, wherein no additional value is exchanged. Management believes that the invoice price is the most appropriate rate at which to recognize revenue.

While CONSOL Energy does, from time to time, experience costs of obtaining coal customer contracts with amortization periods greater than one year, those costs are immaterial to the Company's net income. At December 31, 2019 and 2018, the Company did not have any capitalized costs to obtain customer contracts on its Consolidated Balance Sheets. As of and for the years ended December 31, 2019 and 2018, the Company has not recognized any amortization of previously existing capitalized costs of obtaining customer contracts. Further, the Company has not recognized any revenue in the current period that is not a result of current period performance.

Terminal Revenue

Terminal revenues are attributable to the Company's CONSOL Marine Terminal and include revenues earned from providing receipt and unloading of coal from rail cars, transporting coal from the receipt point to temporary storage or stockpile facilities located at the Terminal, stockpiling, blending, weighing, sampling, redelivery, and loading of coal onto vessels. Revenues for these services are generally earned on a rateable basis, and performance obligations are considered fulfilled as the services are performed.

The CONSOL Marine Terminal does not normally experience material costs of obtaining customer contracts with amortization periods greater than one year. At December 31, 2019 and 2018, the Company did not have any capitalized costs to obtain customer contracts on its Consolidated Balance Sheets. As of and for the years ended December 31, 2019 and 2018, the Company has not recognized any amortization of previously existing capitalized costs of obtaining Terminal customer contracts. Further, the Company has not recognized any revenue in the current period that is not a result of current period performance.

Freight Revenue

Some of CONSOL Energy's coal contracts require that the Company sell its coal at locations other than its central preparation plant. The cost to transport the Company's coal to the ultimate sales point is passed through to the Company's customers and CONSOL Energy recognizes the freight revenue equal to the transportation costs when title of the coal passes to the customer.

Contract Balances

Contract assets are recorded separately from trade receivables in the Company's Consolidated Balance Sheets and are reclassified to trade receivables as title passes to the customer and the Company's right to consideration becomes unconditional. Payments for coal shipments are typically due within two to four weeks from the invoice date. CONSOL Energy typically does not have material contract assets that are stated separately from trade receivables since the Company's performance obligations are satisfied as control of the goods or services passes to the customer, thereby granting the Company an unconditional right to receive consideration. Contract liabilities relate to consideration received in advance of the satisfaction of the Company's performance obligations. Contract liabilities are recognized as revenue at the point in time when control of the good or service passes to the customer.

NOTE 4—MISCELLANEOUS OTHER INCOME:

	For the Years Ended December 31,		
	2019	2018	2017
Royalty Income - Non-Operated Coal	\$ 22,208	\$ 24,722	\$ 28,089
Purchased Coal Sales	12,385	19,152	13,161
Contract Buyout	9,959	350	9,912
Interest Income	2,937	2,146	2,619
Rental Income	2,517	3,804	14,114
Property Easements and Option Income	1,631	5,644	2,436
Other	1,712	2,842	2,948
Miscellaneous Other Income	<u>\$ 53,349</u>	<u>\$ 58,660</u>	<u>\$ 73,279</u>

NOTE 5— STOCK, UNIT AND DEBT REPURCHASES:

In December 2017, CONSOL Energy's Board of Directors approved a program to repurchase, from time to time, the Company's outstanding shares of common stock or its 11.00% Senior Secured Second Lien Notes due 2025, in an aggregate amount of up to \$50 million through the period ending June 30, 2019. The program was subsequently amended by CONSOL Energy's Board of Directors in July 2018 to allow up to \$100 million of repurchases of the Company's common stock or its 11.00% Senior Secured Second Lien Notes due 2025, subject to certain limitations in the Company's current credit agreement and the TMA. The Company's Board of Directors also authorized the Company to use up to \$25 million of the program to purchase CONSOL Coal Resources LP's outstanding common units in the open market. In May 2019, CONSOL Energy's Board of Directors approved an expansion of the program in the amount of \$75 million, bringing the aggregate limit of the program to \$175 million. The May 2019 expansion also increased the aggregate limit of the amount of CCR's common units that can be purchased under the program to \$50 million, which is consistent with the Company's credit facility covenants that prohibit the Company from using more than \$50 million for the purchase of CCR's outstanding common units. The Company's Board of Directors also approved extending the termination date of the program from June 30, 2019 to June 30, 2020. In July 2019, CONSOL Energy's Board of Directors approved an expansion of the program in the amount of \$25 million, bringing the aggregate limit of the Company's stock, unit and debt repurchase program to \$200 million.

Under the terms of the program, CONSOL Energy is permitted to make repurchases in the open market, in privately negotiated transactions, accelerated repurchase programs or in structured share repurchase programs. CONSOL Energy is also authorized to enter into one or more 10b5-1 plans with respect to any of the repurchases. Any repurchases of common stock, notes or units are to be funded from available cash on hand or short-term borrowings. The program does not obligate CONSOL Energy to acquire any particular amount of its common stock, notes or units, and can be modified or suspended at any time at the Company's discretion. The program is conducted in compliance with applicable legal requirements and within the limits imposed by any credit agreement, receivables purchase agreement, indenture, or the TMA, and is subject to market conditions and other factors.

During the years ended December 31, 2019 and 2018, 1,717,497 and 708,245 shares of the Company's common stock were repurchased and retired at an average price of \$19.06 and \$36.48 per share, respectively. During the years ended December 31, 2019 and 2018, 26,297 and 167,958 of the Partnership's common units were purchased at an average price of \$14.05 and \$18.33 per unit, respectively. Additionally, the Company repurchased approximately \$52,648 and \$25,724 of its 11.00% Senior Secured Second Lien Notes due 2025 during the years ended December 31, 2019 and 2018, respectively.

NOTE 6—INCOME TAXES:

The components of income tax expense (benefit) were as follows:

	For The Years Ended December 31,		
	2019	2018	2017
Current:			
U.S. Federal	\$ 15,905	\$ 20,634	\$ 65,856
U.S. State	4,717	3,240	2,732
Non-U.S.	1,336	1,436	2,030
	<u>21,958</u>	<u>25,310</u>	<u>70,618</u>
Deferred:			
U.S. Federal	(9,386)	(7,509)	17,397
U.S. State	(8,033)	(8,973)	(787)
	<u>(17,419)</u>	<u>(16,482)</u>	<u>16,610</u>
Total Income Tax Expense	<u><u>\$ 4,539</u></u>	<u><u>\$ 8,828</u></u>	<u><u>\$ 87,228</u></u>

A reconciliation of income tax expense (benefit) and the amount computed by applying the statutory federal income tax rate of 21% to income from operations before income tax is:

	For the Years Ended December 31,					
	2019		2018		2017	
	Amount	Percent	Amount	Percent	Amount	Percent
Statutory U.S. federal income tax rate	\$ 20,600	21.0%	\$ 39,399	21.0%	\$ 59,429	35.0%
State income taxes, net of federal tax benefit	3,125	3.2	3,240	1.7	1,264	0.7
Foreign income taxes	1,336	1.4	1,436	0.8	—	—
Excess tax depletion	(13,141)	(13.4)	(20,873)	(11.1)	(24,216)	(14.3)
Effect of domestic production activities	—	—	—	—	(6,493)	(3.8)
Effect of change in U.S. tax law	—	—	2,777	1.5	58,558	34.5
Excess compensation	1,849	1.9	974	0.5	—	—
Effect of valuation allowance	1,400	1.4	(1,379)	(0.7)	1,379	0.8
Tax credits	(2,536)	(2.6)	(980)	(0.5)	—	—
Non-controlling interest	(3,687)	(3.8)	(5,420)	(2.9)	—	—
State rate change and prior period adjustments	(5,745)	(5.9)	(8,223)	(4.4)	—	—
Other	1,338	1.4	(2,123)	(1.1)	(2,693)	(1.6)
Income Tax Expense / Effective Rate	<u><u>\$ 4,539</u></u>	<u><u>4.6%</u></u>	<u><u>\$ 8,828</u></u>	<u><u>4.8%</u></u>	<u><u>\$ 87,228</u></u>	<u><u>51.3%</u></u>

Significant components of deferred tax assets and liabilities were as follows:

	December 31,	
	2019	2018
Deferred Tax Asset:		
Postretirement benefits other than pensions	\$ 110,504	\$ 108,603
Asset retirement obligations	60,260	57,956
Pneumoconiosis benefits	52,521	41,632
Mine subsidence	17,110	15,097
Financing	16,806	9,387
Workers' compensation	16,750	16,016
Salary retirement	14,761	15,855
Operating lease liabilities	14,757	—
State bonus, net of Federal	7,042	6,042
Long-term disability	3,031	2,798
Foreign tax credits	1,400	—
Other	6,297	6,669
Total Deferred Tax Asset	321,239	280,055
Valuation Allowance	(1,400)	—
Net Deferred Tax Asset	319,839	280,055
Deferred Tax Liability:		
Property, plant and equipment	(173,849)	(175,558)
Equity Partnerships	(17,028)	(16,638)
Right of use assets	(14,757)	—
Advance mining royalties	(10,700)	(10,314)
Total Deferred Tax Liability	(216,334)	(202,510)
Net Deferred Tax Asset	\$ 103,505	\$ 77,545

As required by U.S. GAAP, a valuation allowance is required when it is more likely than not that all or a portion of a deferred tax asset will not be realized. Management must review all available evidence, both positive and negative, in determining the need for a valuation allowance. For the years ended December 31, 2019 and 2018, positive evidence considered included pretax cumulative income over the past three years, utilization of previous period net operating losses, financial forecasts of future earnings, reversals of financial to tax temporary differences, and the implementation of and/or ability to employ various tax planning strategies. Negative evidence included the tax loss generated in the year ended December 31, 2017 and the ability to fully utilize certain tax assets as a result of the enactment of Public Law 115-97, commonly known as the Tax Cuts and Jobs Act. Management assessed both the federal and deferred state tax attributes for all subsidiaries during the period. After considering all available evidence, both positive and negative, management has determined that a valuation allowance in the amount of \$1,400 is appropriate to fully value the amount of the foreign tax credit carryforwards that were generated in the current year. It is anticipated that these foreign tax credit carryforwards will expire before being utilized.

On December 22, 2017, the President of the United States signed Public Law 115-97 “An Act to Provide for Reconciliation Pursuant to Titles II and V of the Concurrent Resolution on the Budget for Fiscal Year 2018,” commonly referred to as the Tax Cuts and Jobs Act (“Tax Bill”). Under U.S. GAAP, the effects of new legislation are recognized upon enactment, which, for federal legislation, is the date the President signs a bill into law. Accordingly, recognition of the tax effects of the Tax Bill were required in the interim and annual periods that included December 22, 2017. The SEC also released Staff Accounting Bulletin 118 on December 22, 2017. This bulletin clarified certain aspects of Accounting Standards Codification (“ASC”) 740 and provided a three-step process for applying ASC 740. The Company has evaluated the impact of the Tax Bill and has recorded the following impacts in its financial statements. On December 22, 2017, the Company recorded tax expense of \$58,558, and reduced the net deferred tax asset on its balance sheet by the same amount, primarily because the federal corporate income tax rate was reduced from 35% to 21% for all periods after December 31, 2017. During the year ended December 31, 2018, the Company completed its review of the applicable provisions of the Tax Bill and recognized an additional expense of \$2,777, primarily related to return to provision adjustments.

The Company utilizes the “more likely than not” standard in recognizing a tax benefit in its financial statements. For the years ended December 31, 2019 and 2018, the Company did not have any unrecognized tax benefits. If accrual for interest or penalties is required, it is the Company’s policy to include these as a component of income tax expense.

The Company is subject to taxation in the United States, as well as various states, and Canada, as well as various provinces. Under the provisions of the TMA, certain subsidiaries of the Company are subject to examination for tax years for the period January 1, 2016 through December 31, 2019 for certain state and foreign returns. Further, the Company is subject to examination for the period November 28, 2017 through December 31, 2019 for federal and certain state returns.

NOTE 7—ASSET RETIREMENT OBLIGATIONS:

CONSOL Energy accrues for mine closing costs, perpetual water care costs, and costs associated with the plugging of degasification wells using the accounting treatment prescribed by the Asset Retirement and Environmental Obligations Topic of the FASB Accounting Standards Codification. CONSOL Energy recognizes capitalized asset retirement obligations by increasing the carrying amount of related long-lived assets.

The reconciliation of changes in the asset retirement obligations at December 31, 2019 and 2018 is as follows:

	As of December 31,	
	2019	2018
Balance at Beginning of Period	\$ 267,001	\$ 258,823
Accretion Expense	20,116	19,468
Payments	(13,030)	(8,976)
Revisions in Estimated Cash Flows	(2,135)	(2,314)
Balance at End of Period	<u>\$ 271,952</u>	<u>\$ 267,001</u>

NOTE 8—INVENTORIES:

Inventory components consist of the following:

	December 31,	
	2019	2018
Coal	\$ 2,484	\$ 4,642
Supplies	51,647	44,004
Total Inventories	<u>\$ 54,131</u>	<u>\$ 48,646</u>

NOTE 9—PROPERTY, PLANT AND EQUIPMENT:

Property, plant and equipment consists of the following:

	December 31,	
	2019	2018
Plant and Equipment	\$ 3,028,514	\$ 2,890,970
Coal Properties and Surface Lands	872,909	858,153
Airshafts	437,003	419,100
Mine Development	342,706	342,405
Advance Mining Royalties	327,048	327,543
Total Property, Plant and Equipment	<u>5,008,180</u>	<u>4,838,171</u>
Less: Accumulated Depreciation, Depletion and Amortization	2,916,015	2,731,643
Total Property, Plant and Equipment, Net	<u>\$ 2,092,165</u>	<u>\$ 2,106,528</u>

Coal reserves are controlled either through fee ownership or by lease. The duration of the leases vary; however, the lease terms are generally extended automatically to the exhaustion of economically recoverable reserves, as long as active mining continues. Coal interests held by lease provide the same rights as fee ownership for mineral extraction and are legally considered real property interests.

As of December 31, 2019 and 2018, property, plant and equipment includes gross assets under finance leases of \$52,729 and \$49,775, respectively. Accumulated amortization for finance leases was \$31,373 and \$15,973 at December 31, 2019 and 2018, respectively. Amortization expense for assets under finance leases approximated \$15,691, \$13,148 and \$424 for the years ended December 31, 2019, 2018 and 2017, respectively, and is included in Depreciation, Depletion and Amortization in the accompanying Consolidated Statements of Income. See Note 13—Leases for further discussion of finance leases.

NOTE 10—ACCOUNTS RECEIVABLE SECURITIZATION:

CONSOL Energy and certain of its U.S. subsidiaries are parties to a trade accounts receivable securitization facility with financial institutions for the sale on a continuous basis of eligible trade accounts receivable. In August 2018, the securitization facility was amended to, among other things, extend the term of the securitization facility for three years ending August 30, 2021.

Pursuant to the securitization facility, CONSOL Thermal Holdings LLC sells current and future trade receivables to CONSOL Pennsylvania Coal Company LLC. CONSOL Marine Terminals LLC and CONSOL Pennsylvania Coal Company LLC sell and/or contribute current and future trade receivables (including receivables sold to CONSOL Pennsylvania Coal Company LLC by CONSOL Thermal Holdings LLC) to CONSOL Funding LLC (the “SPV”). The SPV, in turn, pledges its interests in the receivables to PNC Bank, which either makes loans or issues letters of credit on behalf of the SPV. The maximum amount of advances and letters of credit outstanding under the securitization facility may not exceed \$100 million.

Loans under the securitization facility accrue interest at a reserve-adjusted LIBOR market index rate equal to the one-month Eurodollar rate. Loans and letters of credit under the securitization facility also accrue a program fee and a letter of credit participation fee, respectively, ranging from 2.00% to 2.50% per annum depending on the total net leverage ratio of CONSOL Energy. In addition, the SPV paid certain structuring fees to PNC Capital Markets LLC and will pay other customary fees to the lenders, including a fee on unused commitments equal to 0.60% per annum.

At December 31, 2019, the Company's eligible accounts receivable yielded \$41,282 of borrowing capacity. At December 31, 2019, the facility had no outstanding borrowings and \$41,211 of letters of credit outstanding, leaving available borrowing capacity of \$71. At December 31, 2018, the Company's eligible accounts receivable yielded \$37,869 of borrowing capacity. At December 31, 2018, the facility had no outstanding borrowings and \$52,536 of letters of credit outstanding, leaving no unused capacity. CONSOL Energy posted \$14,667 of cash collateral to secure the difference in the outstanding letters of credit and the eligible accounts receivable. Cash collateral of \$14,667 is included in Restricted Cash in the Consolidated Balance Sheets. Costs associated with the receivables facility totaled \$1,441, \$2,593 and \$171 for the years ended December 31, 2019, 2018 and 2017, respectively. These costs have been recorded as financing fees which are included in Operating and Other Costs in the Consolidated Statements of Income. The Company has not derecognized any receivables due to its continued involvement in the collections efforts.

NOTE 11—OTHER ACCRUED LIABILITIES:

	December 31,	
	2019	2018
Subsidence Liability	\$ 90,645	\$ 83,532
Accrued Payroll and Benefits	21,102	12,978
Accrued Interest	6,281	6,850
Accrued Other Taxes	4,753	5,050
Short-Term Incentive Compensation	3,997	6,024
Litigation	2,565	8,235
Other	9,719	15,588
Current Portion of Long-Term Liabilities:		
Postretirement Benefits Other than Pensions	31,833	32,345
Asset Retirement Obligations	21,741	31,017
Operating Lease Liability	19,479	—
Pneumoconiosis Benefits	12,331	12,187
Workers' Compensation	11,323	12,628
Total Other Accrued Liabilities	<u>\$ 235,769</u>	<u>\$ 226,434</u>

NOTE 12—DEBT:

	December 31,	
	2019	2018
Debt:		
Term Loan B due in September 2024 (Principal of \$272,938 and \$396,000 less Unamortized Discount of \$1,187 and \$6,253, respectively, 6.30% and 8.53% Weighted Average Interest Rate, respectively)	\$ 271,751	\$ 389,747
11.00% Senior Secured Second Lien Notes due November 2025	221,628	274,276
MEDCO Revenue Bonds in Series due September 2025 at 5.75%	102,865	102,865
Term Loan A due in March 2023 (5.55% and 6.78% Weighted Average Interest Rate, respectively)	88,750	73,750
Other Asset-Backed Financing Arrangements	9,289	—
Advance Royalty Commitments (10.78% and 8.57% Weighted Average Interest Rate, respectively)	1,895	2,261
Less: Unamortized Debt Issuance Costs	10,323	16,409
	<u>685,855</u>	<u>826,490</u>
Less: Amounts Due in One Year*	32,053	117,954
Long-Term Debt	<u>\$ 653,802</u>	<u>\$ 708,536</u>

*Excludes current portion of Finance Lease Obligations of \$18,219 and \$16,858 at December 31, 2019 and 2018, respectively.

Annual undiscounted maturities on long-term debt during the next five years and thereafter are as follows:

Year ended December 31,	Amount
2020	\$ 32,053
2021	28,826
2022	36,258
2023	12,456
2024	262,683
Thereafter	325,089
Total Long-Term Debt Maturities	<u>\$ 697,365</u>

In November 2017, CONSOL Energy entered into a revolving credit facility with commitments up to \$300 million (the “Revolving Credit Facility”), a Term Loan A Facility of up to \$100 million (the “TLA Facility”) and a Term Loan B Facility of up to \$400 million (the “TLB Facility”, and together with the Revolving Credit Facility and the TLA Facility, the “Senior Secured Credit Facilities”). On March 28, 2019, the Company amended the Senior Secured Credit Facilities (the “amendment”) to increase the borrowing commitment of the Revolving Credit Facility to \$400 million and reallocate the principal amounts outstanding under the TLA Facility and TLB Facility. As a result, the principal amount outstanding under the TLA Facility was \$100 million and the principal amount outstanding under the TLB Facility was \$275 million. Borrowings under the Company's Senior Secured Credit Facilities bear interest at a floating rate which can be, at the Company's option, either (i) LIBOR plus an applicable margin or (ii) an alternate base rate plus an applicable margin. The applicable margin for the Revolving Credit Facility and TLA Facility depends on the total net leverage ratio, whereas the applicable margin for the TLB Facility is fixed. The amendment reduced the applicable margin by 50 basis points on both the Revolving Credit Facility and the TLA Facility, and by 150 basis points on the TLB Facility. The amendment also extended the maturity dates of the Senior Secured Credit Facilities. The maturity date of the Revolving Credit and TLA Facilities was extended from November 28, 2021 to March 28, 2023. The TLB Facility's maturity date was extended from November 28, 2022 to September 28, 2024. Obligations under the Senior Secured Credit Facilities are guaranteed by (i) all owners of the 75% undivided economic interest in the PAMC held by the Company, (ii) any other members of the Company's group that own any portion of the collateral securing the Revolving Credit Facility, and (iii) subject to certain customary exceptions and agreed materiality thresholds, all other existing or future direct or indirect wholly-owned restricted subsidiaries of the Company (excluding the Partnership and its wholly-owned subsidiaries).

The Revolving Credit Facility and TLA Facility also include financial covenants, including (i) a maximum first lien gross leverage ratio, (ii) a maximum total net leverage ratio, and (iii) a minimum fixed charge coverage ratio. CONSOL Energy must maintain a maximum first lien gross leverage ratio covenant of no more than 2.00 to 1.00, measured quarterly, stepping down to 1.75 to 1.00 in March 2020. The maximum first lien gross leverage ratio is calculated as the ratio of Consolidated First Lien Debt to Consolidated EBITDA, excluding the Partnership. The maximum first lien gross leverage ratio was 1.19 to 1.00 at December 31, 2019. CONSOL Energy must maintain a maximum total net leverage ratio covenant of no more than 3.00 to 1.00, measured quarterly, stepping down to 2.75 to 1.00 in March 2020. The maximum total net leverage ratio is calculated as the ratio of Consolidated Indebtedness, minus Cash on Hand, to Consolidated EBITDA, excluding the Partnership. The maximum total net leverage ratio was 1.93 to 1.00 at December 31, 2019. Consolidated EBITDA, as used in the covenant calculation, excludes non-cash compensation expenses, non-recurring transaction expenses, extraordinary gains and losses, gains and losses on discontinued operations, non-cash charges related to legacy employee liabilities and gains and losses on debt extinguishment, and includes cash distributions received from the Partnership and subtracts cash payments related to legacy employee liabilities. The facilities also include a minimum fixed charge coverage covenant of no less than 1.10 to 1.00, measured quarterly. The minimum fixed charge coverage ratio is calculated as the ratio of Consolidated EBITDA to Consolidated Fixed Charges, excluding the Partnership. Consolidated Fixed Charges, as used in the covenant calculation, include cash interest payments, cash payments for income taxes, scheduled debt repayments, dividends paid, and Maintenance Capital Expenditures. The minimum fixed charge coverage ratio was 1.36 to 1.00 at December 31, 2019. The Company was in compliance with all of its debt covenants as of December 31, 2019.

The TLB Facility also includes a financial covenant that requires the Company to repay a certain amount of its borrowings under the TLB Facility within ten business days after the date it files its Form 10-K with the Securities and Exchange Commission if the Company has excess cash flow (as defined in the credit agreement for the Senior Secured Credit Facilities) during the year covered by the applicable Form 10-K. During the year ended December 31, 2019, CONSOL Energy made the required repayment of approximately \$110 million based on the amount of the Company's excess cash flow as of December 31, 2018. For fiscal year 2018, such repayment was equal to 75% of the Company's excess cash flow less any voluntary prepayments of its borrowings under the TLB Facility made by the Company during 2018. For all subsequent fiscal years, the required repayment is equal to a certain percentage of the Company's excess cash flow for such year, ranging from 0% to 75% depending on the Company's total net leverage ratio, less the amount of certain voluntary prepayments made by the Company, if any, under the TLB Facility during such fiscal year. The amendment reduced the maximum amount of the mandatory annual excess cash flow sweep under the TLB Facility by 25%. Based on the Company's excess cash flow calculation, no repayment is required with respect to the year ended December 31, 2019. As such, as of December 31, 2019, no amount related to the prepayment of the TLB Facility in connection with the excess cash flow requirement has been classified as Current Portion of Long-Term Debt in the Consolidated Balance Sheets.

At December 31, 2019, the Revolving Credit Facility had no borrowings outstanding and \$69,588 of letters of credit outstanding, leaving \$330,412 of unused capacity. At December 31, 2018, the Revolving Credit Facility had no borrowings outstanding and \$54,065 of letters of credit outstanding, leaving \$245,935 of unused capacity. From time to time, CONSOL Energy is required to post financial assurances to satisfy contractual and other requirements generated in the normal course of business. Some of these assurances are posted to comply with federal, state or other government agencies' statutes and regulations. CONSOL Energy sometimes uses letters of credit to satisfy these requirements and these letters of credit reduce the Company's borrowing facility capacity.

In November 2017, CONSOL Energy issued \$300 million in aggregate principal amount of 11.00% Senior Secured Second Lien Notes due 2025 (the “Second Lien Notes”) pursuant to an indenture (the “Indenture”) dated as of November 13, 2017, by and between the Company and UMB Bank, N.A., a national banking association, as trustee and collateral trustee (the “Trustee”). On November 28, 2017, certain subsidiaries of the Company executed a supplement to the Indenture and became party to the Indenture as a guarantor (the “Guarantors”). The Second Lien Notes are secured by second priority liens on substantially all of the assets of the Company and the Guarantors that are pledged and on a first-priority basis as collateral securing the Company’s obligations under the Senior Secured Credit Facilities (described above), subject to certain exceptions under the Indenture.

During the year ended December 31, 2019, the Company made a required repayment of approximately \$110 million on the TLB Facility (discussed above) and amended the Senior Secured Credit Facilities. The Company also repurchased \$52,648 of its outstanding 11.00% Senior Secured Second Lien Notes due in 2025 during the year ended December 31, 2019. As part of these transactions, \$24,455 was included in Loss on Debt Extinguishment on the Consolidated Statements of Income for the year ended December 31, 2019.

During the year ended December 31, 2018, the Company made accelerated payments of \$11,250 on its outstanding TLA Facility and repurchased \$25,724 of its outstanding 11.00% Senior Secured Second Lien Notes due in 2025. As part of these transactions, \$3,922 was included in Loss on Debt Extinguishment on the Consolidated Statements of Income for the year ended December 31, 2018.

During the year ended December 31, 2019, the Company entered into two asset-backed financing arrangements related to certain equipment. The equipment, which has an approximate value of \$9,289, fully collateralizes the loans. A total of \$5,772 matures in December 2020 at a weighted average interest rate of 5.96%, and \$3,517 matures in September 2024 at an interest rate of 3.61%.

During the year ended December 31, 2019, the Company entered into interest rate swaps, which effectively converted \$150,000 of the TLB Facility's floating interest rate to a fixed interest rate for the twelve months ending December 31, 2020 and 2021, and \$50,000 of the TLB Facility's floating interest rate to a fixed interest rate for the twelve months ending December 31, 2022. The interest rate swaps qualify for cash flow hedge accounting treatment and as such, the change in the fair value of the interest rate swaps is recorded on the Company's Consolidated Balance Sheets as an asset or liability. The effective portion of the gains or losses is reported as a component of accumulated other comprehensive loss and the ineffective portion is reported in earnings. At December 31, 2019, the interest rate swap contracts were reflected in the Consolidated Balance Sheets at their fair value of \$154, which is recorded in Other Accrued Liabilities and Other Liabilities. The fair value of the interest rate swaps reflected an unrealized loss of \$117 (net of \$(37) tax) at December 31, 2019. The unrealized loss is included on the Consolidated Statements of Stockholders' Equity as part of accumulated other comprehensive loss, as well as on the Consolidated Statements of Comprehensive Income as unrealized loss on cash flow hedges. No gains or losses were recognized in interest expense in the Consolidated Statements of Income, as no interest rate swaps have reached their effective date. During 2020, notional amounts of \$150,000 will become effective. In the next 12 months, the Company expects a gain of approximately \$64 to be reclassified into earnings.

NOTE 13—LEASES:

On January 1, 2019, the Company adopted ASC Topic 842 using the transition option, “Comparatives Under 840 Option,” established by ASU 2018-11, Leases (Topic 842), Targeted Improvements. As allowed under this guidance, the Company elected not to recast the comparative periods presented when transitioning to ASC 842. As most of the Company's leases do not provide an implicit rate, CONSOL Energy has taken a portfolio approach of applying its incremental borrowing rate based on the information available at the adoption date to calculate the present value of lease payments over the lease term. CONSOL Energy has elected the package of practical expedients permitted under the transition guidance within the standard, which allows the Company (1) to not reassess whether any expired or existing contracts are or contain leases, (2) to not reassess the lease classification for any expired or existing leases, and (3) to not reassess initial direct costs for any existing leases. CONSOL Energy has also elected the practical expedient to not evaluate land easements that existed or expired before the Company’s adoption of Topic 842 and the practical expedient to not separate lease and non-lease components; that is, to account for lease and non-lease components in a contract as a single lease component for all classes of underlying assets. Further, the Company made an accounting policy election to keep leases with an initial term of twelve months or less off the balance sheet. CONSOL Energy will recognize those lease payments in the Consolidated Statements of Income over the lease term. For the year ended December 31, 2019, these short-term lease expenses were not material to the Company's financial statements.

Based on the Company's lease portfolio, the standard had a material impact on the Company's Consolidated Balance Sheet but did not have a significant impact on the Company's consolidated net earnings and cash flows. The most significant impact was the recognition of Right of Use ("ROU") assets and lease liabilities for operating leases, while the accounting for finance leases remained substantially unchanged. The Company's bank covenants were not affected by this update. The Company recorded operating lease ROU assets and operating lease liabilities of approximately \$92 million as of January 1, 2019, primarily related to mining equipment, based on the present value of the future lease payments on the date of adoption.

The Company determines if an arrangement is an operating or finance lease at inception of the applicable lease. For leases where the Company is the lessee, ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent an obligation to make lease payments arising from the lease. ROU assets and lease liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. As most of the Company's leases do not provide an implicit interest rate, the Company uses its incremental borrowing rate based on the information available on the commencement date in determining the present value of lease payments. The ROU asset also consists of any prepaid lease payments, lease incentives received, and costs which will be incurred in exiting a lease. The lease terms used to calculate the ROU asset and related lease liability include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Lease expense for operating leases is recognized on a straight-line basis over the lease term as an operating expense while the expense for finance leases is recognized as depreciation expense and interest expense using the interest method of recognition.

The Company has operating leases for mining and other equipment used in operations and office space. Many leases include one or more options to renew, some of which include options to extend, the leases, and some leases include options to terminate or buy out the leases within a set period of time. In certain of the Company's lease agreements, the rental payments are adjusted periodically to reflect actual charges incurred for inflation and/or changes in other indexes. Many of the Company's operating lease payments for mining equipment contain a variable component which is calculated based upon production metrics such as feet of advance or raw tonnage mined. While most of the Company's leases contain clauses regarding the general condition of the equipment upon lease termination, they do not contain residual value guarantees.

For the year ended December 31, 2019, the components of operating lease expense were as follows:

Fixed operating lease expense	\$ 25,875
Variable operating lease expense	11,445
Total operating lease expense	<u>\$ 37,320</u>

Supplemental cash flow information related to the Company's operating leases for the year ended December 31, 2019 was as follows:

Cash paid for amounts included in the measurement of operating lease liabilities	\$ 25,675
ROU assets obtained in exchange for operating lease obligations	—

The following table presents the lease balances within the Consolidated Balance Sheet, weighted average lease term, and the weighted average discount rate related to the Company's operating leases at December 31, 2019:

Lease Assets and Liabilities	Classification	
Assets:		
Operating Lease ROU Assets	Other Assets	\$ 72,632
Liabilities:		
Current:		
Operating Lease Liabilities	Other Accrued Liabilities	\$ 19,479
Long-Term:		
Operating Lease Liabilities	Operating Lease Liabilities	\$ 55,413
Total Operating Lease Liabilities		<u>\$ 74,892</u>
Weighted average remaining lease term (in years)		5.02
Weighted average discount rate		6.79%

CONSOL Energy leases certain owned mining equipment to a third-party under operating leases. At December 31, 2019, the amount of owned equipment included in gross property, plant and equipment was \$6,966 and the associated amount of accumulated depreciation was \$6,966. At December 31, 2019, scheduled minimum rental payments for operating leases related to this equipment were as follows:

2020	2021	2022	2023	2024	Thereafter	Total
\$ 627	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 627

The Company also enters into finance leases for mining equipment and automobiles. Assets arising from finance leases are included in property, plant and equipment-net and the liabilities are included in current portion of long-term debt and long-term debt in the accompanying Consolidated Balance Sheet.

For the year ended December 31, 2019, the components of finance lease expense were as follows:

Amortization of right of use assets	\$ 15,691
Interest expense	1,878
Total finance lease expense	<u>\$ 17,569</u>

The following table presents the weighted average lease term and weighted average discount rate related to the Company's finance leases as of December 31, 2019:

Weighted average remaining lease term (in years)	1.69
Weighted average discount rate	5.20%

At December 31, 2019, certain finance leases for mining equipment are subleased to a third-party. The following table represents the minimum payments, including interest, for those finance subleases:

2020	2021	2022	2023	2024	Thereafter	Total
\$ 3,699	\$ 2,157	\$ —	\$ —	\$ —	\$ —	\$ 5,856

The following table presents the future maturities of the Company's operating and finance lease liabilities, together with the present value of the net minimum lease payments, at December 31, 2019:

	Finance Leases	Operating Leases
2020	\$ 19,120	\$ 24,065
2021	7,196	23,132
2022	783	13,341
2023	803	6,504
2024	575	6,115
Thereafter	—	15,958
Total minimum lease payments	<u>28,477</u>	<u>89,115</u>
Less amount representing interest	1,222	14,223
Present value of minimum lease payments	<u>\$ 27,255</u>	<u>\$ 74,892</u>

As of December 31, 2019, the Company had no additional significant operating or finance leases that had not yet commenced.

NOTE 14—PENSION AND OTHER POSTRETIREMENT BENEFIT PLANS:***Pension***

CONSOL Energy has non-contributory defined benefit retirement plans. The benefits for these plans are based primarily on years of service and employees' pay. CONSOL Energy's qualified pension plan (the "Pension Plan") allows for lump-sum distributions of benefits earned up until December 31, 2005, at the employees' election. Pursuant to the SDA and related ancillary agreements, the sponsorship of the qualified pension plan was transferred to the Company.

According to the Defined Benefit Plans Topic of the FASB Accounting Standards Codification, if the lump sum distributions made during a plan year, which for CONSOL Energy is January 1 to December 31, exceed the total of the projected service cost and interest cost for the plan year, settlement accounting is required. Lump sum payments did not exceed this threshold during the years ended December 31, 2019 and 2018. However, lump sum payments did exceed this threshold during the year ended December 31, 2017. Accordingly, CONSOL Energy recognized settlement expense of \$10,153 for the year ended December 31, 2017 in Operating and Other Costs in the Consolidated Statements of Income.

Other Postretirement Benefit Plan

Certain subsidiaries of CONSOL Energy provide medical and prescription drug benefits to retired employees covered by the Coal Industry Retiree Health Benefit Act of 1992 (the Coal Act). Represented hourly employees are eligible to participate based upon the terms of the National Bituminous Coal Wage Agreement of 2011.

The reconciliation of changes in the benefit obligation, plan assets and funded status of these plans at December 31, 2019 and 2018 is as follows:

	Pension Benefits at December 31,		Other Postretirement Benefits at December 31,	
	2019	2018	2019	2018
Change in benefit obligation:				
Benefit obligation at beginning of period	\$ 644,142	\$ 733,990	\$ 473,591	\$ 591,563
Service cost	3,950	1,150	—	—
Interest cost	25,101	23,505	18,320	18,706
Actuarial loss (gain)	95,078	(60,351)	4,761	(101,259)
Benefits and other payments	(48,173)	(54,152)	(32,343)	(35,419)
Benefit obligation at end of period	<u>\$ 720,098</u>	<u>\$ 644,142</u>	<u>\$ 464,329</u>	<u>\$ 473,591</u>
Change in plan assets:				
Fair value of plan assets at beginning of period	\$ 578,347	\$ 679,245	\$ —	\$ —
Actual return on plan assets	136,976	(48,470)	—	—
Company contributions	1,331	1,724	32,343	35,419
Benefits and other payments	(48,173)	(54,152)	(32,343)	(35,419)
Fair value of plan assets at end of period	<u>\$ 668,481</u>	<u>\$ 578,347</u>	<u>\$ —</u>	<u>\$ —</u>
Funded status:				
Current liabilities	\$ (1,687)	\$ (1,623)	\$ (31,833)	\$ (32,345)
Noncurrent liabilities	(49,930)	(64,172)	(432,496)	(441,246)
Net obligation recognized	<u>\$ (51,617)</u>	<u>\$ (65,795)</u>	<u>\$ (464,329)</u>	<u>\$ (473,591)</u>
Amounts recognized in accumulated other comprehensive loss consist of:				
Net actuarial loss	\$ 255,830	\$ 263,229	\$ 179,937	\$ 184,438
Prior service credit	—	(367)	(20,949)	(23,354)
Net amount recognized (before tax effect)	<u>\$ 255,830</u>	<u>\$ 262,862</u>	<u>\$ 158,988</u>	<u>\$ 161,084</u>

The components of net periodic benefit (credit) cost are as follows:

	Pension Benefits			Other Postretirement Benefits		
	For the Years Ended December 31,			For the Years Ended December 31,		
	2019	2018	2017	2019	2018	2017
Components of net periodic benefit (credit) cost:						
Service cost	\$ 3,950	\$ 1,150	\$ 2,948	\$ —	\$ —	\$ —
Interest cost	25,101	23,505	25,265	18,320	18,706	23,945
Expected return on plan assets	(40,457)	(40,370)	(42,383)	—	—	—
Amortization of prior service credits	(367)	(502)	(502)	(2,405)	(2,405)	(2,405)
Recognized net actuarial loss	5,958	8,715	8,896	9,262	16,205	23,112
Settlement loss	—	—	10,153	—	—	—
Net periodic benefit (credit) cost	<u>\$ (5,815)</u>	<u>\$ (7,502)</u>	<u>\$ 4,377</u>	<u>\$ 25,177</u>	<u>\$ 32,506</u>	<u>\$ 44,652</u>

Amounts included in accumulated other comprehensive loss which are expected to be recognized in 2020 net periodic benefit costs:

	Pension Benefits	Other Postretirement Benefits
Prior service credit recognition	\$ —	\$ (2,405)
Actuarial loss recognition	\$ 6,922	\$ 9,278

CONSOL Energy utilizes a corridor approach to amortize actuarial gains and losses that have been accumulated under the Pension Plan. Cumulative gains and losses that are in excess of 10% of the greater of either the projected benefit obligation (PBO) or the market-related value of plan assets are amortized over the expected remaining future lifetime of all plan participants for the Pension Plan.

CONSOL Energy also utilizes a corridor approach to amortize actuarial gains and losses that have been accumulated under the OPEB Plan. Cumulative gains and losses that are in excess of 10% of the greater of either the accumulated postretirement benefit obligation (APBO) or the market-related value of plan assets are amortized over the average future remaining lifetime of the current inactive population for the OPEB Plan.

The following table provides information related to pension plans with an accumulated benefit obligation in excess of plan assets:

	As of December 31,	
	2019	2018
Projected benefit obligation	\$ 720,098	\$ 644,142
Accumulated benefit obligation	\$ 719,985	\$ 644,069
Fair value of plan assets	\$ 668,481	\$ 578,347

Assumptions:

The weighted-average assumptions used to determine benefit obligations are as follows:

	Pension Obligations at December 31,		Other Postretirement Obligations at December 31,	
	2019	2018	2019	2018
Discount rate	3.28%	4.34%	3.27%	4.34%
Rate of compensation increase	3.68%	3.73%	—	—

The discount rates are determined using a Company-specific yield curve model (above-mean) developed with the assistance of an external actuary. The Company-specific yield curve models (above-mean) use a subset of the expanded bond universe to determine the Company-specific discount rate. Bonds used in the yield curve are rated AA by Moody's or Standard & Poor's as of the measurement date. The yield curve models parallel the plans' projected cash flows, and the underlying cash flows of the bonds included in the models exceed the cash flows needed to satisfy the Company's plans.

The weighted-average assumptions used to determine net periodic benefit costs are as follows:

	Pension Benefits			Other Postretirement Benefits		
	For the Years Ended			For the Years Ended		
	December 31,			December 31,		
	2019	2018	2017	2019	2018	2017
Discount rate	4.37%	3.69%	4.27%	4.34%	3.65%	4.22%
Expected long-term return on plan assets	6.90%	6.90%	6.90%	—	—	—
Rate of compensation increase	3.73%	3.73%	3.90%	—	—	—

The long-term rate of return is the sum of the portion of total assets in each asset class held multiplied by the expected return for that class, adjusted for expected expenses to be paid from the assets. The expected return for each class is determined using the plan asset allocation at the measurement date and a distribution of compound average returns over a twenty year time horizon. The model uses asset class returns, variances and correlation assumptions to produce the expected return for each portfolio. The return assumptions used forward-looking gross returns influenced by the current Treasury yield curve. These returns recognize current bond yields, corporate bond spreads and equity risk premiums based on current market conditions.

The assumed health care cost trend rates are as follows:

	At December 31,	
	2019	2018
Health care cost trend rate for next year	5.65%	5.83%
Rate to which the cost trend is assumed to decline (ultimate trend rate)	4.50%	4.50%
Year that the rate reaches ultimate trend rate	2038	2038

Assumed health care cost trend rates have a significant effect on the amounts reported for the medical plans. A one-percentage point change in assumed health care cost trend rates would have the following effects:

	1 Percentage Point Increase	1 Percentage Point Decrease
Effect on total of service and interest cost components	\$ 2,023	\$ (1,725)
Effect on accumulated postretirement benefit obligation	\$ 48,891	\$ (41,917)

Plan Assets:

The Company's overall investment strategy is to meet current and future benefit payment needs through diversification across asset classes, fund strategies and fund managers to achieve an optimal balance between risk and return and between income and growth of assets through capital appreciation. Consistent with the objectives of the pension trust (the "Trust") and in consideration of the Trust's current funded status and the current level of market interest rates, the Retirement Board, as appointed by the CONSOL Energy Board of Directors (the "Retirement Board") has approved an asset allocation strategy that will change over time in response to future improvements in the Trust's funded status and/or changes in market interest rates. Such changes in asset allocation strategy are intended to allocate additional assets to the fixed income asset class should the Trust's funded status improve. In this framework, the current target allocation for plan assets is 23.5% U.S. equity securities, 15% non-U.S. equity securities, 6.5% global equity securities and 55% fixed income. Both the equity and fixed income portfolios are comprised of both active and passive investment strategies. The Trust is primarily invested in Mercer Common Collective Trusts. Equity securities consist of investments in large and mid/small cap companies; non-U.S. equities are derived from both developed and emerging markets. Fixed income securities consist primarily of U.S. long duration fixed income corporate and U.S. Treasury instruments. The average quality of the fixed income portfolio must be rated at least "investment grade" by nationally recognized rating agencies. Within the fixed income asset class, investments are invested primarily across various strategies such that the overall profile strongly

correlates with the interest rate sensitivity of the Trust's liabilities in order to reduce the volatility resulting from the risk of changes in interest rates and the impact of such changes on the Trust's overall financial status. Derivatives, interest rate swaps, options and futures are permitted investments for the purpose of reducing risk and to extend the duration of the overall fixed income portfolio; however, they may not be used for speculative purposes. All or a portion of the assets may be invested in mutual funds or other commingled vehicles so long as the pooled investment funds have an adequate asset base relative to their asset class; are invested in a diversified manner; and have management and/or oversight by an Investment Advisor registered with the SEC. The Retirement Board reviews the investment program on an ongoing basis including asset performance, current trends and developments in capital markets, changes in Trust liabilities and ongoing appropriateness of the overall investment policy.

The fair values of plan assets at December 31, 2019 and 2018 by asset category are as follows:

Asset Category	Fair Value Measurements at December 31, 2019				Fair Value Measurements at December 31, 2018			
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash/Accrued Income	\$ 97	\$ 97	\$ —	\$ —	\$ 101	\$ 101	\$ —	\$ —
Mercer Common Collective Trusts (a)	668,384	—	—	—	578,246	—	—	—
Total	<u>\$ 668,481</u>	<u>\$ 97</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 578,347</u>	<u>\$ 101</u>	<u>\$ —</u>	<u>\$ —</u>

- (a) Certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy but are included in the total.

There are no investments in CONSOL Energy stock held by these plans at December 31, 2019 or 2018.

There are no assets in the other postretirement benefit plan at December 31, 2019 or 2018.

Cash Flows:

If necessary, CONSOL Energy intends to contribute to the pension trust using prudent funding methods. However, the Company does not expect to contribute to the pension plan trust in 2020. Pension benefit payments are primarily funded from the Trust. CONSOL Energy expects to pay benefits of \$1,687 from the non-qualified pension plan in 2020. CONSOL Energy does not expect to contribute to the other postretirement benefit plan in 2020 and intends to pay benefit claims as they become due.

The following benefit payments, reflecting expected future service, are expected to be paid:

	Pension Benefits	Other Postretirement Benefits
2020	\$ 44,619	\$ 31,833
2021	\$ 43,297	\$ 29,935
2022	\$ 43,438	\$ 29,302
2023	\$ 42,905	\$ 28,664
2024	\$ 42,837	\$ 27,881
Year 2025-2029	\$ 200,271	\$ 134,541

NOTE 15—COAL WORKERS' PNEUMOCONIOSIS AND WORKERS' COMPENSATION:

Coal Workers' Pneumoconiosis

Under the Federal Coal Mine Health and Safety Act of 1969, as amended, CONSOL Energy is responsible for medical and disability benefits to employees and their dependents resulting from occurrences of coal workers' pneumoconiosis (CWP) disease. CONSOL Energy is also responsible under various state statutes for pneumoconiosis benefits. CONSOL Energy primarily provides for these claims through a self-insurance program. The calculation of the actuarial present value of the estimated pneumoconiosis obligation is based on an annual actuarial study by independent actuaries and uses assumptions regarding disability incidence, medical costs, indemnity levels, mortality, death benefits, dependents and interest rates which are derived from actual company experience and outside sources. Actuarial gains or losses can result from discount rate changes, differences in incident rates and severity of claims filed as compared to original assumptions. Recent legislative changes have not been favorable for CWP. Based upon the law change that contained a 15-year presumption and permitted that chronic obstructive pulmonary disease (COPD) is a symptom of coal workers' pneumoconiosis, there has been a surge in entitled claims for CONSOL, both from new applicants and previously denied applicants over the past years.

Former miners and their family members asserting claims for pneumoconiosis benefits have generally been more successful asserting such claims in recent years as a result of the presumption within the PPACA that a coal miner with fifteen or more years of underground coal mining experience (or the equivalent) who develops a respiratory condition and meets the requirements for total disability under the Federal Act is presumed to be disabled due to coal dust exposure, thereby shifting the burden of proof from the employee to the employer/insurer to establish that this disability is not due to coal dust.

Workers' Compensation

CONSOL Energy must also compensate individuals who sustain employment-related physical injuries or some types of occupational diseases and, on some occasions, for costs of their rehabilitation. Workers' compensation programs will also compensate survivors of workers who suffer employment-related deaths. Workers' compensation laws are administered by state agencies, and each state has its own set of rules and regulations regarding compensation owed to an employee that is injured in the course of employment. CONSOL Energy primarily provides for these claims through a self-insurance program. CONSOL Energy recognizes an actuarial present value of the estimated workers' compensation obligation calculated by independent actuaries. The calculation is based on claims filed and an estimate of claims incurred but not yet reported as well as various assumptions, including discount rate, future healthcare trend rate, benefit duration and recurrence of injuries. Actuarial gains or losses associated with workers' compensation have resulted from discount rate changes and differences in claims experience and incident rates as compared to prior assumptions.

The reconciliation of changes in the benefit obligation and funded status of these plans at December 31, 2019 and 2018 is as follows:

	CWP at December 31,		Workers' Compensation at December 31,	
	2019	2018	2019	2018
Change in benefit obligation:				
Benefit obligation at beginning of period	\$ 177,188	\$ 162,840	\$ 70,986	\$ 78,528
State administrative fees and insurance bond premiums	—	—	2,157	2,671
Service cost	3,791	6,650	5,685	6,230
Interest cost	7,001	5,245	2,585	2,283
Actuarial loss (gain)	39,827	14,832	1,536	(5,134)
Benefits paid	(13,334)	(12,379)	(11,469)	(13,592)
Benefit obligation at end of period	<u>\$ 214,473</u>	<u>\$ 177,188</u>	<u>\$ 71,480</u>	<u>\$ 70,986</u>
Funded status:				
Current assets	\$ —	\$ —	\$ 1,037	\$ 1,384
Current liabilities	(12,331)	(12,187)	(11,323)	(12,628)
Noncurrent liabilities	(202,142)	(165,001)	(61,194)	(59,742)
Net obligation recognized	<u>\$ (214,473)</u>	<u>\$ (177,188)</u>	<u>\$ (71,480)</u>	<u>\$ (70,986)</u>
Amounts recognized in accumulated other comprehensive loss consist of:				
Net actuarial loss (gain)	\$ 47,352	\$ 8,542	\$ (11,250)	\$ (13,561)
Net amount recognized (before tax effect)	<u>\$ 47,352</u>	<u>\$ 8,542</u>	<u>\$ (11,250)</u>	<u>\$ (13,561)</u>

The components of net periodic benefit cost are as follows:

	CWP For the Years Ended December 31,			Workers' Compensation For the Years Ended December 31,		
	2019	2018	2017	2019	2018	2017
	Service cost	\$ 3,791	\$ 6,650	\$ 5,122	\$ 5,685	\$ 6,230
Interest cost	7,001	5,245	4,050	2,585	2,283	2,321
Recognized net actuarial loss (gain)	1,016	(853)	(7,631)	(774)	(79)	(598)
State administrative fees and insurance bond premiums	—	—	—	2,157	2,671	3,198
Net periodic benefit cost	<u>\$ 11,808</u>	<u>\$ 11,042</u>	<u>\$ 1,541</u>	<u>\$ 9,653</u>	<u>\$ 11,105</u>	<u>\$ 10,655</u>

The following are amounts included in accumulated other comprehensive loss that are expected to be recognized in 2020 net periodic benefit costs:

	CWP Benefits	Workers' Compensation Benefits
Actuarial loss (gain) recognition	\$ 5,604	\$ (487)

CONSOL Energy utilizes a corridor approach to amortize actuarial gains and losses that have been accumulated under the Workers' Compensation and CWP plans. Cumulative gains and losses that are in excess of 10% of the greater of either the estimated liability or the market-related value of plan assets are amortized over the expected average remaining future service of the current active membership of the Workers' Compensation and CWP plans.

Assumptions:

The weighted-average discount rates used to determine benefit obligations and net periodic benefit costs are as follows:

	CWP			Workers' Compensation		
	For the Years Ended			For the Years Ended		
	December 31,			December 31,		
	2019	2018	2017	2019	2018	2017
Benefit obligations	3.41%	4.42%	3.75%	3.25%	4.26%	3.57%
Net periodic benefit costs	4.42%	3.75%	4.40%	4.26%	3.57%	4.05%

Discount rates are determined using a Company-specific yield curve model (above-mean) developed with the assistance of an external actuary. The Company-specific yield curve models (above-mean) use a subset of the expanded bond universe to determine the Company-specific discount rate. Bonds used in the yield curve are rated AA by Moody's or Standard & Poor's as of the measurement date. The yield curve models parallel the plans' projected cash flows, and the underlying cash flows of the bonds included in the models exceed the cash flows needed to satisfy the Company's plans.

Cash Flows:

CONSOL Energy does not intend to make contributions to the CWP or Workers' Compensation plans in 2020, but it intends to pay benefit claims as they become due.

The following benefit payments, which reflect expected future claims as appropriate, are expected to be paid:

	CWP	Workers' Compensation		
		Total	Actuarial	Other
	Benefits	Benefits	Benefits	Benefits
2020	\$ 12,331	\$ 12,235	\$ 10,286	\$ 1,949
2021	\$ 12,013	\$ 12,427	\$ 10,430	\$ 1,997
2022	\$ 11,893	\$ 12,680	\$ 10,633	\$ 2,047
2023	\$ 11,545	\$ 12,741	\$ 10,643	\$ 2,098
2024	\$ 11,351	\$ 12,808	\$ 10,657	\$ 2,151
Year 2025-2029	\$ 57,446	\$ 66,260	\$ 54,672	\$ 11,588

NOTE 16—OTHER EMPLOYEE BENEFIT PLANS:

UMWA Benefit Trusts

The Coal Act created two multi-employer benefit plans: (1) the United Mine Workers of America Combined Benefit Fund (the “Combined Fund”) into which the former UMWA Benefit Trusts were merged, and (2) the United Mine Workers of America 1992 Benefit Plan (the “1992 Benefit Plan”). CONSOL Energy accounts for required contributions to these multi-employer trusts as expense when incurred.

The Combined Fund provides medical and death benefits for all beneficiaries of the former UMWA Benefit Trusts who were actually receiving benefits as of July 20, 1992. The 1992 Benefit Plan provides medical and death benefits to orphan UMWA-represented members eligible for retirement on February 1, 1993 and for those who retired between July 20, 1992 and September 30, 1994. The Coal Act provides for the assignment of beneficiaries to former employers and the allocation of unassigned beneficiaries (referred to as orphans) to companies using a formula set forth in the Coal Act. The Coal Act requires that responsibility for funding the benefits to be paid to beneficiaries be assigned to their former signatory employers or related companies. This cost is recognized when contributions are assessed. CONSOL Energy's total contributions under the Coal Act were \$6,042, \$6,829 and \$7,647 for the years ended December 31, 2019, 2018 and 2017, respectively. Based on available information at December 31, 2019, CONSOL Energy's gross obligation for the Combined Fund and 1992 Benefit Plan is estimated to be approximately \$62,295.

Pursuant to the provisions of the Tax Relief and Healthcare Act of 2006 (the “2006 Act”) and the 1992 Benefit Plan, CONSOL Energy is required to provide security in an amount based on the annual cost of providing health care benefits for all individuals receiving benefits from the 1992 Benefit Plan who are attributable to CONSOL Energy, plus all individuals receiving benefits from an individual employer plan maintained by CONSOL Energy who are entitled to receive such benefits. In accordance with the terms of the 2006 Act and the 1992 Benefit Plan, CONSOL Energy must secure its obligations by posting letters of credit, which were \$18,669, \$19,860 and \$20,983 at December 31, 2019, 2018 and 2017, respectively. The 2019, 2018 and 2017 security amounts were based on the annual cost of providing health care benefits and included a reduction in the number of eligible employees.

Investment Plan

CONSOL Energy has an investment plan available to most non-represented employees. Eligible employees of CONSOL Pennsylvania Coal Company began participation in the CONSOL Pennsylvania Coal Company Investment Plan (the “CPCC 401(k) Plan”) on September 1, 2017, the CPCC 401(k) Plan's inception date. Remaining eligible employees of CONSOL Energy began participation in the CPCC 401(k) Plan on November 1, 2017. Prior to participating in the CPCC 401(k) Plan, eligible employees participated in the Company's former parent's 401(k) plan. Effective December 31, 2019, the CPCC 401(k) Plan was amended to change its sponsor from CONSOL Pennsylvania Coal Company to CONSOL Energy Inc., and the plan's name was changed from the CONSOL Pennsylvania Coal Company Investment Plan to the CONSOL Energy Inc. Investment Plan (the “CEIX 401(k) Plan”). The CEIX 401(k) Plan and the Company's former parent's 401(k) plan both include company matching of 6% of eligible compensation contributed by eligible CONSOL Energy employees. The Company may also make discretionary contributions to the CEIX 401(k) Plan ranging from 1% to 6% of eligible compensation for eligible employees (as defined by the CEIX 401(k) Plan). Discretionary contributions of \$10,445 were accrued for at December 31, 2018, and were paid into employees' accounts in the first quarter of 2019. There were no such discretionary contributions accrued for or made by the Company in the years ended December 31, 2019 and 2017. Total payments and costs were \$10,737, \$20,655 and \$9,888 for the years ended December 31, 2019, 2018 and 2017, respectively.

Long-Term Disability

CONSOL Energy has a Long-Term Disability Plan available to all eligible full-time salaried employees. The benefits for this plan are based on a percentage of monthly earnings, offset by all other income benefits available to the disabled.

	For the Years Ended		
	December 31,		
	2019	2018	2017
Net periodic benefit costs	\$ 1,483	\$ 2,088	\$ 2,058
Discount rate assumption used to determine net periodic benefit costs	3.97%	3.22%	3.43%

Liabilities incurred under the Long-Term Disability Plan are included in Other Accrued Liabilities and Deferred Credits and Other Liabilities—Other in the Consolidated Balance Sheets and amounted to a combined total of \$12,749 and \$12,022 at December 31, 2019 and 2018, respectively.

NOTE 17—STOCK-BASED COMPENSATION:

CONSOL Energy adopted the CONSOL Energy Inc. Omnibus Performance Incentive Plan (the “Performance Incentive Plan”) on November 22, 2017. The Performance Incentive Plan provides for grants of stock-based awards to employees, including any officer or employee-director of the Company, who is not a member of the Compensation Committee. These awards are intended to compensate the recipients thereof based on the performance of the Company's stock and the recipients' continued services during the vesting period, as well as align the recipients' long-term interests with those of the Company's shareholders. CONSOL Energy is responsible for the cost of awards granted under the Performance Incentive Plan, and all determinations with respect to awards to be made under the Performance Incentive Plan will be made by the board of directors or a committee as delegated by the board of directors.

The Performance Incentive Plan limits the number of units that may be delivered pursuant to vested awards to 2,600,000 shares, subject to proportionate adjustment in the event of stock splits, stock dividends, recapitalizations, and other similar transactions or events. Shares subject to awards that are canceled, forfeited, withheld to satisfy exercise prices or tax withholding obligations or otherwise terminate without delivery will be available for delivery pursuant to other awards.

Due to the separation of the Company and its former parent as described in Note 2 - Separation from the Company's Former Parent, the terms of the agreement between the Company and its former parent provide for the automatic adjustment and conversion of awards originally granted under the Company's former parent's equity incentive plan into awards of the Performance Incentive Plan, effective as of November 28, 2017. By calculating a conversion ratio based on the share price immediately prior to the separation for both CONSOL Energy and its former parent, the intrinsic value of the outstanding awards immediately following the separation remains the same as the intrinsic value immediately prior to the separation. At the date of conversion, employees of CONSOL Energy who were grades 14 or lower vested immediately in any non-vested restricted stock units, whereas employees above grade 14 converted their shares at the separation date. All performance share units of the Company's former parent owned by CONSOL Energy employees converted on the date of the separation. For every unvested share of the Company's former parent to be converted, a CONSOL Energy employee received 0.7189 shares of an unvested award in the Performance Incentive Plan. The fair value of each award was adjusted to preserve the intrinsic value of the award. Any unvested option award of the Company's former parent owned by a CONSOL Energy employee remained an option award of the stock of the Company's former parent and CONSOL Energy recognized stock-based compensation expense for the remaining unamortized period of the award. For the year ended December 31, 2017, \$1,436 relates to the immediate expense of the unamortized portion of options granted by the Company's former parent for CONSOL Energy employees. While the board of directors may amend certain provisions of these awards, subject to limitations imposed by applicable law or the Performance Incentive Plan, these converted awards shall be governed by the provisions of the original award agreement applicable to the award.

For only those shares expected to vest, CONSOL Energy recognizes stock-based compensation costs on a straight-line basis over the requisite service period of the award as specified in the award agreement, which is generally the vesting term. The vesting of all awards will accelerate in the event of death and disability and may accelerate upon a change in control of CONSOL Energy. Some awards may accelerate based on retirement age. The total stock-based compensation expense recognized during the years ended December 31, 2019, 2018 and 2017 was \$11,351, \$8,392 and \$16,212, respectively, and was included in Selling, General and Administrative Costs on the Consolidated Statements of Income. This includes expense specifically related to the Performance Incentive Plan and also expense charged by the Company's former parent prior to the separation. The related deferred tax benefit relating to converted shares and new grants totaled \$2,856, \$1,911 and \$1,439 for the years ended December 31, 2019, 2018 and 2017, respectively.

As of December 31, 2019, CONSOL Energy has \$8,800 of unrecognized compensation cost related to all nonvested stock-based compensation awards, which is expected to be recognized over a weighted-average period of 1.56 years. When restricted stock and performance share unit awards become vested, the issuances are made from CONSOL Energy's common stock shares.

In March 2016, the FASB issued an ASU on stock compensation that was intended to simplify and improve the accounting and statement of cash flow presentation for income taxes at settlement, forfeitures, and net settlements for withholding tax. The guidance was effective for public entities for fiscal years beginning after December 31, 2016. In accordance with this Update, \$384 of additional income tax expense was recognized in the Consolidated Statements of Income for the year ended December 31, 2017. Also in accordance with this Update, the value of shares withheld for employee tax withholding purposes of \$2,156 for the year ended December 31, 2017 was reclassified between Net Cash Provided by Operating Activities and Net Cash Used in Financing Activities on the Consolidated Statements of Cash Flows. As permitted by this Update, the Company has elected to account for forfeitures of stock-based compensation as they occur. The cumulative effect of the policy election to recognize forfeitures as they occur was nominal.

Restricted Stock Units

CONSOL Energy grants certain employees and non-employee directors restricted stock units, which entitle the holder to shares of common stock as the award vests. Compensation expense is recognized on a straight-line basis over the requisite service period of the award. The total fair value of restricted stock units vested during the years ended December 31, 2019 and 2018 was \$4,407 and \$3,734, respectively. The following table represents the nonvested restricted stock units and their corresponding fair value (based upon the closing share price) at the date of grant:

	Number of Shares	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2018	424,496	\$33.60
Granted	262,507	\$33.96
Vested	(154,147)	\$32.59
Forfeited	(79,520)	\$31.05
Nonvested at December 31, 2019	<u>453,336</u>	\$34.60

Performance Share Units

CONSOL Energy grants certain employees performance share unit awards, which entitle the holder to shares of common stock subject to the achievement of certain market and performance goals. Compensation expense is recognized over the service period of awards and adjusted for the probability of achievement of performance-based goals. The total fair value of performance share units vested during the years ended December 31, 2019 and 2018 was and \$6,323 and \$4,910, respectively. The following table represents the nonvested performance share units and their corresponding fair value (based upon the closing share price and/or Monte Carlo simulation) on the date of grant:

	Number of Shares	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2018	263,244	\$34.51
Granted	266,556	\$34.49
Vested	(179,934)	\$34.66
Forfeited	(156,601)	\$35.49
Nonvested at December 31, 2019	<u>193,265</u>	\$33.55

NOTE 18—SUPPLEMENTAL CASH FLOW INFORMATION:

The following are non-cash transactions that impact the investing and financing activities of CONSOL Energy.

CONSOL Energy entered into non-cash finance lease arrangements of \$4,424 and \$1,301 for the years ended December 31, 2019 and 2018, respectively. Additionally, during the year ended December 31, 2018, the Company terminated two operating leases on its longwall shields, and refinanced these as finance leases in the amount of \$45,979. CONSOL Energy did not enter into any non-cash finance lease arrangements during the year ended December 31, 2017.

As of December 31, 2019, 2018 and 2017, CONSOL Energy purchased goods and services related to capital projects in the amount of \$3,785, \$2,311 and \$27,358, respectively, which are included in accounts payable, current portion of long-term debt and other accrued liabilities on the Consolidated Balance Sheets.

As part of the separation and distribution, certain assets and liabilities were contributed to the Company. As a result, the liabilities assumed by, and the assets contributed to, the Company in the year ended December 31, 2017 were \$17,613 and \$32,893, respectively.

The following table shows cash paid for interest and income taxes for the periods indicated.

	For the Years Ended December 31,		
	2019	2018	2017
Cash Paid For:			
Interest (net of amounts capitalized)	\$ 73,574	\$ 92,926	\$ 18,151
Income taxes *	\$ 40,139	\$ 12,834	\$ —

* The Company's operations were historically included in the income tax filings of its former parent. All tax payments prior to the separation and distribution were made by the Company's former parent. The Company made no income tax payments from the date of the separation and distribution through December 31, 2017.

NOTE 19—CONCENTRATION OF CREDIT RISK AND MAJOR CUSTOMERS:

CONSOL Energy primarily markets its thermal coal principally to electric utilities in the eastern United States. Substantially all revenues were generated from sales based in the United States for the years ended December 31, 2019, 2018 and 2017. Less than 2% of the Company's revenues were generated from sales based in Canada for the year ended December 31, 2019. During the years ended December 31, 2019 and 2018, three customers each comprised over 10% of the Company's total coal sales revenue, aggregating approximately 70% and 57%, respectively, of the Company's sales. During the year ended December 31, 2017, two customers each comprised over 10% of the Company's total coal sales revenue, aggregating approximately 31% of the Company's sales. Additionally, two of the Company's customers had outstanding balances each in excess of 10% of the total trade receivable balance as of December 31, 2019 and 2018.

The Company has contractual relationships with certain coal exporters who distribute coal to international markets. For the years ended December 31, 2019, 2018 and 2017, approximately 35%, 29% and 31%, respectively, of the Company's coal revenues were derived from these exporters, in which the Company's coal was intended to be shipped to Europe, Asia, South America, and Africa.

Concentration of credit risk is summarized below:

	December 31,	
	2019	2018
Thermal coal utilities	\$ 58,557	\$ 61,218
Coal exporters and distributors	73,416	22,972
Steel and coke producers	—	661
Other	1,815	2,738
Total Trade Receivables	133,788	87,589
Less: Allowance for doubtful accounts	2,100	—
Total Trade Receivables, net of Allowance	<u>\$ 131,688</u>	<u>\$ 87,589</u>

NOTE 20—FAIR VALUE OF FINANCIAL INSTRUMENTS:

CONSOL Energy determines the fair value of assets and liabilities based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. The fair values are based on assumptions that market participants would use when pricing an asset or liability, including assumptions about risk and the risks inherent in valuation techniques and the inputs to valuations. The fair value hierarchy is based on whether the inputs to valuation techniques are observable or unobservable. Observable inputs reflect market data obtained from independent sources (including LIBOR-based discount rates), while unobservable inputs reflect the Company's own assumptions of what market participants would use.

The fair value hierarchy includes three levels of inputs that may be used to measure fair value as described below.

Level One - Quoted prices for identical instruments in active markets.

Level Two - The fair value of the assets and liabilities included in Level 2 are based on standard industry income approach models that use significant observable inputs, including LIBOR-based discount rates.

Level Three - Unobservable inputs significant to the fair value measurement supported by little or no market activity. The significant unobservable inputs used in the fair value measurement of the Company's third party guarantees are the credit risk of the third party and the third party surety bond markets. A significant increase or decrease in these values, in isolation, would have a directionally similar effect resulting in a higher or lower fair value measurement of the Company's Level 3 guarantees.

In those cases when the inputs used to measure fair value meet the definition of more than one level of the fair value hierarchy, the lowest level input that is significant to the fair value measurement in its totality determines the applicable level in the fair value hierarchy.

The financial instruments measured at fair value on a recurring basis are summarized below:

Description	Fair Value Measurements at December 31, 2019			Fair Value Measurements at December 31, 2018		
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Lease Guarantees	\$ —	\$ —	\$ (482)	\$ —	\$ —	\$ (734)
Derivatives ⁽¹⁾	\$ —	\$ (154)	\$ —	\$ —	\$ —	\$ —

(1) Interest rate swaps are valued based on observable market swap rates and are classified within Level 2 of the fair value hierarchy.

The following methods and assumptions were used to estimate the fair value for which the fair value option was not elected:

Long-term debt: The fair value of long-term debt is measured using unadjusted quoted market prices or estimated using discounted cash flow analyses. The discounted cash flow analyses are based on current market rates for instruments with similar cash flows.

The carrying amounts and fair values of financial instruments for which the fair value option was not elected are as follows:

	December 31, 2019		December 31, 2018	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Long-Term Debt	\$ 696,178	\$ 642,018	\$ 842,899	\$ 881,711

Certain of the Company's debt is actively traded on a public market and, as a result, constitutes Level 1 fair value measurements. The portion of the Company's debt obligations that is not actively traded is valued through reference to the applicable underlying benchmark rate and, as a result, constitutes Level 2 fair value measurements.

NOTE 21—COMMITMENTS AND CONTINGENT LIABILITIES:

The SDA implemented the legal and structural separation of the Company from its former parent and identified the assets of the Coal Business that were transferred to the Company and the liabilities and contracts related to the Coal Business that were assumed by the Company as part of the separation and distribution. The SDA also provides post-closing indemnification obligations and procedures between the Company and its former parent relating to the liabilities of the Coal Business that the Company assumed.

The Company is subject to various lawsuits and claims with respect to such matters as personal injury, wrongful death, damage to property, exposure to hazardous substances, governmental regulations including environmental remediation, employment and contract disputes and other claims and actions arising out of the normal course of business. The Company accrues the estimated loss for these lawsuits and claims when the loss is probable and reasonably estimable. The Company's estimated accruals relating to these pending claims, individually and in the aggregate, are immaterial to the financial position, results of operations or cash flows of the Company as of December 31, 2019. It is possible that the aggregate loss in the future with respect to these lawsuits and claims could ultimately be material to the Company's financial position, results of operations or cash flows; however, such amounts cannot be reasonably estimated. The amount claimed against the Company as of December 31, 2019 is disclosed below when an amount is expressly stated in the lawsuit or claim, which is not often the case.

Fitzwater Litigation: Three nonunion retired coal miners have sued Fola Coal Company LLC, Consolidation Coal Company (“CCC”) and CONSOL of Kentucky Inc. (“COK”) (as well as the Company's former parent) in West Virginia Federal Court alleging ERISA violations in the termination of retiree health care benefits. The Plaintiffs contend they relied to their detriment on oral statements and promises of “lifetime health benefits” allegedly made by various members of management during Plaintiffs’ employment and that they were allegedly denied access to Summary Plan Documents that clearly reserved the right to modify or terminate the Retiree Health and Welfare Plan subject to Plaintiffs' claims. Pursuant to Plaintiffs' amended complaint filed on April 24, 2017, Plaintiffs request that retiree health benefits be reinstated and seek to represent a class of all nonunion retirees who were associated with AMVEST and COK areas of operation. On October 15, 2019, Plaintiffs' supplemental motion for class certification was denied on all counts and a scheduling order for the remaining individual claims was set on October 16, 2019. The Company believes it has a meritorious defense and intends to vigorously defend this suit.

Casey Litigation: A class action lawsuit was filed on August 23, 2017 on behalf of two nonunion retired coal miners against CCC, COK, CONSOL Buchanan Mining Co., LLC and Kurt Salvatori in West Virginia Federal Court alleging ERISA violations in the termination of retiree health care benefits. Filed by the same lawyers who filed the Fitzwater litigation, and raising nearly identical claims, the Plaintiffs contend they relied to their detriment on oral promises of “lifetime health benefits” allegedly made by various members of management during Plaintiffs’ employment and that they were not provided with copies of Summary Plan Documents clearly reserving to the Company the right to modify or terminate the Retiree Health and Welfare Plan. Plaintiffs request that retiree health benefits be reinstated for them and their dependents and seek to represent a class of all nonunion retirees of any subsidiary of the Company's former parent that operated or employed individuals in McDowell or Mercer Counties, West Virginia, or Buchanan or Tazewell Counties, Virginia whose retiree welfare benefits were terminated. On December 1, 2017, the trial court judge in Fitzwater signed an order to consolidate Fitzwater with Casey. The Casey complaint was amended on March 1, 2018 to add new plaintiffs, add defendant CONSOL Pennsylvania Coal Company, LLC and eliminate defendant CONSOL Buchanan Mining Co., LLC in an attempt to expand the class of retirees. On October 15, 2019, Plaintiffs' supplemental motion for class certification was denied on all counts and a scheduling order for the remaining individual claims was set on October 16, 2019. The Company believes it has a meritorious defense and intends to vigorously defend this suit.

Other Matters: Various Company subsidiaries are defendants in certain other legal proceedings arising out of the conduct of the Coal Business prior to the separation and distribution, and the Company is also a defendant in other legal proceedings following the separation and distribution. In the opinion of management, based upon an investigation of these matters and discussion with legal counsel, the ultimate outcome of such other legal proceedings, individually and in the aggregate, is not expected to have a material adverse effect on the Company’s financial position, results of operations or liquidity.

As part of the separation and distribution, the Company assumed various financial obligations relating to the Coal Business and agreed to reimburse its former parent for certain financial guarantees relating to the Coal Business that its former parent retained following the separation and distribution. Employee-related financial guarantees have primarily been provided to support the United Mine Workers’ of America’s 1992 Benefit Plan and federal black lung and various state workers’ compensation self-insurance programs. Environmental financial guarantees have primarily been provided to support various performance bonds related to reclamation and other environmental issues. Other guarantees have been extended to support sales contracts, insurance policies, legal matters, full and timely payments of mining equipment leases, and various other items necessary in the normal course of business.

The following is a summary, as of December 31, 2019, of the financial guarantees, unconditional purchase obligations and letters of credit to certain third parties. These amounts represent the maximum potential of total future payments that the Company could be required to make under these instruments, or under the SDA to the extent retained by the Company's former parent on behalf of the Coal Business. These amounts have not been reduced for potential recoveries under recourse or collateralization provisions. Generally, recoveries under reclamation bonds would be limited to the extent of the work performed at the time of the default. No amounts related to these financial guarantees and letters of credit are recorded as liabilities in the financial statements. The Company's management believes that these guarantees will expire without being funded, and therefore, the commitments will not have a material adverse effect on the Company's financial condition.

	Amount of Commitment Expiration Per Period				
	Total Amounts Committed	Less Than 1 Year	1-3 Years	3-5 Years	Beyond 5 Years
Letters of Credit:					
Employee-Related	\$ 64,558	\$ 50,416	\$ 14,142	\$ —	\$ —
Environmental	398	—	398	—	—
Other	45,843	11,143	34,700	—	—
Total Letters of Credit	110,799	61,559	49,240	—	—
Surety Bonds:					
Employee-Related	87,424	86,124	1,300	—	—
Environmental	526,838	492,696	34,142	—	—
Other	3,989	3,830	159	—	—
Total Surety Bonds	618,251	582,650	35,601	—	—
Guarantees:					
Other	15,535	6,862	7,893	398	382
Total Guarantees	15,535	6,862	7,893	398	382
Total Commitments	\$ 744,585	\$ 651,071	\$ 92,734	\$ 398	\$ 382

Included in the above table are commitments and guarantees entered into in conjunction with the sale of Consolidation Coal Company and certain of its subsidiaries, which contain all five of its longwall coal mines in West Virginia and its river operations, to a third party. As part of the separation and distribution, the Company's former parent agreed to indemnify the Company and the Company agreed to indemnify its former parent in each case with respect to guarantees of certain equipment lease obligations that were assumed by the third party. In the event that the third party would default on the obligations defined in the agreements, the Company would be required to perform under the guarantees. If the Company would be required to perform, the stock purchase agreement provides various recourse actions. As of December 31, 2019, the Company has not been required to perform under these guarantees. The equipment lease obligations are collateralized by the underlying assets. The current maximum estimated exposure under these guarantees as of December 31, 2019 and 2018 is believed to be approximately \$20,000 and \$28,000, respectively. At December 31, 2019 and 2018, the fair value of these guarantees was \$482 and \$734, respectively, and is included in Other Accrued Liabilities on the Consolidated Balance Sheets. The fair value of certain of the guarantees was determined using the Company's risk-adjusted interest rate. Significant increases or decreases in the risk-adjusted interest rates may result in a significantly higher or lower fair value measurement. No other amounts related to financial guarantees and letters of credit are recorded as liabilities in the financial statements. Significant judgment is required in determining the fair value of these guarantees. The guarantees of the leases are classified within Level 3 of the fair value hierarchy.

The Company regularly evaluates the likelihood of default for all guarantees based on an expected loss analysis and records the fair value, if any, of its guarantees as an obligation in the consolidated financial statements.

NOTE 22—SEGMENT INFORMATION:

CONSOL Energy Inc. consists of one reportable segment: the Pennsylvania Mining Complex, which includes the Bailey Mine, the Enlow Fork Mine, the Harvey Mine and the Central Preparation Plant. The principal activities of the PAMC are mining, preparation and marketing of thermal coal, sold primarily to power generators. It also includes selling, general and administrative activities, as well as various other activities assigned to the PAMC.

CONSOL Energy's Other division includes revenue and expenses from various corporate and diversified business activities that are not allocated to the PAMC division. The diversified business activities include the CONSOL Marine Terminal, development of the Itmann Mine, the Greenfield Reserves, closed and idle mine activities, selling, general and administrative activities, interest expense and income taxes, as well as various other non-operated activities, none of which are individually significant to the Company.

Industry segment results for the year ended December 31, 2019 are:

	PAMC	Other	Adjustments and Eliminations	Consolidated
Coal Revenue	\$ 1,288,529	\$ —	\$ —	\$ 1,288,529 (A)
Terminal Revenue	—	67,363	—	67,363
Freight Revenue	19,667	—	—	19,667
Total Revenue and Freight	<u>\$ 1,308,196</u>	<u>\$ 67,363</u>	<u>\$ —</u>	<u>\$ 1,375,559</u>
Earnings (Loss) Before Income Tax	<u>\$ 197,112</u>	<u>\$ (99,015)</u>	<u>\$ —</u>	<u>\$ 98,097</u>
Segment Assets	<u>\$ 1,981,721</u>	<u>\$ 712,081</u>	<u>\$ —</u>	<u>\$ 2,693,802</u>
Depreciation, Depletion and Amortization	<u>\$ 185,616</u>	<u>\$ 21,481</u>	<u>\$ —</u>	<u>\$ 207,097</u>
Capital Expenditures	<u>\$ 148,709</u>	<u>\$ 21,030</u>	<u>\$ —</u>	<u>\$ 169,739</u>

Industry segment results for the year ended December 31, 2018 are:

	PAMC	Other	Adjustments and Eliminations	Consolidated
Coal Revenue	\$ 1,364,292	\$ —	\$ —	\$ 1,364,292 (A)
Terminal Revenue	—	64,926	—	64,926
Freight Revenue	43,572	—	—	43,572
Total Revenue and Freight	<u>\$ 1,407,864</u>	<u>\$ 64,926</u>	<u>\$ —</u>	<u>\$ 1,472,790</u>
Earnings (Loss) Before Income Tax	<u>\$ 291,418</u>	<u>\$ (103,805)</u>	<u>\$ —</u>	<u>\$ 187,613</u>
Segment Assets	<u>\$ 1,894,209</u>	<u>\$ 866,518</u>	<u>\$ —</u>	<u>\$ 2,760,727</u>
Depreciation, Depletion and Amortization	<u>\$ 178,969</u>	<u>\$ 22,295</u>	<u>\$ —</u>	<u>\$ 201,264</u>
Capital Expenditures	<u>\$ 124,570</u>	<u>\$ 21,179</u>	<u>\$ —</u>	<u>\$ 145,749</u>

Industry segment results for the year ended December 31, 2017 are:

	PAMC	Other	Adjustments and Eliminations	Consolidated
Coal Revenue	\$ 1,187,654	\$ —	\$ —	\$ 1,187,654 (A)
Terminal Revenue	—	60,066	—	60,066
Freight Revenue	73,692	—	—	73,692
Total Revenue and Freight	<u>\$ 1,261,346</u>	<u>\$ 60,066</u>	<u>\$ —</u>	<u>\$ 1,321,412</u>
Earnings (Loss) Before Income Tax	<u>\$ 189,162</u>	<u>\$ (19,365)</u>	<u>\$ —</u>	<u>\$ 169,797</u>
Segment Assets	<u>\$ 1,971,268</u>	<u>\$ 735,831</u>	<u>\$ —</u>	<u>\$ 2,707,099</u>
Depreciation, Depletion and Amortization	<u>\$ 166,628</u>	<u>\$ 5,374</u>	<u>\$ —</u>	<u>\$ 172,002</u>
Capital Expenditures	<u>\$ 77,981</u>	<u>\$ 3,432</u>	<u>\$ —</u>	<u>\$ 81,413</u>

(A) For the years ended December 31, 2019, 2018 and 2017, the PAMC segment had revenues from the following customers, each comprising over 10% of the Company's total sales:

	For the Years Ended December 31,		
	2019	2018	2017
Customer A	\$ 242,703	\$ 283,703	*
Customer B	\$ 446,403	\$ 274,755	\$ 145,248
Customer C	\$ 215,099	\$ 214,152	\$ 222,354

* Revenues from this customer during the year ended December 31, 2017 were less than 10% of the Company's total sales.

Reconciliation of Segment Information to Consolidated Amounts:

Revenue and Other Income:

	For the Years Ended December 31,		
	2019	2018	2017
Total Segment Revenue and Freight from External Customers	\$ 1,375,559	\$ 1,472,790	\$ 1,321,412
Other Income not Allocated to Segments (Note 4)	53,349	58,660	73,279
Gain on Sale of Assets	1,995	565	17,212
Total Consolidated Revenue and Other Income	<u>\$ 1,430,903</u>	<u>\$ 1,532,015</u>	<u>\$ 1,411,903</u>

Total Assets:

	December 31,	
	2019	2018
Segment Assets for Total Reportable Business Segments	\$ 1,981,721	\$ 1,894,209
Segment Assets for All Other Business Segments	515,334	554,315
Items Excluded from Segment Assets:		
Cash and Other Investments	93,242	234,658
Deferred Tax Assets	103,505	77,545
Total Consolidated Assets	<u>\$ 2,693,802</u>	<u>\$ 2,760,727</u>

Enterprise-Wide Disclosures:

For the years ended December 31, 2019, 2018 and 2017, CONSOL Energy revenue was predominantly attributable to customers located in the United States of America. Less than 2% of the Company's revenues were generated from sales based in Canada for the year ended December 31, 2019.

CONSOL Energy's Property, Plant and Equipment by geographical location:

	December 31,	
	2019	2018
United States	\$ 2,081,141	\$ 2,095,504
Canada	11,024	11,024
Total Property, Plant and Equipment, net	<u>\$ 2,092,165</u>	<u>\$ 2,106,528</u>

NOTE 23—GUARANTOR SUBSIDIARIES FINANCIAL INFORMATION:

The payment obligations under the \$275,000, Term Loan B due in September 2024, the \$300,000, 11.000% per annum senior notes due November 2025, and the \$100,000, Term Loan A due in March 2023 issued by CONSOL Energy are jointly and severally, and also fully and unconditionally, guaranteed by certain subsidiaries of CONSOL Energy. In accordance with positions established by the SEC, the following financial information sets forth separate financial information with respect to the parent, guarantor subsidiaries, CCR, a non-guarantor subsidiary, and the remaining non-guarantor subsidiaries. The principal elimination entries include investments in subsidiaries and certain intercompany balances and transactions. CONSOL Energy, the parent, and a guarantor subsidiary manage several assets and liabilities of all other wholly-owned subsidiaries. These include, for example, deferred tax assets, cash and other post-employment liabilities. These assets and liabilities are reflected as parent company or guarantor company amounts for purposes of this presentation.

Income Statement for the Year Ended December 31, 2019:

	Parent Issuer	Guarantor	CCR Non- Guarantor	Non- Guarantor	Elimination	Consolidated
Revenue and Other Income:						
Coal Revenue	\$ —	\$ 966,397	\$ 322,132	\$ —	\$ —	\$ 1,288,529
Terminal Revenue	—	67,363	—	—	—	67,363
Freight Revenue	—	14,750	4,917	—	—	19,667
Miscellaneous Other Income	160,441	(11,418)	5,928	38,401	(140,003)	53,349
Gain (Loss) on Sale of Assets	2,188	(144)	(49)	—	—	1,995
Total Revenue and Other Income	162,629	1,036,948	332,928	38,401	(140,003)	1,430,903
Costs and Expenses:						
Operating and Other Costs	—	729,232	217,175	1,605	—	948,012
Depreciation, Depletion and Amortization	—	161,290	45,807	—	—	207,097
Freight Expense	—	14,750	4,917	—	—	19,667
Selling, General and Administrative Costs	—	54,237	12,874	—	—	67,111
Loss on Debt Extinguishment	24,455	—	—	—	—	24,455
Interest Expense, net	57,634	2,226	6,604	—	—	66,464
Total Costs and Expenses	82,089	961,735	287,377	1,605	—	1,332,806
Earnings (Loss) Before Income Tax	80,540	75,213	45,551	36,796	(140,003)	98,097
Income Tax Expense	4,539	—	—	—	—	4,539
Net Income (Loss)	76,001	75,213	45,551	36,796	(140,003)	93,558
Less: Net Income Attributable to Noncontrolling Interest	—	—	—	—	17,557	17,557
Net Income (Loss) Attributable to CONSOL Energy Inc. Shareholders	\$ 76,001	\$ 75,213	\$ 45,551	\$ 36,796	\$ (157,560)	\$ 76,001

Balance Sheet at December 31, 2019:

	<u>Parent Issuer</u>	<u>Guarantor</u>	<u>CCR Non- Guarantor</u>	<u>Non- Guarantor</u>	<u>Elimination</u>	<u>Consolidated</u>
Assets:						
Current Assets:						
Cash and Cash Equivalents	\$ 79,569	\$ 148	\$ 543	\$ 33	\$ —	\$ 80,293
Accounts and Notes Receivable:						
Trade Receivables, net of Allowance	—	—	—	131,688	—	131,688
Other Receivables	28,147	11,265	1,572	—	—	40,984
Inventories	—	41,478	12,653	—	—	54,131
Prepaid Expenses and Other Assets	8,657	16,524	5,746	6	—	30,933
Total Current Assets	<u>116,373</u>	<u>69,415</u>	<u>20,514</u>	<u>131,727</u>	<u>—</u>	<u>338,029</u>
Property, Plant and Equipment:						
Property, Plant and Equipment	—	4,023,282	984,898	—	—	5,008,180
Less-Accumulated Depreciation, Depletion and Amortization	—	2,344,777	571,238	—	—	2,916,015
Total Property, Plant and Equipment-Net	<u>—</u>	<u>1,678,505</u>	<u>413,660</u>	<u>—</u>	<u>—</u>	<u>2,092,165</u>
Other Assets:						
Deferred Income Taxes	103,505	—	—	—	—	103,505
Right of Use Asset - Operating Leases	—	56,937	15,695	—	—	72,632
Affiliated Credit Facility	148,156	—	—	—	(148,156)	—
Investment in Affiliates	822,102	—	—	—	(822,102)	—
Other	30,973	43,042	13,456	—	—	87,471
Total Other Assets	<u>1,104,736</u>	<u>99,979</u>	<u>29,151</u>	<u>—</u>	<u>(970,258)</u>	<u>263,608</u>
Total Assets	<u>\$ 1,221,109</u>	<u>\$ 1,847,899</u>	<u>\$ 463,325</u>	<u>\$ 131,727</u>	<u>\$ (970,258)</u>	<u>\$ 2,693,802</u>
Liabilities and Equity:						
Current Liabilities:						
Accounts Payable	\$ 71,153	\$ 7,987	\$ 22,805	\$ 4,278	\$ —	\$ 106,223
Accounts Payable (Recoverable)-Related Parties	—	—	1,419	—	(1,419)	—
Current Portion of Long-Term Debt	28,225	16,795	5,252	—	—	50,272
Other Accrued Liabilities	82,452	116,403	39,455	—	(2,541)	235,769
Total Current Liabilities	<u>181,830</u>	<u>141,185</u>	<u>68,931</u>	<u>4,278</u>	<u>(3,960)</u>	<u>392,264</u>
Long-Term Debt	554,150	107,043	149,801	—	(148,156)	662,838
Deferred Credits and Other Liabilities:						
Postretirement Benefits Other Than Pensions	—	432,496	—	—	—	432,496
Pneumoconiosis Benefits	—	196,114	6,028	—	—	202,142
Asset Retirement Obligations	—	239,410	10,801	—	—	250,211
Workers' Compensation	—	57,583	3,611	—	—	61,194
Salary Retirement	49,930	—	—	—	—	49,930
Operating Lease Liability	—	43,906	11,507	—	—	55,413
Other	—	14,134	785	—	—	14,919
Total Deferred Credits and Other Liabilities	<u>49,930</u>	<u>983,643</u>	<u>32,732</u>	<u>—</u>	<u>—</u>	<u>1,066,305</u>
Total CONSOL Energy Inc. Stockholders' Equity	<u>435,199</u>	<u>616,028</u>	<u>211,861</u>	<u>127,449</u>	<u>(955,338)</u>	<u>435,199</u>
Noncontrolling Interest	—	—	—	—	137,196	137,196
Total Liabilities and Equity	<u>\$ 1,221,109</u>	<u>\$ 1,847,899</u>	<u>\$ 463,325</u>	<u>\$ 131,727</u>	<u>\$ (970,258)</u>	<u>\$ 2,693,802</u>

Condensed Statement of Cash Flows for the Year Ended December 31, 2019:

	Parent Issuer	Guarantor	CCR Non- Guarantor	Non- Guarantor	Elimination	Consolidated
Net Cash Provided by (Used In) Operating Activities	\$ 253,112	\$ (89,671)	\$ 81,125	\$ —	\$ —	\$ 244,566
Cash Flows from Investing Activities:						
Capital Expenditures	—	(132,562)	(37,177)	—	—	(169,739)
(Investments in), net of Distributions from, Subsidiaries	(206,658)	242,056	—	—	(35,398)	—
Proceeds from Sales of Assets	—	2,195	6	—	—	2,201
Other Investing Activity	(5,003)	—	—	—	—	(5,003)
Net Cash (Used in) Provided by Investing Activities	(211,661)	111,689	(37,171)	—	(35,398)	(172,541)
Cash Flows from Financing Activities:						
Payments on Finance Lease Obligations	—	(14,708)	(3,841)	—	—	(18,549)
Affiliated Credit Facility	(17,925)	—	17,925	—	—	—
Proceeds from Term Loan A	26,250	—	—	—	—	26,250
Payments on Term Loan A	(11,250)	—	—	—	—	(11,250)
Payments on Term Loan B	(124,437)	—	—	—	—	(124,437)
Payments on Second Lien Notes	(52,648)	—	—	—	—	(52,648)
Proceeds from Asset-Backed Financing	3,757	—	—	—	—	3,757
Payments on Asset-Backed Financing	(240)	—	—	—	—	(240)
Distributions to Noncontrolling Interest	—	—	(57,618)	—	35,398	(22,220)
Shares/Units Withheld for Taxes	—	(4,083)	(880)	—	—	(4,963)
Repurchases of Common Stock	(32,733)	—	—	—	—	(32,733)
Purchases of CCR Units	(369)	—	—	—	—	(369)
Premium Paid on Extinguishment of Debt	(6,773)	—	—	—	—	(6,773)
Debt Issuance and Financing Fees	(12,492)	—	—	—	—	(12,492)
Net Cash (Used in) Provided by Financing Activities	\$ (228,860)	\$ (18,791)	\$ (44,414)	\$ —	\$ 35,398	\$ (256,667)

Condensed Statement of Comprehensive Income for the Year Ended December 31, 2019:

	Parent Issuer	Guarantor	CCR Non- Guarantor	Non- Guarantor	Elimination	Consolidated
Net Income (Loss)	\$ 76,001	\$ 75,213	\$ 45,551	\$ 36,796	\$ (140,003)	\$ 93,558
Other Comprehensive Income (Loss):						
Net Actuarial (Loss) Gain	(25,132)	—	(1,341)	—	1,341	(25,132)
Unrecognized Loss on Derivatives	(117)	—	—	—	—	(117)
Other Comprehensive (Loss) Income	(25,249)	—	(1,341)	—	1,341	(25,249)
Comprehensive Income (Loss)	50,752	75,213	44,210	36,796	(138,662)	68,309
Less: Comprehensive Income Attributable to Noncontrolling Interest	—	—	—	—	17,551	17,551
Comprehensive Income (Loss) Attributable to CONSOL Energy Inc. Shareholders	\$ 50,752	\$ 75,213	\$ 44,210	\$ 36,796	\$ (156,213)	\$ 50,758

Income Statement for the Year Ended December 31, 2018:

	<u>Parent Issuer</u>	<u>Guarantor</u>	<u>CCR Non- Guarantor</u>	<u>Non- Guarantor</u>	<u>Elimination</u>	<u>Consolidated</u>
Revenue and Other Income:						
Coal Revenue	\$ —	\$ 1,023,219	\$ 341,073	\$ —	\$ —	\$ 1,364,292
Terminal Revenue	—	64,926	—	—	—	64,926
Freight Revenue	—	32,679	10,893	—	—	43,572
Miscellaneous Other Income	247,711	27,013	5,243	—	(221,307)	58,660
Gain (Loss) on Sale of Assets	—	599	(34)	—	—	565
Total Revenue and Other Income	<u>247,711</u>	<u>1,148,436</u>	<u>357,175</u>	<u>—</u>	<u>(221,307)</u>	<u>1,532,015</u>
Costs and Expenses:						
Operating and Other Costs	—	729,593	214,376	2,481	—	946,450
Depreciation, Depletion and Amortization	—	156,522	44,742	—	—	201,264
Freight Expense	—	32,679	10,893	—	—	43,572
Selling, General and Administrative Costs	—	51,415	13,931	—	—	65,346
Loss on Debt Extinguishment	3,922	—	—	—	—	3,922
Interest Expense, net	81,985	2,905	6,667	—	(7,709)	83,848
Total Costs and Expenses	<u>85,907</u>	<u>973,114</u>	<u>290,609</u>	<u>2,481</u>	<u>(7,709)</u>	<u>1,344,402</u>
Earnings (Loss) Before Income Tax	<u>161,804</u>	<u>175,322</u>	<u>66,566</u>	<u>(2,481)</u>	<u>(213,598)</u>	<u>187,613</u>
Income Tax Expense	8,828	—	—	—	—	8,828
Net Income (Loss)	<u>152,976</u>	<u>175,322</u>	<u>66,566</u>	<u>(2,481)</u>	<u>(213,598)</u>	<u>178,785</u>
Less: Net Income Attributable to Noncontrolling Interest	—	—	—	—	25,809	25,809
Net Income (Loss) Attributable to CONSOL Energy Inc. Shareholders	<u>\$ 152,976</u>	<u>\$ 175,322</u>	<u>\$ 66,566</u>	<u>\$ (2,481)</u>	<u>\$ (239,407)</u>	<u>\$ 152,976</u>

Balance Sheet at December 31, 2018:

	<u>Parent Issuer</u>	<u>Guarantor</u>	<u>CCR Non- Guarantor</u>	<u>Non- Guarantor</u>	<u>Elimination</u>	<u>Consolidated</u>
Assets:						
Current Assets:						
Cash and Cash Equivalents	\$ 234,536	\$ 138	\$ 1,003	\$ —	\$ —	\$ 235,677
Restricted Cash	14,557	—	—	14,701	—	29,258
Accounts and Notes Receivable:						
Trade Receivables, net of Allowance	—	—	—	87,589	—	87,589
Other Receivables	24,352	15,935	1,068	—	—	41,355
Inventories	—	37,580	11,066	—	—	48,646
Prepaid Expenses and Other Assets	10,883	15,451	5,096	—	—	31,430
Total Current Assets	284,328	69,104	18,233	102,290	—	473,955
Property, Plant and Equipment:						
Property, Plant and Equipment	—	3,891,873	946,298	—	—	4,838,171
Less-Accumulated Depreciation, Depletion and Amortization	—	2,204,896	526,747	—	—	2,731,643
Total Property, Plant and Equipment-Net	—	1,686,977	419,551	—	—	2,106,528
Other Assets:						
Deferred Income Taxes	77,545	—	—	—	—	77,545
Affiliated Credit Facility	141,129	—	—	—	(141,129)	—
Investment in Affiliates	605,981	—	—	—	(605,981)	—
Other	40,760	47,031	14,908	—	—	102,699
Total Other Assets	865,415	47,031	14,908	—	(747,110)	180,244
Total Assets	\$ 1,149,743	\$ 1,803,112	\$ 452,692	\$ 102,290	\$ (747,110)	\$ 2,760,727
Liabilities and Equity:						
Current Liabilities:						
Accounts Payable	\$ (721)	\$ 102,995	\$ 24,834	\$ —	\$ 3,822	\$ 130,930
Accounts (Recoverable) Payable-Related Parties	(2,291)	36,220	3,831	87,593	(125,353)	—
Current Portion of Long-Term Debt	8,157	11,139	3,503	—	112,013	134,812
Other Accrued Liabilities	92,534	105,806	31,916	—	(3,822)	226,434
Total Current Liabilities	97,679	256,160	64,084	87,593	(13,340)	492,176
Long-Term Debt	577,957	151,202	146,196	—	(141,129)	734,226
Deferred Credits and Other Liabilities:						
Postretirement Benefits Other Than Pensions	—	441,246	—	—	—	441,246
Pneumoconiosis Benefits	—	160,741	4,260	—	—	165,001
Asset Retirement Obligations	—	226,209	9,775	—	—	235,984
Workers' Compensation	—	56,623	3,119	—	—	59,742
Salary Retirement	64,172	—	—	—	—	64,172
Other	—	16,051	518	—	—	16,569
Total Deferred Credits and Other Liabilities	64,172	900,870	17,672	—	—	982,714
Total CONSOL Energy Inc. Stockholders' Equity	409,935	494,880	224,740	14,697	(734,317)	409,935
Noncontrolling Interest	—	—	—	—	141,676	141,676
Total Liabilities and Equity	\$ 1,149,743	\$ 1,803,112	\$ 452,692	\$ 102,290	\$ (747,110)	\$ 2,760,727

Condensed Statement of Cash Flows for the Year Ended December 31, 2018:

	Parent Issuer	Guarantor	CCR Non-Guarantor	Non-Guarantor	Elimination	Consolidated
Net Cash Provided by Operating Activities	\$ 231,522	\$ 56,624	\$ 125,379	\$ —	\$ —	\$ 413,525
Cash Flows from Investing Activities:						
Capital Expenditures	—	(114,606)	(31,143)	—	—	(145,749)
(Investments in), net of Distributions from, Subsidiaries	(2,908)	38,032	—	—	(35,124)	—
Proceeds from Sales of Assets	—	1,933	170	—	—	2,103
Other Investing Activity	(10,000)	—	—	—	—	(10,000)
Net Cash Used in Investing Activities	(12,908)	(74,641)	(30,973)	—	(35,124)	(153,646)
Cash Flows from Financing Activities:						
Payments on Finance Lease Obligations	(2,905)	(9,527)	(3,052)	—	—	(15,484)
Affiliated Credit Facility	33,583	—	(33,583)	—	—	—
Payments on Term Loan A	(26,250)	—	—	—	—	(26,250)
Payments on Term Loan B	(4,000)	—	—	—	—	(4,000)
Payments on Second Lien Notes	(25,724)	—	—	—	—	(25,724)
Distributions to Noncontrolling Interest	—	—	(57,389)	—	35,124	(22,265)
Shares/Units Withheld for Taxes	—	(2,512)	(912)	—	—	(3,424)
Repurchases of Common Stock	(25,839)	—	—	—	—	(25,839)
Purchases of CCR Units	(3,079)	—	—	—	—	(3,079)
Spin Distribution to CNX Resources Corporation	(18,234)	—	—	—	—	(18,234)
Premium Paid on Extinguishment of Debt	(2,458)	—	—	—	—	(2,458)
Debt Issuance and Financing Fees	(2,166)	—	—	—	—	(2,166)
Net Cash (Used in) Provided by Financing Activities	\$ (77,072)	\$ (12,039)	\$ (94,936)	\$ —	\$ 35,124	\$ (148,923)

Condensed Statement of Comprehensive Income for the Year Ended December 31, 2018:

	Parent Issuer	Guarantor	CCR Non-Guarantor	Non-Guarantor	Elimination	Consolidated
Net Income (Loss)	\$ 152,976	\$ 175,322	\$ 66,566	\$ (2,481)	\$ (213,598)	\$ 178,785
Other Comprehensive Income (Loss):						
Net Actuarial Gain (Loss)	66,341	—	(1,477)	—	1,477	66,341
Other Comprehensive Income (Loss)	66,341	—	(1,477)	—	1,477	66,341
Comprehensive Income (Loss)	219,317	175,322	65,089	(2,481)	(212,121)	245,126
Less: Comprehensive Income Attributable to Noncontrolling Interest	—	—	—	—	25,803	25,803
Comprehensive Income (Loss) Attributable to CONSOL Energy Inc. Shareholders	\$ 219,317	\$ 175,322	\$ 65,089	\$ (2,481)	\$ (237,924)	\$ 219,323

Income Statement for the Year Ended December 31, 2017:

	Parent Issuer	Guarantor	CCR Non-Guarantors	Non-Guarantor	Elimination	Consolidated
Revenue and Other Income:						
Coal Revenue	\$ —	\$ 890,741	\$ 296,913	\$ —	\$ —	\$ 1,187,654
Terminal Revenue	—	60,066	—	—	—	60,066
Freight Revenue	—	55,269	18,423	—	—	73,692
Miscellaneous Other Income	238,818	67,230	6,049	—	(238,818)	73,279
Gain on Sale of Assets	—	15,813	1,399	—	—	17,212
Total Revenue and Other Income	238,818	1,089,119	322,784	—	(238,818)	1,411,903
Costs and Expenses:						
Operating and Other Costs	—	691,451	194,986	272	—	886,709
Depreciation, Depletion and Amortization	—	130,565	41,437	—	—	172,002
Freight Expense	—	55,269	18,423	—	—	73,692
Selling, General and Administrative Costs	—	67,908	15,697	—	—	83,605
Loss on Debt Extinguishment	—	—	2,468	—	(2,468)	—
Interest Expense, net	10,064	355,059	9,309	1,723	(350,057)	26,098
Total Costs and Expenses	10,064	1,300,252	282,320	1,995	(352,525)	1,242,106
Earnings (Loss) Before Income Tax	228,754	(211,133)	40,464	(1,995)	113,707	169,797
Income Tax Expense (Benefit)	161,125	(73,897)	—	—	—	87,228
Net Income (Loss)	67,629	(137,236)	40,464	(1,995)	113,707	82,569
Less: Net Income Attributable to Noncontrolling Interest	—	—	—	—	14,940	14,940
Net Income (Loss) Attributable to CONSOL Energy Inc. Shareholders	\$ 67,629	\$ (137,236)	\$ 40,464	\$ (1,995)	\$ 98,767	\$ 67,629

Condensed Statement of Cash Flows for the Year Ended December 31, 2017:

	Parent Issuer	Guarantor	CCR Non-Guarantors	Non-Guarantor	Elimination	Consolidated
Net Cash (Used in) Provided by Operating Activities	\$ (17,032)	\$ 192,423	\$ 72,644	\$ 75	\$ —	\$ 248,110
Cash Flows from Investing Activities:						
Capital Expenditures	—	(61,917)	(19,496)	—	—	(81,413)
Proceeds from Sales of Assets	—	23,082	1,500	—	—	24,582
Net Cash Used in Investing Activities	—	(38,835)	(17,996)	—	—	(56,831)
Cash Flows from Financing Activities:						
Payments on Finance Lease Obligations	(3,503)	(305)	(96)	—	—	(3,904)
Affiliated Credit Facility	—	—	196,583	—	(196,583)	—
Proceeds from Term Loan A	100,000	—	—	—	—	100,000
Proceeds from Term Loan B	392,147	—	—	—	—	392,147
Proceeds from Second Lien Notes	300,000	—	—	—	—	300,000
Net Payments on Revolver - MLP	—	—	(201,000)	—	—	(201,000)
Distributions to Noncontrolling Interest	—	—	(56,400)	—	34,508	(21,892)
Shares/Units Withheld for Taxes	—	(171)	(1,985)	—	—	(2,156)
Spin Distribution to CNX Resources Corporation	(425,000)	—	—	—	—	(425,000)
Intercompany (Distributions) Contributions	(5,573)	(156,502)	—	—	162,075	—
Other Parent Net Distributions	(156,502)	—	—	—	—	(156,502)
Debt Issuance and Financing Fees	(32,304)	—	—	—	—	(32,304)
Net Cash Provided by (Used in) Financing Activities	\$ 169,265	\$ (156,978)	\$ (62,898)	\$ —	\$ —	\$ (50,611)

Condensed Statement of Comprehensive Income for the Year Ended December 31, 2017:

	Parent Issuer	Guarantor	CCR Non-Guarantors	Non-Guarantor	Elimination	Consolidated
Net Income (Loss)	\$ 67,629	\$ (137,236)	\$ 40,464	\$ (1,995)	\$ 113,707	\$ 82,569
Other Comprehensive Income (Loss):						
Net Actuarial Gain (Loss)	94,919	—	1,366	—	(1,366)	94,919
Other Comprehensive Income (Loss)	94,919	—	1,366	—	(1,366)	94,919
Comprehensive Income (Loss)	162,548	(137,236)	41,830	(1,995)	112,341	177,488
Less: Comprehensive Income Attributable to Noncontrolling Interest	—	—	—	—	14,896	14,896
Comprehensive Income (Loss) Attributable to CONSOL Energy Inc. Shareholders	\$ 162,548	\$ (137,236)	\$ 41,830	\$ (1,995)	\$ 97,445	\$ 162,592

NOTE 24—RELATED PARTY TRANSACTIONS

Transactions with the Company's Former Parent (2017)

Transition Services Agreements

The Company entered into the TSA and certain other agreements in connection with the SDA with its former parent to cover certain continued corporate services provided by the Company and its former parent to each other following the completion of the separation and distribution. In connection with the separation and distribution, the Company began to set up its own corporate functions, and pursuant to the TSA, the Company's former parent provided various corporate support services, including certain accounting, human resources, information technology, office and building, risk, security, tax and treasury, building security and tax services, as well as certain regulatory compliance services required during the period in which the Company remained a majority-owned subsidiary of its former parent. The charges associated with these services were not material during the years ended December 31, 2019, 2018 and 2017, and are consistent with expenses that the Company's former parent has historically allocated or incurred with respect to such services. The TSA expired in February 2019.

Former Parent Receivables and Payables

The Company had a receivable from its former parent of \$6,791 and \$11,788 at December 31, 2019 and 2018, respectively. At December 31, 2019, \$6,791 was recorded in Other Receivables on the Consolidated Balance Sheets. At December 31, 2018, \$5,500 was recorded in Other Receivables and \$6,288 was included in Other Assets on the Consolidated Balance Sheets. These items relate to reimbursements per the terms of the SDA.

During the year ended December 31, 2018, the Company paid its former parent \$18,234 related to the final settlement of shared, spin-related fees. Per the SDA, these costs were split equally by the two companies. These costs consisted of consulting and professional fees associated with preparing for and executing the separation and distribution, as well as various other items.

CONSOL Coal Resources LP

CONSOL Energy, certain of its subsidiaries and the Partnership are party to an Omnibus Agreement, dated September 30, 2016, as amended on November 28, 2017 (the "Omnibus Agreement"). Under the Omnibus Agreement, CONSOL Energy provides the Partnership with certain services in exchange for payments by the Partnership for those services.

On November 28, 2017, the Company entered into an Affiliated Company Credit Agreement with the Partnership and certain of its subsidiaries (the Partnership Credit Parties) as amended on March 28, 2019 (as amended, the "Affiliated Company Credit Agreement") under which the Company provides as lender a revolving credit facility in an aggregate principal amount of up to \$275 million to the Partnership Credit Parties. In connection with the completion of the separation, the Partnership drew an initial \$201 million, the net proceeds of which were used to repay outstanding amounts under CCR's \$400 million senior secured revolving credit facility with certain lenders and PNC Bank, National Association, as administrative agent (the "Original CCR Credit Facility"), and to provide working capital for the Partnership following the separation and for other general corporate purposes. The Original CCR Credit Facility was then terminated.

The Affiliated Company Credit Agreement matures on December 28, 2024. Interest accrues at a rate ranging from 3.75% to 4.75%, subject to the Partnership's net leverage ratio. For the years ended December 31, 2019, 2018 and 2017, \$7,892, \$7,709 and \$746 of interest expense is included in the Consolidated Statements of Income, respectively. The collateral obligations under the Affiliated Company Credit Agreement generally mirror the Original CCR Credit Facility, as does the list of entities that will act as guarantors thereunder. The Affiliated Company Credit Agreement is subject to financial covenants relating to a maximum first lien gross leverage ratio and a maximum total net leverage ratio, which will be calculated on a consolidated basis for the Partnership and its restricted subsidiaries at the end of each fiscal quarter. The Partnership was in compliance with each of these financial covenants at December 31, 2019 and 2018. The Affiliated Company Credit Agreement also contains a number of customary affirmative covenants and negative covenants, including limitations on the ability of the Partnership to incur additional indebtedness, grant liens, and make investments, acquisitions, dispositions, restricted payments, and prepayments of junior indebtedness (subject to certain limited exceptions).

CCR is a party to a number of other agreements with CONSOL Energy, or its subsidiaries, that are described in detail in the section titled "Agreements with Affiliates" in Item 13 of CCR's Form 10-K filed on February 14, 2020.

In August 2019, upon payment of the cash distribution with respect to the quarter ended June 30, 2019, the financial requirements for the conversion of all CCR subordinated units were satisfied. As a result, all 11,611,067 of the CCR subordinated units owned entirely by CONSOL Energy Inc. were converted into CCR common units on a one-for-one basis. The conversion did not impact the amount of the cash distribution paid or the total number of CCR's outstanding units representing limited partner interests.

Charges for services from the Company to CCR include the following:

	For the Years Ended December 31,		
	2019	2018	2017
Operating and Other Costs	\$ 3,219	\$ 2,918	\$ 3,503
Selling, General and Administrative Costs	8,309	8,300	3,109
Total Services from CONSOL Energy	\$ 11,528	\$ 11,218	\$ 6,612

Operating and Other Costs include pension service costs and insurance expenses. Selling, General and Administrative Costs include charges for incentive compensation, an annual administrative support fee and reimbursement for the provision of certain management and operating services provided by the Company's former parent prior to the separation and by CONSOL Energy following the separation. As of November 28, 2017, certain administrative services historically incurred by the Partnership are now incurred by CONSOL Energy and the Partnership's portion is reimbursed to CONSOL Energy.

At December 31, 2019 and 2018, CCR had a net payable to the Company in the amount of \$1,419 and \$3,831, respectively. This payable includes reimbursements for business expenses, executive fees, stock-based compensation and other items under the Omnibus Agreement.

In May 2019, CONSOL Energy Inc.'s Board of Directors approved an expansion of the stock, unit and debt repurchase program (See Note 5 - Stock, Unit and Debt Repurchases). The program expansion allows the Company to use up to \$50 million of the program to purchase CCR's outstanding common units in the open market. During the years ended December 31, 2019 and 2018, 26,297 and 167,958 of the Partnership's common units were purchased under this program at an average price of \$14.05 and \$18.33 per unit, respectively.

NOTE 25—SUBSEQUENT EVENTS

The Company has evaluated all subsequent events through the date the financial statements were issued. On January 24, 2020, the Board of Directors of CCR's general partner declared a cash distribution of \$0.5125 per unit to CCR's limited partner unitholders and the holder of the general partner interest. The cash distribution will be paid on February 14, 2020 to the unitholders of record at the close of business on February 10, 2020. No other material recognized or non-recognizable subsequent events were identified.

Supplemental Coal Data (unaudited)

	Millions of Tons				
	For the Year Ended December 31,				
	2019	2018	2017	2016	2015
Consolidated recoverable coal reserves at beginning of period	2,261	2,298	2,361	3,047	3,238
Purchased reserves	—	—	—	—	24
Reserves sold in place	—	—	(16)	(601)	(43)
Production	(27)	(28)	(26)	(26)	(29)
Revisions and other changes	(8)	(9)	(21)	(59)	(143)
Consolidated recoverable coal reserves at end of period* ⁽¹⁾	<u>2,226</u>	<u>2,261</u>	<u>2,298</u>	<u>2,361</u>	<u>3,047</u>

* Recoverable coal reserves are the equivalent of “demonstrated reserves” under the coal resource classification system of the U.S. Geological Survey. Generally, these reserves would be commercially mineable at year-end prices and cost levels, using current technology and mining practices.

(1) 143.3 million tons of the Northern Appalachia product are controlled by CCC, a former subsidiary of the Company's former parent that was sold in December 2013. As of this filing, these tons are still controlled by CCC but are shown in CONSOL Energy's reserves due to a binding agreement that these tons will be released to CONSOL Energy upon the assignment of the underlying lease to CONSOL Energy.

CONSOL Energy's coal reserves are located in several major coal-producing regions in North America. Our estimate of recoverable coal reserves has been determined by CONSOL Energy. At December 31, 2019, 191 million tons were assigned to mines either in production or temporarily idled. The recoverable coal reserves at December 31, 2019 include 2,145 million tons of thermal coal reserves, of which approximately 2 percent has a sulfur content equivalent to less than 1.2 pounds sulfur dioxide per million British thermal unit (Btu), 9 percent has a sulfur content equivalent to between 1.2 and 2.5 pounds sulfur dioxide per million Btu, and 89 percent has a sulfur content equivalent to greater than 2.5 pounds sulfur dioxide per million Btu. The reserves also include 81 million tons of metallurgical coal in consolidated reserves, of which approximately 26 percent has a sulfur content equivalent to less than 1.2 pounds sulfur dioxide per million Btu and 74 percent has a sulfur content equivalent to between 1.2 and 2.5 pounds sulfur dioxide per million Btu.

Supplemental Quarterly Information (unaudited):
(Dollars in thousands, except per share data)

	Three Months Ended			
	March 31, 2019	June 30, 2019	September 30, 2019	December 31, 2019
Revenue and Other Income:				
Coal Revenue	\$ 332,502	\$ 350,620	\$ 301,542	\$ 303,865
Terminal Revenue	17,818	16,708	16,303	16,534
Freight Revenue	6,662	3,854	3,599	5,552
Miscellaneous Other Income	13,292	12,194	11,188	16,675
Gain on Sale of Assets	339	933	714	9
Total Revenue and Other Income	370,613	384,309	333,346	342,635
Costs and Expenses:				
Operating and Other Costs	230,112	253,448	234,849	229,603
Depreciation, Depletion and Amortization	50,724	46,151	54,370	55,852
Freight Expense	6,662	3,854	3,599	5,552
Selling, General and Administrative Costs	21,923	16,288	14,690	14,210
Loss (Gain) on Debt Extinguishment	23,143	1,500	801	(989)
Interest Expense, net	18,596	16,046	15,598	16,224
Total Costs and Expenses	351,160	337,287	323,907	320,452
Earnings Before Income Tax	19,453	47,022	9,439	22,183
Income Tax (Benefit) Expense	(850)	(1,808)	2,415	4,782
Net Income	20,303	48,830	7,024	17,401
Less: Net Income Attributable to Noncontrolling Interest	5,868	5,550	2,684	3,455
Net Income Attributable to CONSOL Energy Inc. Shareholders	\$ 14,435	\$ 43,280	\$ 4,340	\$ 13,946
Earnings Per Share:				
Basic	\$ 0.52	\$ 1.57	\$ 0.16	\$ 0.54
Dilutive	\$ 0.52	\$ 1.56	\$ 0.16	\$ 0.54

Three Months Ended

	March 31, 2018	June 30, 2018	September 30, 2018	December 31, 2018
Revenue and Other Income:				
Coal Revenue	\$ 351,009	\$ 370,697	\$ 294,797	\$ 347,789
Terminal Revenue	15,221	16,659	16,115	16,931
Freight Revenue	17,887	17,444	2,443	5,798
Miscellaneous Other Income	25,887	10,369	10,978	11,426
Gain (Loss) on Sale of Assets	254	104	(85)	292
Total Revenue and Other Income	410,258	415,273	324,248	382,236
Costs and Expenses:				
Operating and Other Costs	229,802	248,195	222,781	245,672
Depreciation, Depletion and Amortization	49,471	54,961	51,242	45,590
Freight Expense	17,887	17,444	2,443	5,798
Selling, General and Administrative Costs	13,484	15,705	18,526	17,631
Loss on Debt Extinguishment	1,426	1,723	—	773
Interest Expense, net	21,045	21,504	20,862	20,437
Total Costs and Expenses	333,115	359,532	315,854	335,901
Earnings Before Income Tax	77,143	55,741	8,394	46,335
Income Tax Expense (Benefit)	6,185	3,032	(690)	301
Net Income	70,958	52,709	9,084	46,034
Less: Net Income Attributable to Noncontrolling Interest	8,550	7,547	3,350	6,362
Net Income Attributable to CONSOL Energy Inc. Shareholders	\$ 62,408	\$ 45,162	\$ 5,734	\$ 39,672
Earnings Per Share:				
Basic	\$ 2.23	\$ 1.61	\$ 0.20	\$ 1.43
Dilutive	\$ 2.20	\$ 1.58	\$ 0.20	\$ 1.41

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURES

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure controls and procedures. CONSOL Energy, under the supervision and with the participation of its management, including CONSOL Energy's principal executive officer and principal financial officer, evaluated the effectiveness of the Company's "disclosure controls and procedures," as such term is defined in Rule 13a-15(e) under the Exchange Act, as of the end of the period covered by this Annual Report on Form 10-K. Based on that evaluation, CONSOL Energy's principal executive officer and principal financial officer have concluded that the Company's disclosure controls and procedures are effective as of December 31, 2019 to ensure that information required to be disclosed by CONSOL Energy in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and includes controls and procedures designed to ensure that information required to be disclosed by CONSOL Energy in such reports is accumulated and communicated to CONSOL Energy's management, including CONSOL Energy's principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control Over Financial Reporting. CONSOL Energy's management is responsible for establishing and maintaining adequate internal control over financial reporting. CONSOL Energy's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

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

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Accordingly, even effective controls can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of CONSOL Energy's internal control over financial reporting as of December 31, 2019. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (COSO) in Internal Control-Integrated Framework. Based on our assessment and those criteria, management has concluded that CONSOL Energy maintained effective internal control over financial reporting as of December 31, 2019.

Ernst & Young, LLP, our independent registered public accounting firm that has audited the financial statements contained in this annual report on Form 10-K, has issued an attestation report on the Company's internal control over financial reporting, which is on page 135 of this annual report on Form 10-K.

Changes in internal controls over financial reporting. There was no change in the Company's internal controls over financial reporting, as such term is defined in Rule 13a-15(f) of the Exchange Act, that materially affected, or is reasonably likely to materially affect, the Company's internal controls over financial reporting.

During the first half of fiscal year 2019, the Company completed the implementation of an enterprise resource planning ("ERP") system and certain processes, and revised and updated the related controls. These changes did not materially affect the Company's internal control over financial reporting.

It should be noted that any system of controls, however well designed and operated, can provide only reasonable, and not absolute, assurance that the objectives of the system will be met. In addition, the design of any control system is based in part upon certain assumptions about the likelihood of future events.

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of CONSOL Energy Inc. and Subsidiaries

Opinion on Internal Control over Financial Reporting

We have audited CONSOL Energy Inc. and Subsidiaries' internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, CONSOL Energy Inc. and Subsidiaries (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of CONSOL Energy Inc. and Subsidiaries as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2019, and the related notes and our report dated February 14, 2020 expressed an unqualified opinion thereon.

Basis for Opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ Ernst & Young LLP

Pittsburgh, Pennsylvania
February 14, 2020

ITEM 9B. OTHER INFORMATION

Letter Agreement by and Between the Company and James J. McCaffrey, Senior Vice President - Coal Marketing

The Company and James J. McCaffrey (the “Executive”) previously entered into a letter agreement dated as of February 7, 2019 (“2019 Letter Agreement”) pursuant to which the Executive agreed to continue his employment with the Company through March 31, 2020 in exchange for certain changes in the terms and conditions associated with his outstanding equity awards. While those terms remain unchanged, effective as of February 5, 2020, the Board of Directors of the Company approved an amendment to the 2019 Letter Agreement, under which the Executive agreed to extend his employment with the Company through March 1, 2021 in exchange for the Company's commitment to provide the Executive with (1) an increase in the amount of \$150,000 in his long-term incentive award target, and (2) a fixed value for his 2021 long-term incentive target of \$150,000.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item is incorporated by reference from the information under the captions “Proposal No. 1 - Election of Class III Directors,” “Executive Officers,” “Beneficial Ownership of Securities” and “Board of Directors and Compensation Information - Board of Directors and its Committees” in the Proxy Statement.

CONSOL Energy has a written Code of Business Conduct and Ethics that applies to CONSOL Energy's Chief Executive Officer (Principal Executive Officer), Chief Financial Officer (Principal Financial Officer), Chief Accounting Officer (Principal Accounting Officer) and others. The Code of Business Conduct and Ethics is available on CONSOL Energy's website at www.consolenergy.com. Any amendments to, or waivers from, a provision of our Code of Business Conduct and Ethics that applies to our principal executive officer, principal financial officer and principal accounting officer and that relates to any element of the code of ethics enumerated in paragraph (b) of Item 406 of Regulation S-K shall be disclosed by posting such information on our website at www.consolenergy.com.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated by reference from the information under the captions “Board of Directors and Compensation Information - Director Compensation Table - 2019,” “Board of Directors and Compensation Information - Understanding Our Director Compensation Table” and “Executive Compensation Information” in the Proxy Statement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item is incorporated by reference from the information under the captions “Beneficial Ownership of Securities” and “Securities Authorized for Issuance Under the CONSOL Energy Inc. Equity Compensation Plan” in the Proxy Statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information requested by this Item is incorporated by reference from the information under the captions “Related Person Transaction Policy and Procedures and Related Person Transactions” and “Board of Directors and Compensation Information - Board of Directors and its Committees - Determination of Director Independence” in the Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item is incorporated by reference from the information under the caption “Audit Committee and Audit Fees - Independent Registered Public Accounting Firm” in the Proxy Statement.

PART IV

ITEM 15. EXHIBIT INDEX

In reviewing any agreements incorporated by reference in this Form 10-K or filed with this 10-K, please remember that such agreements are included to provide information regarding their terms. They are not intended to be a source of financial, business or operational information about the Company or any of its subsidiaries or affiliates. The representations, warranties and covenants contained in these agreements are made solely for purposes of the agreements and are made as of specific dates; are solely for the benefit of the parties; may be subject to qualifications and limitations agreed upon by the parties in connection with negotiating the terms of the agreements, including being made for the purpose of allocating contractual risk between the parties instead of establishing matters as facts; and may be subject to standards of materiality applicable to the contracting parties that differ from those applicable to investors or security holders. Investors and security holders should not rely on the representations, warranties and covenants or any description thereof as characterizations of the actual state of facts or condition of the Company or any of its subsidiaries or affiliates or, in connection with acquisition agreements, of the assets to be acquired. Moreover, information concerning the subject matter of the representations, warranties and covenants may change after the date of the agreements. Accordingly, these representations and warranties alone may not describe the actual state of affairs as of the date they were made or at another time.

The following documents are filed as part of this report:

(1) Financial Statements:

Report of Independent Registered Public Accounting Firm
Consolidated Statements of Income for the Years Ended December 31, 2019, 2018 and 2017
Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2019, 2018 and 2017
Consolidated Balance Sheets at December 31, 2019 and 2018
Consolidated Statements of Stockholders' Equity for the Years Ended December 31, 2019, 2018 and 2017
Consolidated Statements of Cash Flows for the Years Ended December 31, 2019, 2018 and 2017
Notes to the Audited Consolidated Financial Statements

(2) Schedules:

None

(3) Index to Exhibits

Exhibits	Description	Method of Filing
2.1	Separation and Distribution Agreement, dated as of November 28, 2017, by and between the Company and CNX	Filed as Exhibit 2.1 to Form 8-K (File No. 001-38147) filed on December 4, 2017
2.2	Tax Matters Agreement, dated as of November 28, 2017, by and between the Company and CNX	Filed as Exhibit 2.2 to Form 8-K (File No. 001-38147) filed on December 4, 2017
2.3	Employee Matters Agreement, dated as of November 28, 2017, by and between the Company and CNX	Filed as Exhibit 2.3 to Form 8-K (File No. 001-38147) filed on December 4, 2017
2.4	Intellectual Property Matters Agreement, dated as of November 28, 2017, by and between the Company and CNX	Filed as Exhibit 2.4 to Form 8-K (File No. 001-38147) filed on December 4, 2017
3.1	Amended and Restated Certificate of Incorporation of the Company	Filed as Exhibit 3.1 to Form 8-K (File No. 001-38147) filed on December 4, 2017
3.2	Amended and Restated Bylaws of the Company	Filed as Exhibit 3.2 to Form 8-K (File No. 001-38147) filed on December 4, 2017
4.1	Indenture dated as of November 13, 2017 by and between CONSOL Energy Inc. (formerly known as CONSOL Mining Corporation) and UMB Bank, N.A., as Trustee and Collateral Trustee (including form of supplemental indenture on subsidiary guarantors).	Filed as Exhibit 4.1 to Form 8-K (File No. 001-38147) filed on November 15, 2017
4.2	Description of Capital Stock	Filed herewith

10.1	Transition Services Agreement, dated as of November 28, 2017, by and between the Company and CNX	Filed as Exhibit 10.1 to Form 8-K (File No. 001-38147) filed on December 4, 2017
10.2	CNX Resources Corporation to CONSOL Energy Inc. Trademark License Agreement dated as of November 28, 2017, by and between the Company and CNX	Filed as Exhibit 10.2 to Form 8-K (File No. 001-38147) filed on December 4, 2017
10.3	CONSOL Energy Inc. to CNX Resources Corporation Trademark License Agreement, dated as of November 28, 2017, by and between the Company and CNX	Filed as Exhibit 10.3 to Form 8-K (File No. 001-38147) filed on December 4, 2017
10.4	First Amendment to the First Amended and Restated Omnibus Agreement, dated as of November 28, 2017, by and among the Company, CNX, CONSOL Coal Resources GP LLC, the Partnership and the other parties listed on Exhibit A attached thereto	Filed as Exhibit 10.4 to Form 8-K (File No. 001-38147) filed on December 4, 2017
10.5	First Amendment to Contract Agency Agreement, dated as of November 28, 2017, by and among CONSOL Energy Sales Company, CONSOL Thermal Holdings LLC (formerly known as CNX Thermal Holdings LLC) and the other parties thereto	Filed as Exhibit 10.5 to Form 8-K (File No. 001-38147) filed on December 4, 2017
10.6	First Amendment to Water Supply and Services Agreement, dated as of November 28, 2017 by and between CNX Water Assets LLC and CONSOL Thermal Holdings LLC (formerly known as CNX Thermal Holdings LLC)	Filed as Exhibit 10.6 to Form 8-K (File No. 001-38147) filed on December 4, 2017
10.7	Second Amendment to the Pennsylvania Mine Complex Operating Agreement, dated as of November 28, 2017, by and among CONSOL Pennsylvania Coal Company LLC, Conrhein Coal Company, CONSOL Thermal Holdings LLC and CONSOL Coal Resources LP	Filed as Exhibit 10.7 to Form 8-K (File No. 001-38147) filed on December 4, 2017
10.8	Credit Agreement, dated as of November 28, 2017, by and among the Company, the various financial institutions from time to time party thereto, PNC Bank, N.A., as administrative agent for the Revolving Lenders and Term A Lenders, Citibank, N.A., as administrative agent for the Term B Lenders and PNC Bank, N.A., as collateral agent for the Lenders and the other Secured Parties referred to therein	Filed as Exhibit 10.8 to Form 8-K (File No. 001-38147) filed on December 4, 2017
10.9	Affiliated Company Credit Agreement, dated as of November 28, 2017, by and among CONSOL Coal Resources LP, certain of its affiliates party thereto, CONSOL Energy Inc. and PNC Bank, N.A.	Filed as Exhibit 10.9 to Form 8-K (File No. 001-38147) filed on December 4, 2017
10.10	CONSOL Energy Inc. Omnibus Performance Incentive Plan*	Filed as Exhibit 4.3 to Form S-8 (File No. 333-221727) filed on November 22, 2017
10.11	Purchase and Sale Agreement, dated as of November 30, 2017, by and among CONSOL Marine Terminals LLC, CONSOL Pennsylvania Coal Company LLC and CONSOL Funding LLC	Filed as Exhibit 10.11 to Form 8-K (File No. 001-38147) filed on December 4, 2017
10.12	Sub-Originator Sale Agreement, dated as of November 30, 2017, by and between CONSOL Thermal Holdings LLC and CONSOL Pennsylvania Coal Company LLC	Filed as Exhibit 10.12 to Form 8-K (File No. 001-38147) filed on December 4, 2017
10.13	Receivables Financing Agreement, dated as of November 30, 2017, by and among CONSOL Funding LLC, CONSOL Pennsylvania Coal Company LLC, PNC Bank, N.A., PNC Capital Markets, LLC and certain lenders from time to time party thereto	Filed as Exhibit 10.13 to Form 8-K (File No. 001-38147) filed on December 4, 2017
10.14	Second Amendment and Restatement of Master Cooperation and Safety Agreement by and among CONSOL Energy Inc., CNX Gas Company LLC, CNX Resources Holdings LLC and certain other parties thereto	Filed as Exhibit 10.5 to Form 10-12B/A (File No. 001-38147) filed on October 27, 2017
10.15	CONSOL Energy Inc. Deferred Compensation Plan for Non-Employee Directors*	Filed as Exhibit 10.2 to Form 10-Q (File No. 001-38147) filed on November 1, 2018
10.16	Omnibus Amendment, dated as of August 30, 2018, by and among CONSOL Funding LLC, CONSOL Pennsylvania Coal Company LLC, CONSOL Thermal Holdings LLC, CONSOL Energy Inc., CONSOL Marine Terminals LLC and PNC Bank, N.A.	Filed as Exhibit 10.1 to Form 8-K (File No. 001-38147) filed on September 6, 2018
10.17	Employment Agreement of James A. Brock*	Filed as Exhibit 10.1 to Form 10-Q (File No. 001-38147) filed on May 3, 2018
10.18	Change in Control Severance Agreement for David M. Khani*	Filed as Exhibit 10.2 to Form 10-Q (File No. 001-38147) filed on May 3, 2018

10.19	Change in Control Severance Agreement for James J. McCaffrey*	Filed as Exhibit 10.3 to Form 10-Q (File No. 001-38147) filed on May 3, 2018
10.20	Change in Control Severance Agreement for Martha A. Wiegand*	Filed as Exhibit 10.4 to Form 10-Q (File No. 001-38147) filed on May 3, 2018
10.21	Change in Control Severance Agreement for Kurt Salvatori*	Filed as Exhibit 10.5 to Form 10-Q (File No. 001-38147) filed on May 3, 2018
10.22	Change in Control Severance Agreement for John Rothka*	Filed as Exhibit 10.6 to Form 10-Q (File No. 001-38147) filed on May 3, 2018
10.23	Form Notice of Restricted Stock Unit Award and Terms and Conditions*	Filed as Exhibit 10.7 to Form 10-Q (File No. 001-38147) filed on May 3, 2018
10.24	Form Notice of Performance-based Restricted Stock Unit Award and Terms and Conditions*	Filed as Exhibit 10.8 to Form 10-Q (File No. 001-38147) filed on May 3, 2018
10.25	Form Notice of Restricted Stock Unit Award and Terms and Conditions for Spin Recognition (Non-Employee Director)*	Filed as Exhibit 10.9 to Form 10-Q (File No. 001-38147) filed on May 3, 2018
10.26	Form Notice of Restricted Stock Unit Award and Terms and Conditions for Spin Recognition*	Filed as Exhibit 10.10 to Form 10-Q (File No. 001-38147) filed on May 3, 2018
10.27	Amendment No. 1, dated as of March 28, 2019, to Credit Agreement, dated as of November 28, 2017, among the Company, the various financial institutions from time to time party thereto, PNC Bank, N.A., as administrative agent for the Revolving Lenders and Term A Lenders, Citibank, N.A., as administrative agent for the Term B Lenders and PNC Bank, N.A., as collateral agent for the Lenders and the Other Secured Parties referred to therein	Filed as Exhibit 10.1 to Form 8-K (File No. 001-38147) filed on April 3, 2019
10.28	Amendment No. 1, dated as of March 28, 2019, to Affiliated Company Credit Agreement, dated November 28, 2017, by and among CONSOL Coal Resources LP, certain of its affiliates party thereto, CONSOL Energy Inc. and PNC Bank, National Association	Filed as Exhibit 10.2 to Form 8-K (File No. 001-38147) filed on April 3, 2019
10.29	Letter Agreement by and between CONSOL Energy Inc. and James J. McCaffrey dated as of February 7, 2019*	Filed as Exhibit 10.3 to Form 10-Q (File No. 001-38147) filed on May 8, 2019
10.30	Form Notice of Restricted Stock Unit Award and Terms and Conditions*	Filed as Exhibit 10.4 to Form 10-Q (File No. 001-38147) filed on May 8, 2019
10.31	Form Notice of Performance-based Restricted Stock Unit Award and Terms and Conditions*	Filed as Exhibit 10.5 to Form 10-Q (File No. 001-38147) filed on May 8, 2019
21	Subsidiaries of CONSOL Energy Inc.	Filed herewith
23.1	Consent of Ernst & Young LLP	Filed herewith
31.1	Certification of Chief Executive Officer pursuant to Section 302 of Sarbanes-Oxley Act of 2002	Filed herewith
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	Filed herewith
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	Filed herewith
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	Filed herewith
95	Mine Safety and Health Administration Safety Data	Filed herewith
101	Interactive Data File (Form 10-K for the year ended December 31, 2019 furnished in XBRL)	Filed herewith
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)	Filed herewith

**Indicates management contract or compensatory plan or arrangement.*

Supplemental Information

No annual report or proxy material has been sent to shareholders of CONSOL Energy at the time of filing of this Form 10-K. An annual report will be sent to shareholders and to the commission subsequent to the filing of this Form 10-K.

In accordance with SEC Release 33-8238, Exhibits 32.1 and 32.2 are being furnished and not filed.

CONSOL Energy Inc.

CONSOL Energy Inc. (NYSE: CEIX) is a Canonsburg-based producer and exporter of high-Btu bituminous thermal and crossover metallurgical coal. It owns and operates some of the most productive longwall mining operations in the Northern Appalachian Basin. Its flagship operation is the Pennsylvania Mining Complex, which has the capacity to produce approximately 28.5 million tons of coal per year and is comprised of three large-scale underground mines: Bailey, Enlow Fork, and Harvey. The Company also owns and operates the CONSOL Marine Terminal, which is located in the port of Baltimore and has a throughput capacity of approximately 15 million tons per year. In addition to the ~669 million reserve tons associated with the Pennsylvania Mining Complex, the Company also controls approximately 1.6 billion tons of greenfield thermal and metallurgical coal reserves located in the major coal-producing basins of the eastern United States.

Headquarters

CONSOL Energy Inc.
1000 CONSOL Energy Drive, Suite 100
Canonsburg, PA 15317-6506

Website

<http://www.consolenergy.com>

Transfer Agent and Registrar

Computershare
P.O. Box 505000
Louisville, KY 40233-5000

This Annual Report of CONSOL Energy Inc. is being delivered to the stockholders of the Company to comply with the annual report delivery requirements of the New York Stock Exchange and Rule 14a-3 of the Securities Exchange Act of 1934. All information required by those applicable rules is contained in this Annual Report, including certain information contained in the Form 10-K included herein, which has previously been filed by the Company with the Securities and Exchange Commission.

