



2021 Annual Report

Directors

William P. Powell, Chairman

Managing Partner of 535 Partners LLC, a family office

Sophie Bergeron

Managing Director of Diamonds, Technical and HSEC of Rio Tinto, a metals and mining corporation

James A. Brock

President and Chief Executive Officer of the Company

John T. Mills

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

Joseph P. Platt

General Partner of Thorn Partners LP, a family limited partnership

Edwin S. Roberson

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

Chief Financial Officer

John M. Rothka

Chief Accounting Officer & Controller

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, 2021

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.

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 has filed a report on and attestation to its management's assessment of the effectiveness of internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. Yes No

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 \$628,941,936 as of June 30, 2021, 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 28, 2022 was 34,480,181 shares.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of CONSOL Energy Inc.'s Proxy Statement for the 2022 Annual Meeting of Stockholders to be filed within 120 days of the end of the registrant's fiscal year 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;
- “Btu” means one British Thermal unit;
- “CCR Merger” refers to the merger under that certain Agreement and Plan of Merger, dated as of October 22, 2020, among the Company, Transformer LP Holdings Inc. (“Holdings”), a wholly-owned subsidiary of the Company, Transformer Merger Sub LLC, a wholly-owned subsidiary of Holdings (“Merger Sub”), the Partnership and the General Partner, pursuant to which Merger Sub merged with and into the Partnership, with the Partnership surviving as an indirect, wholly-owned subsidiary of the Company, which merger closed on December 30, 2020;
- “Coal Business” refers to (i) the Pennsylvania Mining Complex (PAMC) and certain other coal assets; (ii) the CONSOL Marine Terminal; (iii) development of the Itmann Mine; and (iv) the Greenfield Reserves and Resources and certain related coal assets and liabilities;
- “coal reserves” refer to the Company’s proven and probable coal reserves as defined by Section 1300 *et. seq.* of Regulation S-K that could be economically mineable, after taking into account modifying factors, including mining recovery and preparation plant yield;
- “CONSOL Marine Terminal” refers to the Company’s terminal operations located at the Port of Baltimore;
- “former parent” refers to CNX Resources Corporation and its consolidated subsidiaries;
- “General Partner” refers to PA Mining Complex GP LLC (formerly known as CONSOL Coal Resources GP LLC), a Delaware limited liability company and the general partner of the Partnership;
- “Greenfield Reserves and Resources” means those undeveloped reserves and resources owned by the Company in the Northern Appalachian, Central Appalachian and Illinois basins that are not associated with the Pennsylvania Mining Complex or the Itmann Mine project;
- “Itmann Mine” refers to the ownership and development of a metallurgical coal mine and coal preparation plant located in Wyoming County, West Virginia;
- “mmBtu” means one million British Thermal units;
- “Partnership” refers to PA Mining Complex LP (formerly known as CONSOL Coal Resources LP), a Delaware limited partnership that is a wholly-owned subsidiary of the Company and holds an undivided interest in, and is the sole operator of, the Pennsylvania Mining Complex;
- “Pennsylvania Mining Complex” or “PAMC” refers to the Bailey, Enlow Fork and Harvey coal mines, the Central Preparation Plant, coal reserves and related assets and operations located in southwestern Pennsylvania and northern West Virginia; and
- “separation and distribution” refers to the separation of the Coal Business from our former parent’s other businesses on November 28, 2017 and the pro rata distribution of the Company’s issued and outstanding shares of common stock to its former parent’s stockholders on November 28, 2017, 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 future plans to eliminate coal-fired generation activities, oversupply relative to the demand available for our products, weather and the price and availability of alternative fuels;
- the effects the COVID-19 pandemic has on our business and results of operations and on the global economy;
- 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 or resources 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;
- our inability to complete the construction of the Itmann Mine on time or at all;
- the risks related to the fact that a significant portion of our production is sold in international markets and our compliance with export control and anticorruption laws;
- 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;
- substantially all of our operations being located 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 potential effects of receiving low environmental, social and governance (“ESG”) 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;
- 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;
- failure to maintain effective internal controls over financial reporting;
- 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 and media;
- 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 PA Mining Complex LP (which was then a publicly-traded partnership), the CONSOL Marine Terminal, the Itmann Mine and all of its Greenfield Reserves and Resources located in the Northern Appalachian Basin (“NAPP”), the Central Appalachian Basin (“CAPP”) and the Illinois Basin (“ILB”). On December 30, 2020, we acquired by merger the portion of PA Mining Complex LP that was not originally transferred to us in the separation.

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.

Our most significant assets are the PAMC and CONSOL Marine Terminal. 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, industrial and power generation 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 industrial, power generation and metallurgical end-users globally.

We are also expanding our presence in the metallurgical coal market through the development of our Itmann Mine in West Virginia, which we expect to be fully operational following the relocation and recommissioning of a recently purchased preparation plant, which is planned for completion during the second half of 2022.

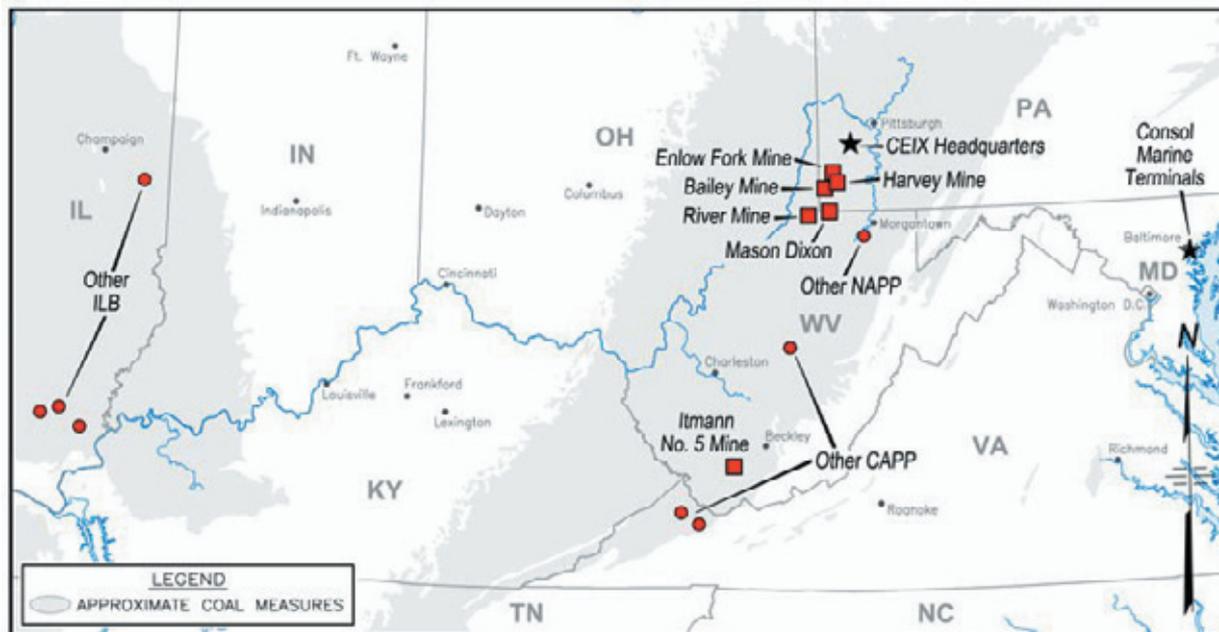
Our operations, including the PAMC and the CONSOL Marine Terminal, have consistently generated strong cash flows, even throughout the COVID-19 pandemic. As of December 31, 2021, the PAMC controls 612.1 million tons of high-quality Pittsburgh seam reserves, enough to allow for more than 20 years of full-capacity production. In addition, we own or control approximately 1.4 billion tons of Greenfield Reserves and Resources located in NAPP, CAPP and ILB, which we believe provide 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 and diversification 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 can 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 our mines at the PAMC 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.

- 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; development mining began in April 2020, and full production is expected following the relocation and recommissioning of a recently purchased preparation plant, which is planned for completion during the second half of 2022. When fully operational, the Company anticipates approximately 900 thousand product tons per year of high-quality, low-vol coking coal production from the Itmann Mine, with an anticipated mine life of 20+ years. The preparation plant being recommissioned will also include a highly efficient rail loadout and the capability for processing up to an additional 750 thousand to 1 million third-party product tons annually. This third-party processing revenue is expected to provide an additional avenue of growth for the Company.

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, will allow management to create value for the long-term. We believe that the use of coal as a fuel source for electricity use in industrial applications, including but not limited to the steel-making process, will continue for many years. Furthermore, our Itmann project, which is under development, is expected to benefit from the demand related to global infrastructure needs.

Our Strategy

The Company remains focused on increasing stockholder value by safely and compliantly operating our business, developing and growing our metallurgical coal business, and, over time, diversifying into other business opportunities. The Company's existing coal assets align with these objectives. Our current production from the Bailey, Enlow Fork and Harvey mines can be sold domestically or abroad into the power generation, industrial or metallurgical coal markets. These low-cost mines, with up to five operating 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 have also begun development production from our Itmann Mine project and are starting to explore and invest in some innovative and more sustainable uses for coal. Over the mid- to long-term, the Company is planning to diversify its revenue stream to increase relative contributions from its CONSOL Marine Terminal, metallurgical coal sales and other carbon products, resulting in a reduced exposure to thermal 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 stockholder 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 stockholders, 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. The PAMC, the Itmann Mine and our Greenfield Reserves and Resources 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, automation, data visualization and analytics.

We regularly evaluate our Greenfield Reserves and Resources 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 and began development mining in April 2020, which will add a new metallurgical coal product stream to our mix of products upon completion. Our Greenfield Reserves and Resources associated with certain NAPP and CAPP properties provide additional potential organic growth opportunities in the metallurgical coal space, and our Greenfield Reserves and Resources 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, we believe, 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 stockholders.

We are also pursuing a variety of alternative and innovative uses of coal 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, CFOAM and certain other industry partners on several Department of Energy-funded projects to develop coal plastic composites and carbon foam materials that can be used in engineered composite decking and other building products. Another initiative, our 21st Century Power Plant project, is also receiving funding from the Department of Energy to evaluate a next-generation power plant at the PAMC that would be fueled by waste coal and biomass and equipped with carbon dioxide (CO₂) capture and storage to achieve net neutral or negative CO₂ emissions. 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, as well as to provide a direct benefit by reducing both the volume of and operating costs associated with slurry refuse disposal.

Preserve our share of coal sales to top-performing rail-served power plants in our core market areas, while opportunistically enhancing our industrial and metallurgical presence

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 2021, our top domestic power plant customers included ten plants that each took delivery of approximately 500,000 tons or more of PAMC coal. These top power plant customers, which collectively accounted for 88% of our domestic coal shipments in 2021, operated at a 10.2% higher 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 of coal supplied at these plants from 11% in 2012 to 37% in the first ten months of 2021, 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.

Historically, the majority of our production was directed toward our established base of domestic power plant customers, many of which were secured through spot, annual or multi-year contracts. We have continued to diversify our portfolio by placing a growing portion of our production in the export markets, where we sell to industrial and crossover metallurgical end-users. These markets provide us with pricing upside when markets are strong and with volume stability when markets are weak. In 2021, we succeeded in placing 11.0 million tons into the export market and 37% of our total PAMC sales were used in non-power generation applications, up from 8.3 million tons and 18%, respectively, in 2017. Our 2021 export sales of 11.0 million tons represented a record for the PAMC.

As of February 8, 2022, we are near fully contracted for 2022 and have 11.4 million tons contracted for 2023. 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. Over the past five years, our Mine Safety and Health Administration (“MSHA”) total reportable incident rate was approximately 46% 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 68% lower than the industry’s average MSHA S&S citation rate over the twelve-month period ended December 31, 2021. 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 at the PAMC from 6.27 tons per employee hour to 8.15 tons per employee hour since 2015, and have reduced our cash costs of coal sold per ton by 18% 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.

Maintain Ability to Access Capital Markets

We have generated significant cash from operations since the separation and distribution, which has allowed us to opportunistically refinance and pay down our debt. This reduced indebtedness 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 can access capital markets to raise debt and equity financing from time to time depending on the market conditions. Furthermore, we successfully accessed the municipal bond market in 2021 and borrowed the proceeds received from the sale of tax-exempt bonds issued by the Pennsylvania Economic Development Financing Authority in an aggregate principal amount of \$75 million.

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 strong 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. Through our recent capital investment program, we have improved our mining operations and logistics infrastructure to sustainably drive down our cash operating costs. Furthermore, our ability to enter into multi-year contracts with our longstanding customer base will enhance our ability to generate 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, 2021, the PAMC included 612.1 million tons of recoverable coal reserves that are sufficient to support more than 20 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 12,938 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 12,300 Btu/lb, respectively (based on the average quality reported by the United States Energy Information Administration (the "EIA") for U.S. power plant deliveries for the three years ended June 30, 2021). Moreover, our remaining reserves have an average sulfur content of 2.41%, while production from the ILB averages 2.90% sulfur and production from the rest of NAPP averages 3.34% sulfur (again, based on EIA power plant delivery data for the three years ended June 30, 2021). With our high Btu content and low-cost structure, our 2021 total costs of tons sold averaged \$1.40 per mmBtu, which is lower than any monthly average Louisiana Henry Hub natural gas spot price during the past 25 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 Itmann Mine project, which is under development, includes 20.5 million tons of recoverable coal reserves that are sufficient to support more than 20 years of full-capacity production, and our 1.4 billion tons of Greenfield Reserves and Resources in NAPP, CAPP and ILB feature both thermal and metallurgical reserves and resources and provide additional optionality for organic growth or monetization as market conditions allow.

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

Based on production per employee, the PAMC is the most productive and efficient coal mining complex in NAPP, averaging 7.71 tons of coal production per employee hour in 2020-2021, compared to 5.30 tons of coal production per employee hour for other currently-operating NAPP longwall mines. For the year ended December 31, 2021, the PAMC produced 8.15 tons of coal per employee hour, compared to an average of 5.70 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.

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 \$5 to \$8 per ton for coal delivered to foreign consumers in Europe and India, up to \$3 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 can participate in the world’s seaborne coal markets with a premium high vol coal product that is well-suited for industrial, power generation and metallurgical applications.

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 87% of our sales in 2021 were to customer companies that were in our 2020 portfolio, and all of our top domestic power plant customers in 2021 (which represent the ten plants to which we shipped approximately 500,000 tons or more of PAMC coal in 2021) have been in our portfolio for at least five consecutive years. In addition, to mitigate our exposure 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. These top plants operated at a 10.2% higher weighted average capacity factor than other NAPP rail-served plants during January through October (the most recent month for which data are available), highlighting their economic competitiveness in the challenging power markets. Moreover, none of our top ten customer plants, which accounted for 88% of our domestic coal shipments in 2021, have announced plans to retire in the next five years. Since 2012, the Company has increased its market share at these ten plants from 11% to 37%.

In addition to our robust domestic customer base, we also have favorable access to seaborne coal markets through our commercial relationships with leading coal trading, brokering and international coal customers. We have grown our exports of PAMC coal to the seaborne markets from 8.3 million tons (or approximately 32% of our annual sales volume) in 2017 to 11.0 million tons (or approximately 47% of our annual sales volume) in 2021.

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 industrial, metallurgical and power generation 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 2022, CONSOL Energy expects to invest \$162 - \$195 million in capital expenditures, including spending on the Itmann Mine project. The Company continually evaluates potential acquisitions.

Mining Properties

Information concerning our mining properties in this Annual Report on Form 10-K has been prepared in accordance with the requirements of subpart 1300 of Regulation S-K, which first became applicable to us for the fiscal year ended December 31, 2021. These requirements differ significantly from the previously applicable disclosure requirements of SEC Industry Guide 7. Among other differences, subpart 1300 of Regulation S-K requires us to disclose our mineral resources, in addition to our mineral reserves, as of the end of our most recently completed fiscal year both in the aggregate and for each of our individually material mining properties.

As used in this Annual Report on Form 10-K, the terms “mineral resource,” “measured mineral resource,” “indicated mineral resource,” “inferred mineral resource,” “mineral reserve,” “proven mineral reserve” and “probable mineral reserve” are defined and used in accordance with subpart 1300 of Regulation S-K. Under subpart 1300 of Regulation S-K, mineral resources may not be classified as “mineral reserves” unless the determination has been made by a qualified person that the mineral resources can be the basis of an economically viable project. As such, you are cautioned that, except for that portion of mineral resources classified as mineral reserves, mineral resources do not have demonstrated economic value. Likewise, you are cautioned not to assume that all or any part of measured or indicated mineral resources will ever be converted to mineral reserves. We have used the term “coal” as in “coal reserves” and “coal resources” interchangeably with “mineral”.

The Company's estimates of recoverable coal reserves and coal resources are estimated internally by competent professionals, including engineers and geologists. These estimates are based on geologic data, coal ownership information and current and/or proposed operating plans. CONSOL'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, considering all material modifying factors. These estimates are periodically updated to reflect past coal production, updated mine plans, new exploration information, and other geologic or mining data. Acquisitions or dispositions of coal properties will also change these estimates. Changes in mining methods or preparation plant processes may increase or decrease the recovery basis for the estimates. The ability to update or modify the estimates of the Company's recoverable coal reserves is restricted to competent geologists and mining engineers and material modifications are documented. The Company's estimates of recoverable coal reserves and coal resources, and supporting information, have been assessed by the John T. Boyd Company, a qualified person firm, which conforms to our requirements under subpart 1300 of Regulation S-K for qualified persons.

The information that follows relating to our individually material properties – PAMC, Itmann Mine, Mason-Dixon Mine, and River Mine – is derived, for the most part, from, and in some instances is an extract from, the technical report summaries (“TRSS”) relating to such properties prepared in compliance with Item 601(b)(96) and subpart 1300 of Regulation S-K by the John T. Boyd Company. Portions of the following information are based on assumptions, qualifications and procedures that are not fully described herein. Reference should be made to the full text of the TRSS, incorporated herein by reference and made a part of this Annual Report on Form 10-K.

The Company assigns coal reserves to mining complexes, and the amount of coal we assign to each mine is generally sufficient to support mining through the extent of our current mining permits. 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, our mines and mining complexes may have access to additional reserves that have not yet been assigned.

Some reserves may be accessible by more than one mine because of the proximity of many of our mines to one another. In the following tables, the reserves and resources 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. Recoverable coal reserves and coal resources are either owned or leased. The leases 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, reserves and resources reported will be mined out within the period of existing leases or within the time period of probable lease renewal periods.

The following tables provide a summary of all the Company's mineral reserves and mineral resources as determined by the John T. Boyd Company as of the end of the fiscal year ended December 31, 2021:

SUMMARY MINERAL RESERVES AT END OF THE FISCAL YEAR ENDED DECEMBER 31, 2021

	Mineral Reserves (tons in millions)		
	Proven	Probable	Total
PAMC:			
Bailey	45.9	38.9	84.8
Enlow Fork	246.4	68.4	314.8
Harvey	107.7	104.8	212.5
Itmann No. 5	9.9	10.6	20.5
Other NAPP	3.6	19.7	23.3
Other CAPP	51.9	16.1	68.0
Total	465.4	258.5	723.9

SUMMARY MINERAL RESOURCES AT END OF THE FISCAL YEAR ENDED DECEMBER 31, 2021

	Mineral Resources (tons in millions)			
	Measured	Indicated	Measured + Indicated	Inferred
Mason Dixon Mine	106.6	158.4	265.0	8.9
River Mine	46.2	498.3	544.5	66.1
Other CAPP	52.9	67.7	120.6	1.2
Other ILB	113.8	205.4	319.2	1.6
Total	319.5	929.8	1,249.3	77.8

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 Recoverable Coal Reserves and Coal Resources
by Product (in Millions of Tons) as of December 31, 2021**

By Region	< 1.20 lbs. S02/MMBtu	> 1.20 < 2.50 lbs. S02/MMBtu	> 2.50 lbs. S02/MMBtu	Total	Percent By Product
Metallurgical:					
High Vol Bituminous (NAPP)	—	152.4	—	152.4	7.4%
Med Vol Bituminous (CAPP)	5.8	—	—	5.8	0.3%
Low Vol Bituminous (CAPP)	54.9	20.5	—	75.4	3.7%
Total Metallurgical	60.7	172.9	—	233.6	11.3%
Thermal:					
Other NAPP	—	—	1,496.6	1,496.6	73.0%
Other CAPP	—	—	—	—	0.0%
Other ILB	—	81.7	239.1	320.8	15.6%
Total Thermal	—	81.7	1,735.7	1,817.4	88.7%
Total	60.7	254.6	1,735.7	2,051.0	100.0%
Percent of Total	3.0%	12.4%	84.6%	100.0%	

Internal Controls Disclosure

The modeling and analysis of the Company's reserves and resources has been developed by Company engineering and geology personnel and reviewed by several levels of internal management. This section summarizes the internal control considerations for the Company's development of estimations, including assumptions, used in reserve and resource analysis and modeling.

Records from exploration drilling completed on the mining properties comprise the primary data used in the evaluation of the coal resources for each property. The Company maintains written field and exploration guidelines that cover standard procedures ranging from site safety and mapping, including how to: select proper drilling equipment, record accurate and detailed geological logs, perform coal sampling, supervise geophysical logging, and plug drill holes once work was complete.

The Company maintains all control of coal core samples, up to the point that samples are handed over to the lab performing testing. Once logging and sampling is complete, the sampled coal core intervals are transported to the Company's headquarters by exploration personnel, at which time they are handed over to the quality personnel. The quality personnel arrange pick up by the selected independent lab that will perform the required analyses. All analytical work was conducted to International Organization for Standardization or ASTM International standards.

Management also assesses risks inherent in coal reserve and resource estimates, such as the accuracy of geophysical data that is used to support mine planning, identify hazards and inform operations of the presence of mineable deposits. Also, management is aware of risks associated with potential gaps in assessing the completeness of mineral extraction licenses, entitlements or rights, or changes in laws or regulations that could directly impact the ability to assess coal reserves and resources or impact production levels. Risks inherent in overestimated reserves can impact financial performance when revealed, such as changes in amortizations that are based on life of mine estimates.

Pennsylvania Mining Complex

Pennsylvania Mining Complex. The Pennsylvania Mining Complex is located approximately 26 miles southwest of Pittsburgh, near the city of Washington and the borough of Waynesburg, all in 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 located at approximately 39°58'23.7" N latitude and 80°24'43.6" W longitude. The Company controls approximately 181,068 acres of mineral and/or surface rights as a complex collection of 2,681 owned and/or leased tracts that range from a few acres to several hundred acres in size covered by 1,130 coal deeds and 150 coal lease agreements. Lease terms generally extend until all the coal is removed from the subject tract. Where applicable, royalty rates typically range from 3% to 8% of the gross sales price of the coal. The Company maintains the right to mine and remove almost all of the Pittsburgh Seam within the PAMC boundaries. As part of the PAMC, CONSOL controls surface rights to approximately 16,593 acres through fee simple ownership. This includes ownership of the property upon which the surface facilities for mine access, processing, storing, and shipping are located, as well as 3,509 permitted acres for coarse and fine refuse disposal facilities. Despite a lengthy ownership history dating back to the 1920s with the acquisition of certain coal leases by the Company's predecessor, commercial operations on the PAMC did not begin until 1984. The total book value of the PAMC and its associated plant and equipment as of December 31, 2021 is approximately \$1.5 billion.

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. The PAMC typically operates 4-5 longwalls with 15-17 continuous mining sections. The full annual production capacity of the PAMC is up to 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. Several regional airports are located near the PAMC and the Pittsburgh International Airport is located approximately 25 miles north of the complex. Sources of electrical power, water, supplies, and materials are readily available. Electrical power is provided to the mines and facilities by regional utility companies. Water is supplied by public water services, surface impoundments, or water wells.

Numerous permits are required by federal and state law for underground mining, coal preparation and related facilities, and other incidental activities. Permits generally require that the Company post a performance bond in an amount established by the regulator program to: (1) provide assurance that any disturbance or liability created during mining operation is properly mitigated, and (2) assure that all regulation requirements of the permit are fully satisfied. As of December 31, 2021, the Company held more than \$365 million in surety bonds to cover its obligations relating to mining and reclamation, mine subsidence, stream restoration, water loss, and dam safety with respect to the PAMC.

Bailey Mine. As of December 31, 2021, the Bailey Mine's assigned and accessible reserve base contained an aggregate of 84.8 million tons of clean recoverable coal with an average as-received gross heat content of approximately 12,889 Btu per pound and an approximate average pounds of sulfur dioxide per mmBtu of 4.59. The Bailey Mine is the first mine developed at the Pennsylvania Mining Complex. 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, 2021, 2020 and 2019, the Bailey Mine produced 11.8, 8.7 and 12.2 million tons of coal, respectively.

Enlow Fork Mine. As of December 31, 2021, the Enlow Fork Mine's assigned and accessible reserve base contained an aggregate of 314.8 million tons of clean recoverable coal with an average as-received gross heat content of approximately 12,943 Btu per pound and an approximate average pounds of sulfur dioxide per mmBtu of 3.35. The Enlow Fork Mine is located directly north of the Bailey Mine. 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, 2021, 2020 and 2019, the Enlow Fork Mine produced 6.8, 5.7 and 10.0 million tons of coal, respectively.

Harvey Mine. As of December 31, 2021, the Harvey Mine's assigned and accessible reserve base contained an aggregate of 212.5 million tons of clean recoverable coal with an average as-received gross heat content of approximately 12,950 Btu per pound and an approximate average pounds of sulfur dioxide per mmBtu of 3.92. The Harvey Mine is located directly east of the Bailey and Enlow Fork Mines. Similar to the Enlow Fork Mine, the Harvey Mine was developed off of the Bailey Mine's slope bottom. In order to separate the Harvey Mine from the existing Bailey Mine, seals were built around the original Bailey slope bottom to separate the two mines, and the original slope was dedicated solely to the Harvey Mine. This transfer of infrastructure eliminated the need to make significant capital expenditures to develop, among other things, a new slope, airshaft and portal facility at the Harvey Mine. 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, 2021, 2020 and 2019, the Harvey Mine produced 5.3, 4.4 and 5.0 million tons of coal, respectively. 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.

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

CONSOL ENERGY PENNSYLVANIA MINING COMPLEX
Recoverable Coal Reserves as of December 31, 2021 and 2020

Mine/Reserve	Reserve Class	As Received Heat Value (Btu/lb) Range	Owned (%)	Leased (%)	Recoverable Coal Reserves (As-Received)			
					Proven	Probable	12/31/2021	12/31/2020
PA Mining Operations								
Bailey	Permitted	12,600 – 13,170	66%	34%	28.4	22.5	50.9	69.2
	Unpermitted	12,820 – 13,110	51%	49%	17.5	16.4	33.9	39.0
Enlow Fork	Permitted	12,680 – 13,300	100%	—%	54.0	6.5	60.5	67.4
	Unpermitted	12,460 – 13,280	74%	26%	192.4	61.9	254.3	254.3
Harvey	Permitted	12,850 – 13,220	100%	—%	17.9	3.6	21.5	37.9
	Unpermitted	12,710 – 13,070	93%	7%	89.8	101.2	191.0	190.1
Total Recoverable Coal Reserves					400.0	212.1	612.1	657.9

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 at approximately 37° 35' 23.65" N latitude and 81° 27' 14.43" W longitude. The Company controls approximately 20,224 contiguous acres of mining rights (comprising 270 tracts), by ownership or lease, to the Pocahontas 3 seam (P3). The majority (95%) of the acreage is held under coal leases with lengthy terms and are subject to industry standard royalties. The total book value of the Itmann No. 5 Mine and its associated plant and equipment as of December 31, 2021 is approximately \$49.9 million .

The first Itmann mine was opened in 1916 by the Pocahontas Fuel Company. In 1956, the Pittsburgh Consolidation Coal Company, the Company's predecessor, acquired the Pocahontas Fuel Company. During the 1970s, the Itmann mine complex was the Company's largest operation in CAPP; however, operations were ceased in 1986 due to increasing mining costs and decreasing metallurgical coal prices. In 2019, the Company commenced development of the new Itmann No. 5 Mine, including excavation of the box cut to access the P3 seam.

The mine accesses the P3 seam 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, 2021, the Itmann Mine's assigned and accessible reserve base contained an aggregate of 20.5 million tons of clean recoverable coal, enough to allow for more than 20 years of full-capacity production. These reserves contain an approximate average quality on a dry basis of 1.00% sulfur, 7.6% ash, and 18.7% volatile matter. Development mining at the Itmann Mine began in 2020. Coal from the Itmann Mine is currently extracted by underground methods using 1-2 continuous miner units, with plans to eventually expand operations to 4-6 continuous miner units to achieve expected capacity of approximately 900 thousand clean tons per year. For the years ended December 31, 2021 and 2020, the Itmann Mine produced 101 thousand and 25 thousand tons of coal, respectively. During 2021, production from the Itmann Mine was sold on a raw basis at the mine to a third-party buyer while the mine and preparation plant were being developed. The Company is currently in the process of relocating and recommissioning a recently purchased preparation plant near the mine site, which is planned for completion during the second half of 2022. General access to the Itmann No. 5 Mine is via a well-developed network of primary and secondary roads serviced by state and local governments. These roads offer direct access to the mine and processing facilities and are generally open year-round. Primary vehicular access to the property is via State Route 10/16, which follows the north bank of the Guyandotte River. The NS railway runs along the south bank of the Guyandotte River. Several regional airports are located within 20 to 30 miles of the Itmann Property. Sources of electrical power, water, supplies, and materials are readily available. Electrical power is provided to the mines and facilities by regional utility companies. Water is supplied by public water services, surface impoundments, or water wells.

As of December 31, 2021, the Company held less than \$1 million in surety bonds to cover its current obligations relating to mining and reclamation, mine subsidence, stream restoration, water loss, and dam safety with respect to the Itmann No. 5 Mine. This level of bonding will increase as the mine becomes fully developed and the coal preparation plant facility is constructed and begins operation.

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

CONSOL ENERGY ITMANN OPERATION
Recoverable Coal Reserves as of December 31, 2021 and 2020

Mine/Reserve	Reserve Class	Moisture Free Quality (%)			Owned (%)	Leased (%)	Recoverable Coal Reserves (As-Received)			
		Sulfur	Ash	Vol			Tons in Millions			
							Proven	Probable	2021 Total	2020 Total
Itmann Operation										
Itmann No. 5	Permitted	0.95	8.4	18.4	—%	100%	4.1	1.3	5.4	5.6
	Unpermitted	1.01	7.4	19.5	12%	88%	5.8	9.3	15.1	15.0
Total Recoverable Coal Reserves							9.9	10.6	20.5	20.6

Non-Operating Reserves and Resources

Mason Dixon and River Mine

The Company's Mason Dixon and River Mine properties are greenfield sites located in Greene County, Pennsylvania and Marshall, Monongalia, and Wetzel counties, West Virginia. Geographically, the center of the Mason Dixon and River Mine properties is located at approximately 39°40'02.77" N latitude and 80°34'20.61" W longitude. The properties comprise over 220 square miles within the NAPP coal-producing region of the eastern United States; as such, they are among the largest undeveloped Pittsburgh Seam properties. On December 31, 2021, the Company's estimated potentially underground minable thermal coal resources for Mason Dixon and River Mine were 273.9 million tons and 610.6 million tons, respectively. The total book value of the Mason Dixon and River Mine properties as of December 31, 2021 is approximately \$57.4 million.

The Mason Dixon and River Mine Properties comprise over 141,000 acres of coal mineral and/or surface rights. The Company controls approximately 90% (on an active basis) of the mineral rights to the Pittsburgh Seam within the Mason Dixon and River Mine properties. The Company also owns approximately 5,151 surface acres within the property area. These surface rights were acquired for siting various mining, processing, and related facilities. The region is supported by a well-developed network of primary and secondary roads serviced by state and local governments. Roadways that traverse the property's surface include State Routes 7, 18, 69, 89, and 250. This road network would offer direct access to the property site and is generally open year-round. Several regional airports are located near the properties, with the Pittsburgh International Airport located approximately 70 miles north. Sources of electrical power, water, supplies, and materials are readily available. Electrical power would be provided to the mines and facilities by regional utility companies while water would be supplied by public water services, surface impoundments, or water wells.

The Company holds and maintains four mining permits with the state of West Virginia covering a deep mine, preparation plant, refuse disposal area, and fresh water impoundment for the Mason Dixon property. Four associated National Pollutant Discharge Elimination System permits are also held and maintained for these sites.

Other Properties

The Company also holds other greenfield recoverable coal reserves and coal resources located in NAPP, CAPP and ILB, which are not deemed individually material and had an estimated 533.9 million tons of recoverable coal reserves and coal resources. The Company's estimate included recoverable high-vol, mid-vol or low-vol metallurgical coal reserves and resources of 91.3 million tons and 121.8 million tons, respectively. Additionally, worldwide demand for metallurgical coal allows some of our recoverable coal reserves and resources, 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 following tables set forth our non-operating recoverable coal reserves and coal resources by region.

**CONSOL Energy Non-Operating Recoverable Coal Reserves and Coal Resources
as of December 31, 2021 and 2020**

Property	As Received Heat Value (Btu/lb)	Owned (%)	Leased (%)	Recoverable Coal Resources (As-Received)			
				Proven	Probable	12/31/2021	12/31/2020
Other Northern Appalachia	11,400 – 13,400	100%	—%	3.6	19.7	23.3	69.2
Other Central Appalachia	12,400 – 14,100	98%	2%	51.9	16.1	68.0	39.0
Total Non-Operating Reserves				55.5	35.8	91.3	108.2

Property	As Received Heat Value (Btu/lb)	Owned (%)	Leased (%)	Recoverable Coal Resources (As-Received)				
				Measured	Indicated	Inferred	12/31/2021	12/31/2020
Mason Dixon Mine	12,245 – 13,061	96%	4%	106.6	158.4	8.9	273.9	334.1
River Mine	12,794 – 13,100	100%	—%	46.2	498.3	66.1	610.6	591.1
Other Northern Appalachia	—	—%	—%	—	—	—	—	68.2
Other Central Appalachia	12,400 – 14,100	67%	33%	52.9	67.7	1.2	121.8	82.2
Other Illinois Basin	11,600 – 12,000	74%	26%	113.8	205.4	1.6	320.8	315.6
Total Non-Operating Resources				319.5	929.8	77.8	1,327.1	1,391.2

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, 2021, 2020 and 2019.

<u>Year</u>	<u>Total Royalty Tonnage (in thousands)</u>	<u>Total Royalty Income * (in thousands)</u>
2021	1,675	\$ 8,186
2020	4,076	\$ 10,834
2019	6,171	\$ 19,919

* Excludes advanced mining royalty payments received of \$475, \$1,198 and \$2,289 during the years ended December 31, 2021, 2020 and 2019, 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, 2021, 99.6% of the Company's production came from underground mines equipped with longwall mining systems (PAMC). 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, 2021, 2020 and 2019, 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.

<u>Mine</u>	<u>Loadout Facility Location</u>	<u>Mine Type</u>	<u>Mining Equipment</u>	<u>Transportation</u>	<u>Tons Produced (in millions)</u>			<u>Year Established or Acquired</u>
					<u>2021</u>	<u>2020</u>	<u>2019</u>	
<u>PA Mining Operations</u>								
Bailey	Enon, PA	U	LW/CM	R R/B	11.8	8.7	12.2	1984
Enlow Fork	Enon, PA	U	LW/CM	R R/B	6.8	5.7	10.0	1990
Harvey	Enon, PA	U	LW/CM	R R/B	5.3	4.4	5.0	2014
<u>Total</u>					<u>23.9</u>	<u>18.8</u>	<u>27.3</u>	
<u>Itmann Complex</u>								
Itmann (1)	Itmann, WV	U	CM	T/R	—	—	—	2020
Total Company					<u>23.9</u>	<u>18.8</u>	<u>27.3</u>	

*Table may not sum due to rounding.

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

(1) The Itmann Mine produced 101 thousand tons of coal during the year ended December 31, 2021, and 25 thousand tons of coal during the year ended December 31, 2020.

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,		
	2021	2020	2019
Company Produced PA Mining Operations Tons Sold (in millions)	23.7	18.7	27.3
Average Sales Price per Ton Sold – PA Mining Operations	\$ 45.75	\$ 41.31	\$ 47.17
Company Produced Itmann Mine Operations Tons Sold (in millions) *	0.1	—	—
Average Sales Price per Ton Sold – Itmann Mine Operations	\$ 70.40	\$ 51.47	\$ —

* The Itmann Mine sold 25 thousand tons of coal during the year ended December 31, 2020.

After a steep decline following the onset of the COVID-19 pandemic in the first half of 2020, demand for our coal improved during the remainder of 2020 and throughout 2021. As a result of this improved global coal demand, continued tightness of coal supply and higher natural gas and electric power prices, we realized higher pricing on both our export contracts and contracts that contain positive electric power-price adjustments, as well as an increase in the volume of coal sold in the year ended December 31, 2021, compared to the year ended December 31, 2020. We sell coal produced by our mines and additional coal that is purchased by us for resale from other producers. Approximately 50% of our 2021 coal sales were made to U.S. electric generators, 46% of our 2021 coal sales were made to export markets and 4% of our 2021 coal sales were made to other domestic customers. Approximately 60% of our 2020 coal sales were made to U.S. electric generators, 38% of our 2020 coal sales were made to export markets and 2% of our 2020 coal sales were made to other domestic customers. Approximately 66% of our 2019 coal sales were made to U.S. electric generators, 33% of our 2019 coal sales were made to export markets and 1% of our 2019 coal sales were made to other domestic customers. We had sales to approximately 35 customers from our 2021 coal operations. During 2021, three customers each comprised over 10% of our total sales, aggregating approximately 40% of our sales. During 2020, three customers each comprised over 10% of our total sales, aggregating approximately 55% of our sales. Annual metallurgical coal revenues for the past three years ranged from \$57.5 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. In the ordinary course of business, we make efforts 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.

We expect total consolidated Pennsylvania Mining Complex annual sales to be approximately 23-25 million tons for 2022. Domestic coal revenue tends to be derived from contracts that typically have a term of one year or longer and the pricing is typically fixed. Export coal revenue tends to be derived from spot or shorter-term contracts with pricing determined closer to the time of shipment or based on a market index. 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.

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 2021 sales tons, approximately 50% were sold to U.S. electric generators, 46% were sold to export markets and 4% were sold to other domestic customers. Of the 46% of our 2021 sales tons sold to export markets, 13% were sold in the metallurgical market and 87% were sold in the industrial and electric power generation markets. In 2021, we derived approximately 40% of our total sales revenue from our top three customers. As of January 1, 2022, we had multiple sales agreements with these customers that expire at various times in 2022 through 2023.

During the past three years, our average realization (sales price per ton sold) for coal produced from the PAMC was \$47.17/ton in 2019, \$41.31/ton in 2020, and \$45.75/ton in 2021. Pricing for our product depends strongly on conditions in the domestic thermal coal market, which accounted for 65% of our total PAMC coal sales in 2020 and 54% in 2021.

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 CAPP, ILB, 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 can affect the prices that we are able to achieve in the domestic thermal markets. Similarly, imbalances in global supply and demand for energy fuels can cause substantial variability in pricing in the export markets we serve, which include industrial, metallurgical and power generation applications. Additionally, demand for coal-fired electric power generation experienced a severe decline in 2020 as a result of the COVID-19 pandemic and related government-ordered shutdowns, which resulted in price declines for our coal. Coal prices rebounded significantly in 2021 as economic activity recovered from the 2020 downturn, contributing to higher natural gas and power prices and increased demand for coal-fired electric power generation in the U.S. and abroad, while coal supply remained comparatively constrained, creating more favorable market fundamentals for our product.

Terminal Services

In 2021, approximately 13.8 million tons of coal were shipped through the CONSOL Marine Terminal owned by our subsidiary, CONSOL Marine Terminals LLC. Approximately 82% 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 coal terminal located on the east coast of the United States served by two railroads, Norfolk Southern Corporation and CSX Transportation Inc. The CONSOL Marine Terminal has storage capacity of 1.1 million tons with more than thirty acres of capacity for stockpiles. The facility possesses blending capabilities, and it has transloaded approximately 12.7 million tons of coal per year on average over the past five years, with a throughput capacity of approximately 15 million tons annually.

Non-Core Coal Assets and Surface Properties

We own significant coal assets and surface properties 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, while our sales and logistics specialists negotiate freight and equipment agreements with various transportation suppliers, including railroads, barge lines, terminal operators, ocean vessel brokers and trucking companies for the remaining 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 compared to 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, 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 older, less efficient coal-fired powered generators. Federal and state mandates for increased use of electricity derived from renewable energy sources could also 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.

Human Capital Management

As of December 31, 2021, we had 1,575 employees, of which 37 CONSOL Marine Terminal employees were represented by a collective bargaining agreement. We believe our efforts in managing our workforce have been effective, evidenced by a strong culture and a good relationship between the Company and our employees.

Health and Safety. The success of our business is fundamentally connected to the well-being of our people. Accordingly, we are committed to the health, safety and wellness of our employees. We provide our employees and their families with access to health and welfare programs, including benefits that support their physical and mental health by providing tools and resources to help them improve or maintain their health status. In response to the COVID-19 pandemic, we implemented significant operating environment changes that we determined were in the best interest of our employees, as well as the communities in which we operate, and which comply with government regulations and CDC guidelines. This includes, but is not limited to, staggering shift times to limit the number of people in common areas at one time, limiting meetings and meeting sizes, wearing masks, continual cleaning and disinfecting of high-touch and high-traffic areas, including door handles, bathrooms, bath houses, mining equipment, and other areas, limiting contractor access to our properties, limiting business travel, and instituting work from home for administrative employees. We plan to keep these procedures in place and continually evaluate further enhancements for as long as necessary.

Talent. Through our long operating history and experience with technological innovation, we appreciate the importance of retention, growth and development of our employees. Our approach to talent is to both develop talent from within and supplement with external hires. We believe this method has yielded loyalty and commitment in our employee base, which in turn grows our business, while at the same time, adding new employees and external ideas supports a continuous improvement mindset and contributes to our goals of having a diverse and inclusive workforce. We believe that having approximately 48% of the Company's workforce with at least 10 years of company service coupled with our average voluntary retention rate of 93% as of the end of fiscal year 2021 reflects the engagement of our employees.

Total Rewards. As part of our compensation philosophy, we believe that we must offer and maintain market competitive total rewards programs for our employees in order to attract and retain superior talent. In addition to competitive base wages, the Company has additional programs, which include bonus opportunities, a Company-matched 401(k) plan, healthcare and insurance benefits, health savings spending accounts, paid time off, family leave, flexible work schedules, and employee assistance programs.

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 plants and wildlife; and ensure employee health and safety. Furthermore, the electric power generation industry and other users of our coal are subject to extensive regulation regarding the environmental impact of their activities, which could affect demand for our coal.

We seek to conduct our operations in compliance with applicable laws and regulations. However, from time to time, violations occur during operations, and we cannot assure that we have been or will be at all times in compliance with such laws and regulations. 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 significantly modify operations 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 or 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 condition.

In recent years, multiple regulations impacting our operations, or our customers' operations, have been subject to revision, repeal and judicial challenge. However, the extent to which these regulations will take effect or survive future presidential administrations is uncertain. In addition, presidential administrations, including the Biden Administration, could, independent of the regulatory process, issue Executive Orders or other Presidential Directives having the force of law that could immediately impact our business or our customers' business. For example, pursuant to the Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis ("Environment Executive Order"), which was issued on January 20, 2021, President Biden directed the heads of all federal agencies to review "all existing regulations, orders, guidance documents, policies, and any other similar agency actions promulgated, issued, or adopted" during the Trump Administration for consistency with the policies established in the new Biden Administration order. Reversal or reinstatement of earlier regulations, or other presidential executive action, could impact our ability to obtain, maintain or renew permits, could reduce fossil fuels' share of power generating capacity, could expedite the retirements of fossil fuel fired electric generating units, or could reduce the demand for our product in metallurgical and industrial markets, which could have a material adverse effect on our business, financial condition and results of operations.

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, modification or expansion 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, CAA programs such as Maximum Achievable Control Technology ("MACT") emission limits for Hazardous Air Pollutants, the Regional Haze Program, New Source Review permitting requirements and other federal rulemakings 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 of operating 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.

Mercury and Air Toxics Standards Rule. In 2012, the United States Environmental Protection Agency ("EPA") promulgated or finalized several rules for National Emission Standards for Hazardous Air Pollutants ("NESHAPs") for new and existing coal-fueled and oil-fueled electric generating plants. The EPA's 2012 Mercury and Air Toxics Standards rule ("MATS Rule") imposed MACT emissions limitations on Hazardous Air Pollutants ("HAPs"), such as mercury, acid gas HAPs, HAP metals and organic HAPs for applicable facilities. The rule was challenged, and ultimately rejected by the U.S. Supreme Court on June 29, 2015, for failing to consider the costs imposed by the MATS 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 ("SCF") for the MATS Rule, as well as the related risk and technology review ("RTR") required by the CAA. On February 7, 2019, the EPA published a proposed reconsideration, laying the groundwork to rescind the MATS Rule. In the proposed finding, the EPA revised its estimates of the rule's costs and benefits, concluding that it is not "appropriate and necessary" to regulate HAPs from power plants, and sought comment on whether the EPA had authority to rescind the MATS Rule. On April 16, 2020, the EPA completed its reconsideration of the MATS Rule, finalizing its "appropriate and necessary" conclusion while retaining coal- and oil-fired power plants on the list of affected source categories and maintaining existing emission limits for mercury and other HAPs. The final rule became effective on May 22, 2020 and is currently subject to legal challenge in multiple cases before the D.C. Circuit. As directed by the January 2021 Environment Executive Order, on January 31, 2022, the EPA announced its proposed rule revoking the May 2020 SCF and reinstating an April 2016 finding that concluded regulation of HAP emissions from EGUs is appropriate and necessary after considering cost. Separately, the EPA is expected to publish a notice of proposed rulemaking ("NPRM") suspending, revising, or rescinding the rule's RTR, with a final rulemaking expected in 2023.

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”) and to review these standards every five years. Areas that are not in compliance with these standards are considered “non-attainment areas.” In recent years, the EPA has adopted more stringent NAAQS, including those for particulate matter (“PM”), nitrogen oxides (“NO_x”), ozone, and sulfur dioxide (“SO₂”). The designation of new non-attainment areas could prompt local changes to permitting or emissions control requirements, as prescribed by federally mandated state implementation plans (“SIPs”) that require emission source identification and emission reduction plans. In 2020, the EPA finalized decisions to retain the NAAQS for ozone and PM. Both decisions were subject to legal challenge. Related to the ozone NAAQS, court filings indicate that the EPA plans to issue a proposed rule reconsidering the 70 ppb standard, with a final rulemaking expected in 2023. Consistent with the January 2021 Environment Executive Order, the EPA is currently reconsidering the PM NAAQS, with a NPRM expected in 2022, followed by a final rule in 2023. Further, the Environment Executive Order directed the EPA to establish federal implementation plans (“FIPs”) for ozone compliance in California, Connecticut, New York, Pennsylvania, and Texas by 2022. Final rules may require significant investment in emissions control technologies by our electric power generation or industrial customers, and could affect the demand for our coal.

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, fine particulate matter (“PM_{2.5}”) and ozone in the District of Columbia and 27 states. The 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 SIPs that would establish additional requirements beyond the existing CSAPR Update. The Close-Out Rule was subject to judicial challenge and was ultimately vacated. On October 30, 2020, the EPA published proposed revisions to the CSAPR Update Rule that would establish new or amend existing Federal Implementation Plans (FIPs) in 12 states to revise emission budgets to reflect additional emissions reductions from EGUs beginning with the 2021 ozone season and also requires power plants in these states to participate in a newly established NO_x emission trading program. The final rule was published on April 30, 2021, and became effective on June 29, 2021. Coal units located in the 12 states were immediately required to use and upgrade previously installed NO_x emissions controls, as applicable. For those facilities that have not yet installed pollution controls for NO_x, the EPA is likely to require additional NO_x reductions in the future. Such requirements could require our customers to incur significant compliance costs and could lead to accelerated plant closures or fuel switching, which could affect the demand for our coal.

Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electricity Utility Generating Units (“EGUs”) under CAA Section 111(d). On October 23, 2015, the EPA published a final rule known as the Clean Power Plan (“CPP”), which required states to create systems that reduce carbon dioxide (“CO₂”) emissions from existing coal-fired EGUs by 28% in 2025 and 32% in 2030, compared to 2005 levels under section 111(d) of the CAA. The CPP was subject to numerous legal challenges and was stayed by the U.S. Supreme Court, pending the D.C. Circuit’s review of the rule. Before the D.C. Circuit issued its opinion, the Trump administration announced it would reconsider the CPP. In August 2018, the EPA published a proposed rule, the Affordable Clean Energy (“ACE”) rule, that repealed and replaced the CPP.

The final ACE rule was published on July 8, 2019. The ACE rule established greenhouse gas (“GHG”) guidelines for states to use when developing plans to limit CO₂ emissions from coal-fired EGUs. The ACE rule provided that heat rate efficiency improvements are the Best System of Emission Reduction (“BSER”) for coal-fired electric utility sources under the CAA and directed states to develop specific SIPs to implement the rule, and revised CAA section 111(d) regulations to give states greater authority regarding these plans. States could also consider the remaining useful life of the EGUs, as provided by the CAA. Several states and public interest groups petitioned for review of the ACE rule. In addition, several public health petitioners, environmental petitioners and states filed administrative petitions with the EPA seeking reconsideration of the rule. In a March 5, 2021 ruling, the D.C. Circuit issued its partial mandate vacating the ACE rule but leaving the CPP Repeal intact to allow time for the EPA to issue a new rule under section 111(d). The EPA is expected to publish notice of a replacement rulemaking in 2022, with a final rule to follow in 2023. Separately, the Supreme Court agreed to hear four consolidated legal appeals to the D.C. Circuit decision striking down the ACE rule, with a decision expected in mid-2022.

New Source Performance Standards (“NSPS”) for Greenhouse Gas Emissions from New, Modified, or Reconstructed Fossil Fuel-Fired EGUs Under CAA Section 111(b). On October 23, 2015, the EPA published a final rule to limit CO₂ emissions from new, modified and reconstructed fossil fuel-fired EGUs under section 111(b) of the CAA. Pursuant to the rule, newly constructed coal-fired steam EGUs cannot emit more than 1,400 lb CO₂/MWh (gross) and based on a “best system of emission reduction” that was identified as partial carbon capture and storage (CCS). The rule was subject to numerous legal challenges in the D.C. Circuit, which were consolidated under *State of North Dakota v. Environmental Protection Agency*. The case has been held in abeyance since August 10, 2017, pending the EPA’s review of the rule. On December 20, 2018, the EPA published a proposed rule proposing to change its best system of emission reduction determination from partial carbon capture and storage to use of a supercritical boiler, with a change in the emission limits to be 1,900 lb CO₂/MWh (gross) or 2,000 lb CO₂/MWh (gross), depending on the size of the unit. The EPA did not take final action on the 2018 Proposed Rule. On January 7, 2021, the EPA finalized its “Pollutant Specific Significant Contribution Finding (“SCF”) for Greenhouse Gas Emissions from New, Modified and Reconstructed Electric Utility Generating Units” rule, concluding that the EGU source category GHG emissions are significant and warrant regulation. The SCF rule was subsequently challenged in court, and on April 5, 2021, the D.C. Circuit vacated and remanded the rule. The EPA is comprehensively reviewing NSPS for GHG emissions from EGUs, and is expected to release a NPRM in June 2022, followed by a final rule in April 2023.

Global Climate Change

Our customers’ consumption of the coal we produce results in the emission of greenhouse gases, particularly CO₂. 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, (iii) a reduction or elimination of new coal-fired power plant construction in certain countries, or (iv) the advancement of technologies aimed toward replacing or minimizing the use of coal in industrial or metallurgical processes.

To date in the U.S., no legislation addressing global climate issues and GHG emissions has been signed into law. While it is possible that the U.S. will adopt legislation in the future, the timing and specific requirements are uncertain. In the United States, findings published by the EPA in 2009 concluded that GHG emissions pose an endangerment to public health and the environment, and as a result, the EPA has the authority to adopt and implement regulations restricting GHG emissions under existing provisions of the CAA.

In addition, the U.S. Global Climate Change Research Program, a consortium of governmental departments and agencies, issued the Fourth National Climate Assessment (“NCA”) on November 23, 2018. The NCA is a congressionally mandated report, to be completed every four years as mandated under the Global Change Research Act of 1990. The report summarizes observed effects of increasing GHG concentrations on the U.S. weather and climate, while proposing certain measures to reduce climate-related risks. Separately, the U.S. House Select Committee on the Climate Crisis released its report, known as The Climate Crisis Action Plan, in June 2020, followed by the Senate Democrats’ Special Committee on the Climate Crisis’s report, “The Case for Climate Action”, in August 2020. Both reports call for the U.S. to achieve net-zero emissions no later than 2050. While no regulatory actions have been issued as a result of the NCA or legislative committee reports, they could be relied upon to justify policy or executive action in the future.

For example, since assuming office, President Biden has signed multiple Executive Orders (EO) aimed at utilizing a whole of government approach to address climate change. EO 14008: Tackling the Climate Crisis at Home and Abroad, signed on January 27, 2021, includes provisions supporting an end to international financing of fossil fuel-based energy and seeks a reduction in climate pollution from every sector of the economy. EO 14057: Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability, signed on December 8, 2021, emphasizes federal actions to support a carbon pollution free electricity sector by 2035 and seeks to achieve net zero emissions economy wide no later than 2050. Regulations, policies and uncertainty regarding the future course of these actions could immediately impact our business or our customers’ businesses and could eventually reduce the overall demand for our coal.

Since 2011, the EPA has required active underground coal mines and certain support facilities exceeding a minimum GHG emission threshold to report annual emissions to the EPA under the Mandatory GHG Reporting Rule, which is expected to be revised in 2022. These emissions 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, a number of states, governors, mayors and businesses have committed to broad goals for GHG reductions or requirements to deploy carbon-free or renewable sources of electricity. Such goals include those announced by multiple domestic utilities, including some of our customers, pledging to substantially reduce or to achieve net zero GHG emissions, to accelerate closure of existing coal-fired power generating stations, or to increase generating capacity from natural gas or renewable sources. These goals could ultimately affect the demand and prices for our coal, as these customers seek to achieve such voluntary goals over time. At the state level, 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”), and Virginia recently began complying with RGGI in 2021. RGGI is a mandatory cap-and-trade program among 11 northeastern states to reduce CO₂ emissions from the power sector. Similar to other mandatory cap-and-trade initiatives, such as California’s cap-and-trade program, RGGI seeks to limit CO₂ emissions annually, in order to achieve a prescribed long-term emissions reduction target. In cap-and-trade scenarios, power generators or other GHG emitters 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.

In response to the Governor’s Order, the Pennsylvania Environmental Quality Board (PAEQB) published a proposed rulemaking to establish the Commonwealth’s participation in RGGI and to institute a CO₂ budget trading program limiting emissions from fossil fuel-fired EGUs with a minimum nameplate capacity of 25 megawatts (MWe) on November 7, 2020. In 2021, the PAEQB and the PA Independent Regulatory Review Commission (IRRC) subsequently voted to adopt the regulation. Additionally, the PA Attorney General’s Office determined that RGGI participation does not conflict with state law, based on its limited review under the Commonwealth Attorneys Act. Prior to the RGGI rule’s approval, in 2020, the PA General Assembly introduced and passed House Bill (“HB”) 2025 requiring legislative approval from both chambers of the General Assembly for any action imposing a revenue-generating tax or fee intended to reduce CO₂ emissions, but HB 2025 was subsequently vetoed by Governor Wolf. After the PA IRRC voted to adopt the RGGI rule, the PA Senate and House passed Senate Concurrent Regulatory Review Resolution 1 (SCRRR 1) disapproving of the regulation on October 27 and December 15, 2021, respectively. However, the resolution was subsequently vetoed by Governor Wolf. Absent an override, the RGGI rule is expected to be finalized in 2022 but will likely be subject to legal challenges that could delay its implementation. If enacted, the proposed Pennsylvania CO₂ Budget Trading Program regulation could result in decreased demand or decreased prices for our domestic coal in the state of Pennsylvania. Similarly, in 2021, North Carolina Governor Ray Cooper signed House Bill 951 into law, codifying the state’s primary climate change plan. The bill endeavors to reduce CO₂ emissions by 70% by 2030, compared to 2005 baseline levels and to achieve carbon neutrality by 2050. The bill is expected to speed the retirement of coal-fired units in the state, and could result in decreased demand or decreased prices for our coal. Further, CO₂ cap and trade programs, carbon taxes, or other regulatory and policy regimes, whether state, federal or international in nature, or related business or customer focused voluntary climate and GHG emission reduction goals could affect the future market for coal and lower overall coal demand.

At both the state and federal levels, environmental organizations, third parties and regulators have challenged permitting actions associated with new fossil fuel infrastructure, power plants and pipelines, citing GHG emissions, the uncertainty surrounding the economic viability of these projects under future laws limiting CO₂ emissions, or the failure to account for the climate change impacts. Challenges such as these could result in litigation and delays to permit approval, which could reduce production, cash flow and results of operations.

Foreign governments, including the European Union and member countries, have adopted regulations governing GHG emissions. Independent of regulation, the Kyoto Protocol to the 1992 United Nations Framework Convention on Climate Change (UNFCCC) became effective in 2005 and established a binding GHG emission reduction requirement for developed countries. The Kyoto Protocol has never been ratified by the U.S. Senate. Similarly, in December 2015, the U.S. and approximately 200 nations signed the international Paris Agreement, making voluntary commitments to limit or reduce GHG emissions in order to limit global warming below 2 degrees Celsius from temperatures in the pre-industrial era by 2100. On June 1, 2017, the Trump Administration announced the United States’ withdrawal from the agreement, which became effective on November 4, 2020. On January 20, 2021, President Biden signed an Executive Order rejoining the U.S. into the Paris Accord. The UNFCCC convened its 26th Conference of the Parties (COP26) in November 2021, and ultimately enacted the Glasgow Climate Pact to operationalize Article 6 of the Paris Agreement. Article 6 establishes a framework for the voluntary international cooperation of countries to reduce GHG emissions and meet nationally determined contributions (NDCs). The Pact also calls on governments to accelerate the dissemination of technologies, and the adoption of policies, to transition toward a low-emission energy system, including by accelerating the phasedown of unabated coal power and phase-out of fossil fuel subsidies. As a result, nations could come forward with revised NDCs in 2022, including 2030 targets aligned with the Paris Agreement’s temperature goals.

Federal, state and international GHG and climate change initiatives, associated regulations or other voluntary commitments to reduce GHG emissions could significantly increase the cost of coal production and consumption, increase costs as a result of regulations requiring the installation of emissions control technologies, increase expenses associated with the purchase of emissions reduction credits to comply with future emissions trading programs, increase expenses associated with any future carbon tax, or significantly reduce coal consumption through implementation of a future clean energy standard. Such initiatives and regulations could further reduce demand or prices for our coal in both domestic and international markets, could adversely affect our ability to produce coal and to develop our reserves, could reduce the value of our coal and coal reserves, and may have a material adverse effect on our business, financial condition and results of operations.

Clean Water Act

The federal Clean Water Act (“CWA”) and corresponding state laws affect our coal operations by regulating discharges into certain waters. 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 at times require (i) treatment of discharges from coal mining properties for non-traditional pollutants, such as chlorides, sulfates, selenium and dissolved solids and (ii) requirements to dispose of wastes at approved disposal facilities.

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. Additional CWA requirements that could directly or indirectly affect our operations are summarized below.

Dredge and Fill Permits Under CWA Sections 401 and 404. In order to obtain a permit for certain coal mining activities, such as 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 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. Subject to minimum thresholds, all permits associated with the placement of dredge or fill material require appropriate mitigation. Through the CWA Section 401 Certification Program, state regulators have approval authority over federal permits authorizing discharges in state waters or impacts to aquatic resources and must certify that the activity will comply with water quality standards or other applicable requirements. In 2020, the EPA issued the 2020 CWA Section 401 Certification Rule, intending to clarify the scope of state regulatory authority and under certain circumstances, allowing the EPA to certify projects regardless of state objection. The rule was vacated by the U.S. District Court for the Northern District of California on October 21, 2021. The Court ordered a temporary return to the EPA’s 1971 section 401 certification rule until the EPA finalizes a new rule. As a result of the requirement to receive explicit authorization from the ACOE and the corresponding state regulatory authority before proceeding with mining activities, our operations could experience permitting approval timeframe delays.

Definition of Waters of the United States. 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. The rule was ultimately blocked by a federal appeals court and in 2019, the EPA and the ACOE promulgated a final rule (i) repealing the 2015 definition of “Waters of the United States” (“WOTUS”) and (ii) redefining which waterbodies are subject to federal jurisdiction. On April 21, 2020, the EPA and ACOE published the Navigable Waters Protection Rule (“NWPR”), revising the previously codified definition of WOTUS. The NWPR became effective on June 22, 2020 in multiple courts. However, in 2021, the NWPR was vacated by the U.S. District Court for the District of Arizona and separately vacated and remanded by the U.S. District Court for the District of New Mexico. As a result of these decisions and consistent with the Environment Executive Order, the EPA announced its intent to re-evaluate the definition of WOTUS in two phases. In December 2021, the EPA and the ACOE published a proposed rule, restoring the regulations in place prior to the 2015 Clean Water Rule but updating those regulations to be consistent with relevant Supreme Court decisions. By increasing the number of waterbodies subject to CWA permitting and other regulations, revisions to the definition of WOTUS could impose additional permitting obligations or restrictions, required enhanced mitigation, or cause the Company to modify its operations which could result in delayed permit approval timeframes or increased costs.

Water Discharge Permits. 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 receiving waters that are protective of water quality standards. For 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.

Effluent Limitations Guidelines for the Steam Electric Power Generating Industry. The 2015 Effluent Limitations Guidelines and Standards (“ELG”) rule revised the regulations for the Steam Electric Power Generating category. The rule established the first federal limits on the levels of toxic metals in various power plant wastewater discharges, and set zero discharge requirements for certain waste streams. The rule was subject to legal challenge, with the Fifth Circuit of Appeals ultimately vacating portions of the rule regulating legacy wastewater and residual combustion leachate in 2019. The 2015 final ELG rule was published on October 13, 2020 and established a voluntary incentive program which provides power plants until December 31, 2028 to (i) retire or (ii) implement changes required to achieve compliance with stringent effluent limits and standards. The rule is expected to significantly increase compliance costs for many coal-fired power plants and as a result, could accelerate closure. Certain domestic utilities, including some of our current customers, have announced plans to retire by 2028 as a result of the ELG rule. In accordance with the Environment Executive Order, on August 3, 2021, the EPA announced its decision to implement the 2020 ELG Reconsideration Rule and to simultaneously conduct a rulemaking that could strengthen ELGs for waste streams addressed, as well as waste streams excluded, in the 2020 final rule. The draft ELG reconsideration rule, which will also address claims in current litigation pending in the Fourth Circuit Court of Appeals, is expected to be published in 2022.

Other Environmental Laws and Regulations

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 SMCRA permit issuance is largely at the discretion of the regulatory authorities and is often related to the size and complexity of the operation seeking approval. In addition, numerous other permits from applicable state, federal or local authorities are required to conduct mining operations. 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. Permits can also be delayed, refused, or revoked if any entity under common ownership or control has unabated permit violations, including the mining and compliance history of officers, directors, and principal owners of the entity seeking permit approval. Under the laws applicable to our operations, substantial fines and penalties, including suspension or revocation of permits, and in severe cases, criminal sanctions, may be imposed for failure to comply.

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, including increases in the amount of collateral required to secure surety bonds, 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, 2021, we posted an aggregated \$537 million in surety bonds for reclamation purposes, as well as approximately \$277 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 fee of \$0.12 per ton for underground mined coal expired on September 30, 2021. The current fee, effective on October 1, 2021, is \$0.096 per ton for underground mined coal. We recognized expense related to Abandoned Mine Reclamation Fund fees of \$3 million for the year ended December 31, 2021.

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. Rules that were intended to update 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 became effective in 2019, and were subject to challenge from several states and environmental groups. Additional rules regarding noncritical habitat were promulgated in December 2020 and were also subject to judicial challenge. On October 27, 2021, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service proposed separate rules to rescind and revise the ESA critical habitat regulations and definitions finalized under the previous administration, with final rules expected to be promulgated in 2022. If more stringent or protective measures were required, or if additional critical habitat areas were designated, our operations could be exposed to additional requirements, increased operating costs or delayed approval timeframes.

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 July 2020, the White House Council on Environmental Quality ("CEQ") promulgated the NEPA Update Rule, seeking to streamline the NEPA process and minimize unnecessary litigation, cost, and delay for project proponents; however, the rule was subject to legal challenge. Separately, in 2020, 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, and was never published in final form. Certain Federal courts have held that GHGs must be considered under NEPA prior to a federal agency taking a "major Federal action". As directed by the Environment Executive Order, the CEQ rescinded the 2019 Draft GHG Guidance in February 2021 and is separately expected to publish revisions to the NEPA rule in two phases in 2022.

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 facilities 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 release of a hazardous substance 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. Byproducts of coal combustion, or coal combustion residuals ("CCR"), are also regulated under RCRA. In April 2015, the EPA published regulations for the disposal of CCR from electric utilities and independent power producers (the "CCR Rule"). Importantly, CCR are regulated under RCRA as "non-hazardous" waste and avoid the stricter, costlier regulations under RCRA's "hazardous" waste rules. The CCR Rule was subject to legal challenge and ultimately remanded to the EPA. On August 28, 2020, the EPA published a final revised rule mandating closure of unlined impoundments, with deadlines to initiate closure between 2021 and 2028, depending on site specific circumstances. Certain provisions of the revised CCR Rule were vacated by the D.C. Circuit in 2018. The EPA is expected to finalize additional rules addressing those specific provisions in 2022 and 2023. Meanwhile, on January 25, 2022, the EPA published determinations for 9 of 57 CCR facilities who sought approval to continue disposal of CCR and non-CCR waste streams until 2023, as opposed to the initial 2021 deadline for unlined impoundments prescribed by the current rule. While the EPA issued one conditional approval, the EPA is requiring the remaining 8 facilities to cease receipt of waste within 135 days of completion of public comment, or around July 2022. The current determinations, future determinations of the same nature, or similar actions in expected future rulemakings could lead to accelerated, abrupt, or unplanned suspension of coal-fired boilers. Further, the Water Infrastructure Improvements for the Nation ("WIIN") Act authorized the EPA to establish a federal permitting program for states and territories that do not have an approved permitting program for the disposal of CCR in surface impoundments and landfills under RCRA. Accordingly, the EPA published a proposed rule establishing a federal program on February 20, 2020. A final rule is expected in 2022. The CCR rules impose new requirements that would generally increase the cost of CCR management or require facility closure. The combined effect of the CCR rules and ELG regulations (discussed above) has compelled power generating companies to close existing ash ponds and may force the closure of certain 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, 2021.

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.

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 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 two groups: risks related to our business 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 (not necessarily in order of importance or probability of occurrence) 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.”

Risk Factors Summary

The following is a summary of the principal risks that could adversely affect our business, operations and financial results:

Risks Related to Our Business

- 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 future plans to eliminate coal-fired generation facilities, oversupply relative to the demand available for our products, weather and the price and availability of alternative fuels;
- the effects the COVID-19 pandemic has on our business and results of operations and on the global economy;
- an extended decline in the prices we receive for our coal affecting our operating results and cash flows;
- our customers extending existing contracts or not entering into new long-term contracts for coal on favorable terms;
- our reliance on major customers;
- decreases in demand and changes in coal consumption patterns of electric power generators;
- 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 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;
- the potential for liabilities arising from environmental contamination or alleged environmental contamination in connection with our past or current coal operations;
- uncertainties in estimating our economically recoverable coal reserves;
- exposure to employee-related long-term liabilities; and
- the risk of our debt agreements, our debt, access to capital markets and changes in interest rates affecting our operating results and cash flows.

Risks Related to Our Capital Stock and the Securities Market

- 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 and media;
- 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; and
- inability of stockholders to bring legal action against us in any forum other than the state courts of Delaware.

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.

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 coke and 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 coal from the Itmann Mine or 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, the price and availability of alternative fuels and plans by electricity generators to shut down or move away from coal-fired generation. 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 thermal and 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.

Our business, results of operations and financial condition may be adversely affected by the novel coronavirus (COVID-19) pandemic.

The COVID-19 pandemic had a severe adverse impact on our business and operations during fiscal year 2020 and could do so again. The effects of the continuing pandemic and related governmental response have included and could include extended disruptions to supply chains and capital markets, reduced labor availability and productivity and a prolonged reduction in demand for coal and overall global economic activity.

The demand for coal experienced unprecedented decline during a portion of 2020, driven by widespread government-imposed lockdowns caused by the COVID-19 pandemic, which significantly reduced electricity consumption and therefore, demand for our coal. This decline in coal demand negatively impacted our operational, sales and financial performances in 2020. If the pandemic were to worsen and/or lockdowns were to be re-imposed by governmental authorities, we could experience similar negative impacts again.

While some government-imposed shut-downs of non-essential businesses in the United States and abroad have been phased out, there is a possibility that such shut-downs may be reinstated if the severity of the pandemic grows. Depressed demand for our coal may also result from a general recession or reduction in overall business activity caused by COVID-19. Sustained decrease in demand for our coal and the failure of our customers to purchase coal from us that they are obligated to purchase pursuant to existing contracts would have a material adverse effect on our operations and financial condition. The continued spread of COVID-19 has caused increased volatility in the global capital markets. Such volatility increases the cost of, and decreases access to, capital. If the Company needs to access the capital markets to fund its operations, such capital could be prohibitively expensive which could cause the Company to pursue alternative sources of funding for its operations and working capital. COVID-19 and various governmental and private responses to the virus have led to widespread, global supply chain disruptions. During the 2021 fiscal year and continuing into 2022, we encountered multiple transportation delays as a result of the disruption of the global supply chain and the logistics infrastructure. These supply chain disruptions may also cause some of our suppliers to fail to deliver the quantities of supplies we need or fail to deliver such supplies in a timely manner. The failure to receive any such supplies could inhibit our ability to operate our mines or otherwise run our business, which could have a material adverse effect on our results of operations and cash flows. The risks associated with a potential COVID-19 outbreak among our employees, especially resulting from more transmissible variants of COVID-19, could adversely affect our ability to operate. Additionally, our ability to ship our coal domestically or abroad could be impaired by disruptions in our global transportation network resulting from the COVID-19 pandemic.

The extent to which COVID-19 may adversely impact our results of operations, cash flows and financial condition depends on future developments, which are highly uncertain and unpredictable, including new information concerning the severity of the outbreak, further mutations of the virus and the pace and effectiveness of vaccination efforts or actions globally to contain or mitigate its effects. The Company will continue to take the appropriate steps to mitigate the impact on the Company's operations, liquidity and financial condition.

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 the PAMC, which accounts for more than 99% of our coal production, 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 operating 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, 2021, approximately 50% 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 thermal coal customers could adversely affect our business, financial condition, results of operations and cash flows.

Although we have recently begun selling a significant portion of our coal in the export market, we remain somewhat exposed to risks associated with a concentrated customer base both domestically and globally. We derive a significant portion of our revenues from three customers, each of which accounted for over 10% of our total coal sales revenue and aggregated approximately 40% of our coal sales in fiscal year 2021.

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 a significant portion of 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 flows 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 customers.

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 2021, the domestic electric power sector accounted for approximately 92% of total U.S. coal consumption. In 2021, the Pennsylvania Mining Complex sold approximately 51% 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;
- energy conservation efforts and related governmental policies; and
- other corporate environmental, social or governance initiatives to reduce dependency on and/or consumption of fossil fuels.

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 displaced a significant amount of coal-fired electric power generation and may continue to do so in the near term, particularly older, less efficient coal-fired powered generators. Federal and state mandates for increased use of electricity derived from renewable energy sources could also 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, government-imposed lockdowns designed to slow or contain the spread of contagious diseases 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 rail transportation and 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 our mines primarily by rail, which has experienced significant disruptions resulting from increased demand, labor shortages and the COVID-19 pandemic. 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 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 such as natural gas and petcoke, 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, industrial end-users and to the more specialized metallurgical coal market, 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.

Part of our strategy to grow is to complete the development of the Itmann Mine after making significant capital expenditures.

Our failure to complete the development and transitioning of the Itmann Mine to full operation may have a material adverse effect on our future profitability. Our profitability and strategy to diversify depends on our ability to complete the construction of the Itmann Mine and to transition the mine to full operation. We expect to spend \$42-\$47 million in 2022 to complete the construction. Because our diversification plans rely substantially on producing and selling more metallurgical coal, which we expect the Itmann Mine to produce, our failure to complete the construction on time or at all and to make the transition of the Itmann Mine to full operation may 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, 2021, 2020 and 2019, approximately 46%, 35% and 35%, 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 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.

Compliance with import and export requirements, the FCPA and other applicable anti-corruption laws may increase the cost of doing business.

Because we sell a significant portion of our production in international markets, our operations and activities inside and outside the U.S., as well as the shipment of our products across international borders, require us to comply with a number of federal, state, local and foreign laws and regulations, which are complex and increase our cost of doing business. These laws and regulations include import and export requirements, economic sanction laws, customs laws, tax laws and anti-corruption laws, such as the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act. We cannot predict how these laws or their interpretation, administration and enforcement will change over time. There can be no assurance that our employees, contractors, agents, distributors, customers, payment parties or third parties working on our behalf will not take actions in violation of these laws. Any such violation could result in substantial fines, sanctions, civil and/or criminal penalties and curtailment of operations in certain jurisdictions, and might adversely affect our business, financial condition, results of operations and cash flows. In addition, actual or alleged violations could damage our reputation and ability to do business. Furthermore, detecting, investigating, and resolving actual or alleged violations is expensive and can consume significant time and attention of our senior management.

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, nitrogen oxides 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 need 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. The Cross State Air Pollution Rule ("CSAPR"), the Mercury and Air Toxics Standard Rule ("MATS") and the New Source Performance Standards ("NSPS") for Fossil Fuel-Fired Electricity Utility Generating Units ("EGUs") are examples of such rulemakings promulgated under the Clean Air Act. For more information, please see "Laws and Regulations" under Item 1 above.

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 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. Additionally, the United States is a signatory to the United Nations-sponsored “Paris Agreement,” which requires nations party to the agreement to submit non-binding GHG emissions reduction goals every five years after 2020. President Biden further announced in April 2021 a new, more rigorous nationally determined emissions reduction level of 50-52% reduction from 2005 levels in economy-wide net GHG emissions by 2030. The international community gathered again in Glasgow in November 2021 at the 26th Conference to the Parties, during which multiple announcements were made, including a call for parties to eliminate certain fossil fuel subsidies and pursue further action on non-carbon dioxide GHGs. Several individual U.S. states have already adopted measures requiring reduction of GHGs within state boundaries. Other states have elected to participate in 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 designed to reduce GHG emissions 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.

These potential legislative changes, 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 and/or alternative energy sources could gain added economic benefits versus 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 are subject to litigation seeking to hold energy companies accountable for the effects of climate change and may be subject to additional such litigation in the future.

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 any federal common law had been displaced by the CAA and thus dismissed the 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 multiple lawsuits brought by the City of Baltimore, the State of Delaware, the City of Annapolis, and Anne Arundel County, Maryland 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 these 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 other laws 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.

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;
- 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 and mandated delays;
- 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 been significantly increasing 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, and incurring additional rising costs to obtain and maintain such arrangements could have a material adverse effect on our business, financial condition, results of operations and cash flows. 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. Beginning in 2019, the insurance markets have been increasingly challenging, particularly for coal companies. We have experienced rising premiums, reduced coverage and fewer providers willing to underwrite policies and surety bonds. Terms have generally become more unfavorable, including the amount of collateral required to secure surety bonds. Further cost burdens on our ability to maintain adequate insurance and bond coverage may adversely impact our operations, financial position and liquidity.

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

Although we began production at the Itmann Mine, located in CAPP in Wyoming County, West Virginia in 2020, substantially all of our mining operations are conducted at a single mining complex located in NAPP in southwestern Pennsylvania and northern West Virginia. The geographic concentration of most 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 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.

In order to maintain, grow and diversify 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, grow and diversify our business, we will need to make substantial capital expenditures to fund our share of capital expenditures associated with our mines, acquisitions or other business development initiatives. 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 and investors 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.

As a result of increased consideration of ESG practices, our securities may be excluded from consideration by certain investment funds and certain investors may have a negative perception of us due to being a coal producer.

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 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. 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. 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. Additionally, many investment funds and investors are beginning to avoid securities issued by any company in the coal, natural gas or petroleum extraction or refining business, regardless of their particular ESG or sustainability score. 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 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. Relatedly, banks and 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. 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. As such, our access to capital to fund our continuing operations and growth and diversification opportunities could become more restricted.

On October 13, 2021, we announced our Forward Progress sustainability initiative, which included targets to reduce our direct operating greenhouse gas emissions. Our interim goal is to reduce our direct operating greenhouse gas emissions (referred to as scope 1 and scope 2 emissions) on an absolute basis by 50% over a five-year period (or by the end of 2026), compared to 2019 baseline levels and measured as the rate of carbon dioxide equivalents (CO₂e) emitted. In addition, we announced our long-term efforts to achieve net zero direct operating greenhouse gas emissions by 2040 or sooner if feasible. However, achieving these goals may prove more difficult or costly than expected, and we may not succeed in reaching our targeted reductions on the announced timetable, or at all. Although we are not legally bound by these goals, our failure to achieve our GHG emission reduction targets could damage our reputation with customers, investors, financial media and regulators and could cause investors that focus on positive ESG business practices and sustainability scores to disfavor purchasing our securities, which could result in a decline in the market price of our stock and further restrict our access to capital. Additionally, if we expend more funds than anticipated to achieve our GHG emission reduction targets, it could have a material adverse effect on our financial condition, results of operations and cash flows.

Finally, a part of our business plan is to regularly and rigorously evaluate opportunities for acquisitions, joint ventures and other business arrangements in the coal industry and related industries that complement our core operations. We may face greater difficulties in finding partners for such acquisitions, joint ventures or other business arrangements if these potential partners are less willing or unwilling to enter into transactions with companies that have a low ESG or sustainability score, which could have a material adverse effect on our ability to expand our business, and therefore, our financial condition, results of operations and cash flows could be negatively impacted.

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 U.S. Government 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, and potentially may not be on favorable terms. 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.

In lieu of or in addition to acquiring assets or other businesses, we may participate in one or more joint venture arrangements, which necessarily involves risk. Whether or not we hold majority interests or maintain operational control in our joint ventures, our partners may, among other things, (1) have economic or business interests or goals that are inconsistent with, or opposed to, ours; (2) seek to block actions that we believe are in our or the joint venture's best interests; or (3) be unable or unwilling to fulfill their obligations under the joint venture or other agreements, such as contributing capital, each of which may adversely impact our results of operations, financial condition, cash flows or impair our ability to recover our investment in the joint venture. Where our joint ventures are jointly controlled or not managed by us, we may provide expertise and advice but have limited control over compliance with our operational and other standards. Failure by non-controlled joint venture partners to adhere to operational standards that are equivalent to ours could unfavorably affect safety results, operating costs and productivity and accordingly, adversely impact our results of operations, financial condition and cash flows.

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. Under Section 404 of the Clean Water Act, the Army Corps of Engineers ("Corps") issues permits for the discharge of dredged or fill material into regulated waters and wetlands, and under Section 401 of the Clean Water Act, affected states must certify that proposed activity under Section 404 will comply with water quality standards or other applicable requirements. Corps permits and state certifications are required for construction of slurry ponds, refuse areas, impoundments, and for various other mining activities. The Section 404/401 permitting process has become subject to increasingly stringent regulatory requirements and challenges by environmental organizations. 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. It is possible that all permits required to commence new operations, or to expand or continue operations at existing facilities, may not be issued or renewed in a timely manner, or may not be approved at all. Furthermore, permits could be issued with operating requirements or special conditions that increase the cost of operations. Any of these circumstances could have significant negative effects and could materially and adversely affect our results of operations and cash flows.

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 shut down 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 shut down 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.

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.

Our operations include coal refuse disposal areas, slurry impoundments and other water retaining or dam structures classified as “high” or “significant” hazards, depending on the extent of damage or loss of life that could occur in the event of a failure. A failure of these structures would result in liabilities that could have a material impact on our business.

We maintain coal refuse disposal areas (“CRDAs”), slurry impoundments and other water retaining or dam structures that are active or in various stages of reclamation at the Pennsylvania Mining Complex and at certain legacy properties. Such areas and impoundments are subject to extensive regulation and are designed, constructed, operated and maintained according to stringent environmental, structural and safety standards. In addition to routine inspections conducted by multiple regulatory authorities, these facilities are also inspected by qualified third-party inspectors and are separately certified by an independent professional engineer. Structural failure of a CRDA, slurry impoundment or other dam structure classified as a high or significant hazard 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, property damages, injuries to wildlife or loss of life. 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 these structures were to fail, we could be subject to claims for the resulting environmental contamination and associated liability, claims for personal injury or loss of life, and claims for physical property damage, as well as fines and penalties. These events could materially and adversely impact our business, financial condition, results of operations and cash flows.

We depend on the services of key executives and any inability to attract and retain key management personnel could have a material adverse effect on our business.

Our future success depends upon the continued services of our executive officers, including our Chief Executive Officer and Chief Financial Officer, who have critical experience and relationships in the coal industry that we rely on to implement our business plan and growth strategy. Our ability to retain senior management has in the past been, and may in the future be, impacted by volatility in commodity prices and uneven business performance, which have negatively impacted our stock price, and therefore, our ability to use equity compensation as a retention tool. Additionally, the recent efforts of certain members of the investment community, including investment advisors, sovereign wealth funds, public pension funds, universities and other groups, to promote divestment of fossil fuel equities, to encourage the consideration of ESG practices of companies in a manner that negatively affects coal companies and to pressure lenders to limit funding to companies engaged in the extraction of fossil fuel reserves may also negatively impact our ability to attract and retain key management personnel. Accordingly, we have entered into, and may need to enter into additional, retention or other arrangements that could be costly to maintain. While we have an employment agreement in place with our chief executive officer and change-in-control agreements with our senior executives, there can be no assurance we will continue to retain their services and we may become subject to significant severance payments if our relationship with these executives is terminated under certain circumstances. Further, turnover, planned or otherwise, in these or other key leadership positions may materially adversely affect our ability to manage our business efficiently and effectively, and such turnover can be disruptive and distracting to management, may lead to additional departures of existing personnel and could have a material adverse effect on our operations and future profitability. Our ability to retain our key management personnel or to identify and attract additional management personnel or suitable replacements should any members of the management team leave or be terminated is dependent on a number of factors, including the competitive nature of the employment market and our industry. Any failure to retain key management personnel or to attract additional or suitable replacement personnel could cause uncertainty among investors, employees, customers and others concerning our future direction and performance and could have a material adverse effect on our business, financial condition and results of operations.

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 \$238 million at December 31, 2021. 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 or letters of credit, which reduces operating capital and liquidity.

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 and external consultants. 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, with which we are complying for the first time in this report.

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, 2021, the current and non-current portions of these obligations included:

- postretirement medical and life insurance (\$353 million);
- coal workers' pneumoconiosis benefits (\$216 million);
- pension benefits (\$28 million);
- workers' compensation (\$67 million); and
- long-term disability (\$10 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.

As a result of the Murray Energy bankruptcy, the Company could be required to pay for certain liabilities previously held by Murray in a 2013 transaction between Murray and our former parent.

In 2013, Murray Energy and its subsidiaries (“Murray”) entered into a stock purchase agreement (the “Murray sale agreement”) with our former parent pursuant to which Murray acquired the stock of Consolidation Coal Company (“CCC”) and certain subsidiaries and certain other assets and liabilities. At the time of sale, the liabilities included certain retiree medical liabilities under the Coal Industry Retiree Health Benefits Act of 1992 (“Coal Act”) and certain federal black lung liabilities under the Black Lung Benefits Act (“BLBA”). Based upon information available to the Company, we estimate that the annual servicing costs of these liabilities are approximately \$10 million to \$20 million per year for the next ten years. The annual servicing cost would decline each year since the beneficiaries of the Coal Act consist principally of miners who retired prior to 1994.

Murray filed for Chapter 11 bankruptcy in October 2019. As part of the ongoing bankruptcy proceedings, Murray unilaterally entered into a settlement with the United Mine Workers of America 1992 Benefit Plan (“1992 Benefit Plan”) to transfer retirees in the Murray Energy Section 9711 Plan into the 1992 Benefit Plan. This was approved by the bankruptcy court on April 30, 2020. Shortly after, the 1992 Benefit Plan filed an action in the United States District Court for the District of Columbia asking the court to make a determination whether the Company's former parent or the Company has any continuing retiree medical liabilities under the Coal Act. The Murray sale agreement includes indemnification by Murray with respect to the Coal Act and BLBA liabilities. In addition, the Company has agreed to indemnify its former parent relative to certain pre-separation liabilities. As of September 16, 2020, the Company entered into a settlement agreement with Murray and withdrew its claims in bankruptcy. The Company will continue to vigorously defend against the 1992 Benefit Plan's suit, including raising all applicable defenses.

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, 2021, our total long-term indebtedness was approximately \$661 million, of which approximately \$149 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, \$75 million was under our Pennsylvania Economic Development Financing Authority (“PEDFA”) 9.00% Solid Waste Disposal Revenue Bonds due April 2028, \$41 million was under our Term Loan A Facility, \$239 million was under our Term Loan B Facility, \$47 million was associated with finance leases due through 2026, and \$7 million was miscellaneous debt. At December 31, 2021, 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 maximum first lien gross leverage ratio, a maximum total net leverage ratio and 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 us 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 \$230 million as of December 31, 2021, 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 \$2 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. The administrative agents of our senior secured credit facilities, in consultation with CONSOL, will choose a replacement index for LIBOR and the parties will execute an amendment to the facilities. LIBOR tenors of 1-week and 2-month have been discontinued as of December 31, 2021. However, LIBOR will still be published in its current form for the overnight, 1-month, 3-month, 6-month and 12-month tenors with a planned cessation after June 30, 2023. In the event that LIBOR would no longer be a published rate index, the allowable alternative base rate and replacement index may increase our interest costs associated with those facilities.

Hedging transactions have led to mark-to-market losses for us, and may limit our potential gains or cause us to lose money in the future.

We enter into hedging arrangements in an effort to limit our exposure to volatility in interest rates and coal prices. These hedging arrangements may reduce, but will not eliminate, the potential effects of changing interest rates and coal prices 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 and/or coal prices, such transactions, depending on the hedging instrument used, may limit our potential gains if interest rates and/or coal prices 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 or coal price in the derivative instrument and actual interest rates or coal prices, respectively.

However, it is not always possible for us to engage in a derivative transaction that completely mitigates our exposure to changes in interest rates and/or coal prices. 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 or coal prices for which we are unable to enter into a completely effective hedge transaction. During the second quarter of 2021, we initiated a targeted commodity price hedging strategy, layering in 2.0 million metric tons of commodity derivative contracts in the API2 market. API2 forward pricing fluctuated significantly throughout 2021, resulting in us reporting mark-to-market losses for the third quarter of 2021 and the full 2021 fiscal year. For example, calendar year 2022 API2 prices increased 80% in the third quarter of 2021, and then declined by 36% during the fourth quarter of 2021. There can be no assurance that we will not incur similar or greater losses like these in the future as a result of our use of hedging transactions.

Currently, our hedging arrangements partially mitigate our exposure to fluctuations in LIBOR interest rates and API2 prices 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.

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, process and record financial and operating data, communicate with our employees and business partners, and 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, size consistency, and certain metallurgical coal properties. 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 employees at our other locations 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.

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 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 market price at which they purchased their shares 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 multiple occasions, the most recent of which occurred in April 2021. As a result of such amendments, CONSOL may now repurchase up to \$320 million of the Company's common stock or its 11.00% Senior Secured Second Lien Notes due 2025 through the period ending December 31, 2022, subject to certain limitations in the Company's credit agreement and the tax matters agreement. Our 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 material 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, other than those described in Note 23, "Commitments and Contingent Liabilities," in the Notes to the Audited Consolidated Financial Statements in Item 8 of this Form 10-K, which descriptions are 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.

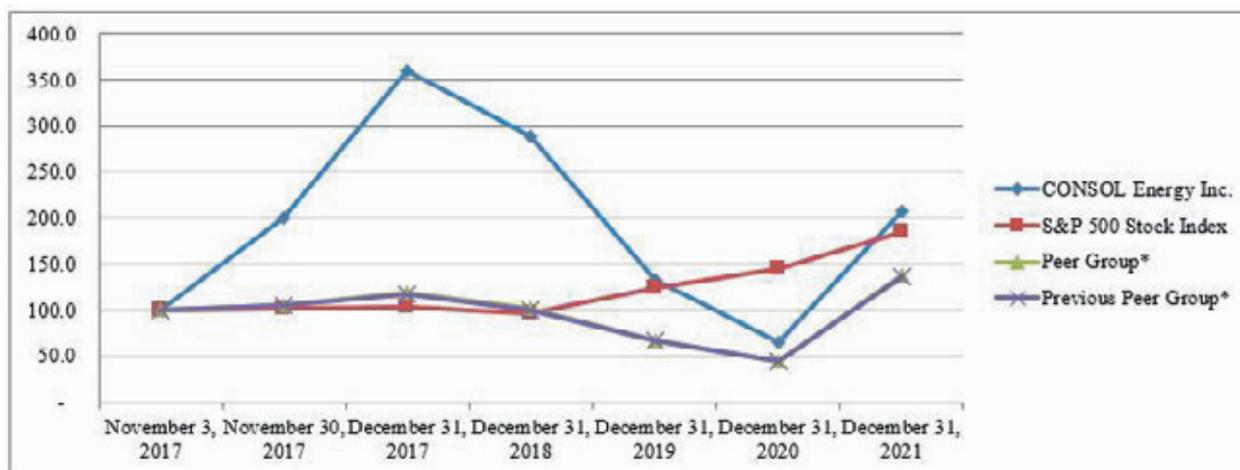
PART II

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 February 1, 2022, there were 79 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 Resources, Inc., Alpha Metallurgical Resources, Inc. (formerly known as Contura Energy, Inc.), Foresight Energy LP, Hallador Energy Company, Peabody Energy Corporation, Ramaco Resources, Inc., and Warrior Met Coal, Inc. The current peer group excludes Foresight Energy LP, as this company previously filed for bankruptcy and does not adequately reflect the trends of the peer group.



* The difference between the current peer group and the previous peer group is indistinguishable in the graph above. See the table below for these differences.

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, 2021.

	November 3, 2017	November 30, 2017	December 31, 2017	December 31, 2018	December 31, 2019	December 31, 2020	December 31, 2021
CONSOL Energy Inc.	100.0	200.0	359.2	288.4	132.1	65.7	206.8
S&P 500 Stock Index	100.0	102.3	103.3	96.9	124.9	145.3	184.4
Peer Group	100.0	104.9	118.2	101.1	67.0	44.0	137.3
Previous Peer Group	100.0	104.8	117.8	100.7	66.7	43.7	136.6

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

Repurchases of Equity Securities

There were no repurchases of the Company's equity securities during the three months ended December 31, 2021. Since the December 2017 inception of the Company's current stock and debt repurchase program, CONSOL Energy Inc.'s Board of Directors has amended the program on several separate occasions. As a result of such amendments, the Company may now repurchase up to \$320 million of its stock and debt until December 31, 2022. As of February 11, 2022, approximately \$127 million remained available under the stock and debt repurchase program. The program does not obligate CONSOL Energy to acquire any particular amount of its common stock or notes, and the program can be modified or suspended at any time at the Company's discretion. See Note 5 - Stock and Debt Repurchases in the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information.

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, with additional conditions of there being no outstanding borrowings and no more than \$200 million of outstanding letters of credit on the Revolving Credit Facility, and the total net leverage ratio shall not be greater than 2.00 to 1.00. The Company's total net leverage ratio was 1.49 to 1.00 and the cumulative credit was approximately \$160 million at December 31, 2021. The cumulative credit starts with \$50 million and builds with excess cash flow commencing in 2018. Separately, 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 limits dividends 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.

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. [Reserved.]

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

COVID-19 Update

The Company is monitoring the impact of the COVID-19 pandemic ("COVID-19") and has taken, and will continue to take, steps to mitigate the potential risks and impact on the Company and its employees. The health and safety of our employees is paramount. To date, the Company has experienced a few localized outbreaks, but due, in part, to the health and safety procedures put in place by the Company, we have been able to continue operating. The Company continues to monitor the health and safety of its employees closely in order to limit potential risks to our employees, contractors, family members and the community.

Additionally, COVID-19 led to an unprecedented decline in coal demand that began in the first quarter of 2020 and hit its lowest point in May 2020, largely driven by government-imposed shutdowns of non-essential businesses. We are considered a critical infrastructure company by the U.S. Department of Homeland Security. As a result, we were exempt from Pennsylvania Governor Tom Wolf's executive order, issued in March 2020, closing all businesses that are not life sustaining until Pennsylvania's phased reopening, which began in the second quarter of 2020. While many government-imposed shutdowns of non-essential businesses in the United States and abroad have been phased out, there is a possibility that such shut-downs may be reinstated. Depressed demand for our coal may also result from a general recession or reduction in overall business activity caused by COVID-19.

Over the past year, the general business environment has improved, resulting in higher demand for our product as government-imposed shutdowns and other COVID-19-related restrictions have been eased. However, imbalances in the global supply chain coupled with inflationary pressures have had both positive and negative impacts to our operations. The extent to which COVID-19 may impact our business depends on future developments, which are highly uncertain and unpredictable, including Presidential mandates, federal and state regulations, new information concerning the severity of COVID-19 variants, the pace and effectiveness of vaccination efforts and the effectiveness of actions globally to contain or mitigate its effects. We expect this could continue to impact our results of operations, cash flows and financial condition. The Company will continue to take steps it believes are appropriate to mitigate the negative impacts of COVID-19 on its operations, liquidity and financial condition.

2021 Highlights:

- Coal shipments of 23.7 million tons, of which a record 11.0 million tons went into the export market and 37% of the total sales were used in non-power generations applications.
- Payments on total consolidated indebtedness of \$101.2 million – reduced Term Loan A, Term Loan B, Second Lien Notes (each as defined below), and equipment-financed debt outstanding by \$25.0 million, \$30.9 million, \$17.1 million and \$28.2 million, respectively.

Outlook for 2022:

- We expect that the PAMC will sell approximately 23 million to 25 million tons in 2022.
- We expect PAMC average revenue per ton sold to be \$55.00-\$57.00 and PAMC average cash cost of coal sold per ton, a non-GAAP financial measure, to be \$29.00-\$31.00.
- We are planning to make capital expenditures during 2022 as follows: \$110 to \$125 million associated with PAMC maintenance, \$42 to \$47 million in connection with the remaining development of the Itmann Mine, and \$10 to \$23 million associated with other expenditures (including ESG initiatives).

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; (iv) average cash cost of coal sold per ton, a non-GAAP financial measure; (v) average margin per ton sold, an operating ratio derived from non-GAAP financial measures; (vi) average cash margin per ton sold, an operating ratio derived from non-GAAP financial measures; and (vii) adjusted EBITDA, a non-GAAP financial measure.

Cost of coal sold, cash cost of coal sold, average cash cost of coal sold per ton, average margin per ton sold and average cash margin per ton sold normalize the volatility contained within comparable GAAP measures by adjusting certain non-operating or non-cash transactions. We believe that adjusted EBITDA provides a helpful measure of comparing our operating performance with the performance of other companies that have different financing, capital structures and tax rates than ours. 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.

These non-GAAP financial measures should not be considered an alternative to total costs, total coal revenue, 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 measures presented in accordance with GAAP, 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. Cost of coal sold excludes 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 cash cost of coal sold includes cost of coal sold less depreciation, depletion and amortization costs on production assets. We define average cash cost of coal sold per ton as cash cost of coal sold divided by tons sold. The GAAP measure most directly comparable to cost of coal sold, cash cost of coal sold and average cash cost of coal sold per ton is total costs and expenses.

The following table presents a reconciliation of cost of coal sold, cash cost of coal sold and average cash cost of coal sold per ton to total costs and expenses, 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,		
	2021	2020	2019
Total Costs and Expenses	\$ 1,223,540	\$ 1,030,885	\$ 1,332,806
Less: Freight Expense	(103,819)	(39,990)	(19,667)
Less: Selling, General and Administrative Costs	(89,113)	(72,706)	(67,111)
Less: Gain (Loss) on Debt Extinguishment	657	21,352	(24,455)
Less: Interest Expense, net	(63,342)	(61,186)	(66,464)
Less: Other Costs (Non-Production)	(74,528)	(124,739)	(101,900)
Less: Depreciation, Depletion and Amortization (Non-Production)	(29,355)	(39,668)	(32,388)
Cost of Coal Sold	\$ 864,040	\$ 713,948	\$ 1,020,821
Less: Depreciation, Depletion and Amortization (Production)	(195,228)	(171,092)	(174,709)
Cash Cost of Coal Sold	\$ 668,812	\$ 542,856	\$ 846,112
Total Tons Sold (in millions)	23.7	18.7	27.3
Average Cost of Coal Sold per Ton	\$ 36.43	\$ 38.24	\$ 37.37
Less: Depreciation, Depletion and Amortization Costs per Ton Sold	8.18	9.12	6.40
Average Cash Cost of Coal Sold per Ton	\$ 28.25	\$ 29.12	\$ 30.97

We evaluate our average margin per ton sold and average cash margin per ton sold on a per-ton basis. We define average margin per ton sold as average revenue per ton sold, net of average cost of coal sold per ton. We define average cash margin per ton sold as average revenue per ton sold, net of average cash cost of coal sold per ton. The GAAP measure most directly comparable to average margin per ton sold and average cash margin per ton sold is total coal revenue.

The following table presents a reconciliation of average margin per ton sold and 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,		
	2021	2020	2019
Total Coal Revenue (PAMC Segment)	\$ 1,085,080	\$ 771,363	\$ 1,288,529
Operating and Other Costs	743,340	667,595	948,012
Less: Other Costs (Non-Production)	(74,528)	(124,739)	(101,900)
Total Cash Cost of Coal Sold	668,812	542,856	846,112
Add: Depreciation, Depletion and Amortization	224,583	210,760	207,097
Less: Depreciation, Depletion and Amortization (Non-Production)	(29,355)	(39,668)	(32,388)
Total Cost of Coal Sold	\$ 864,040	\$ 713,948	\$ 1,020,821
Total Tons Sold (in millions)	23.7	18.7	27.3
Average Revenue per Ton Sold	\$ 45.75	\$ 41.31	\$ 47.17
Average Cash Cost of Coal Sold per Ton	28.25	29.12	30.97
Depreciation, Depletion and Amortization Costs per Ton Sold	8.18	9.12	6.40
Average Cost of Coal Sold per Ton	36.43	38.24	37.37
Average Margin per Ton Sold	9.32	3.07	9.80
Add: Depreciation, Depletion and Amortization Costs per Ton Sold	8.18	9.12	6.40
Average Cash Margin per Ton Sold	\$ 17.50	\$ 12.19	\$ 16.20

We define adjusted EBITDA as (i) net income (loss) plus income taxes, net interest expense and depreciation, depletion and amortization, as adjusted for (ii) certain non-cash items, such as stock-based compensation and unrealized gains or losses on commodity derivative instruments. The GAAP measure most directly comparable to adjusted EBITDA is net income (loss).

	For the Year Ended December 31, 2021			
	CONSOL			
<i>Dollars in thousands</i>	PA Mining Complex	Marine Terminal	Other	Total Company
Net Income (Loss)	\$ 94,161	\$ 32,251	\$ (92,302)	\$ 34,110
Add: Income Tax Expense	—	—	1,297	1,297
Add: Interest Expense, net	1,710	6,141	55,491	63,342
Less: Interest Income	(90)	—	(3,197)	(3,287)
Earnings (Loss) Before Interest & Taxes (EBIT)	95,781	38,392	(38,711)	95,462
Add: Depreciation, Depletion & Amortization	206,727	4,834	13,022	224,583
Earnings (Loss) Before Interest, Taxes and DD&A (EBITDA)	\$ 302,508	\$ 43,226	\$ (25,689)	\$ 320,045
Adjustments:				
Stock Based Compensation	\$ 5,768	\$ 265	\$ 599	\$ 6,632
Gain on Debt Extinguishment	—	—	(657)	(657)
Pension Settlement	—	—	22	22
Unrealized Loss on Commodity Derivative Instruments	52,204	—	—	52,204
Total Pre-tax Adjustments	57,972	265	(36)	58,201
Adjusted EBITDA	\$ 360,480	\$ 43,491	\$ (25,725)	\$ 378,246

	For the Year Ended December 31, 2020			
	CONSOL			
<i>Dollars in thousands</i>	PA Mining Complex	Marine Terminal	Other	Total Company
Net Income (Loss)	\$ 16,185	\$ 32,537	\$ (61,936)	\$ (13,214)
Add: Income Tax Expense	—	—	3,972	3,972
Add: Interest Expense, net	1,236	6,166	53,784	61,186
Less: Interest Income	(10)	—	(1,220)	(1,230)
Earnings (Loss) Before Interest & Taxes (EBIT)	17,411	38,703	(5,400)	50,714
Add: Depreciation, Depletion & Amortization	198,272	5,095	7,393	210,760
Earnings Before Interest, Taxes and DD&A (EBITDA)	\$ 215,683	\$ 43,798	\$ 1,993	\$ 261,474
Adjustments:				
Stock/Unit-Based Compensation	\$ 9,905	\$ 558	\$ 1,116	\$ 11,579
CCR Merger Fees	2,623	—	7,199	9,822
Gain on Debt Extinguishment	—	—	(21,352)	(21,352)
Total Pre-tax Adjustments	12,528	558	(13,037)	49
Adjusted EBITDA	\$ 228,211	\$ 44,356	\$ (11,044)	\$ 261,523

	For the Year Ended December 31, 2019			
	CONSOL			
<i>Dollars in thousands</i>	PA Mining Complex	Marine Terminal	Other	Total Company
Net Income (Loss)	\$ 197,112	\$ 33,758	\$ (137,312)	\$ 93,558
Add: Income Tax Expense	—	—	4,539	4,539
Add: Interest Expense, net	—	6,088	60,376	66,464
Less: Interest Income	—	—	(2,937)	(2,937)
Earnings (Loss) Before Interest & Taxes (EBIT)	197,112	39,846	(75,334)	161,624
Add: Depreciation, Depletion & Amortization	185,616	4,078	17,403	207,097
Earnings (Loss) Before Interest, Taxes and DD&A (EBITDA)	\$ 382,728	\$ 43,924	\$ (57,931)	\$ 368,721
Adjustments:				
Stock/Unit-Based Compensation	\$ 11,626	\$ 567	\$ 567	\$ 12,760
Loss on Debt Extinguishment	—	—	24,455	24,455
Total Pre-tax Adjustments	11,626	567	25,022	37,215
Adjusted EBITDA	\$ 394,354	\$ 44,491	\$ (32,909)	\$ 405,936

Results of Operations: Year Ended December 31, 2021 Compared with the Year Ended December 31, 2020

Net Income (Loss) Attributable to CONSOL Energy Inc. Shareholders

CONSOL Energy reported net income attributable to CONSOL Energy Inc. stockholders of \$34 million for the year ended December 31, 2021, compared to net loss attributable to CONSOL Energy Inc. stockholders of \$10 million for the year ended December 31, 2020.

CONSOL Energy's business consists of the Pennsylvania Mining Complex and the CONSOL Marine Terminal segments, as well as various corporate and other business activities that are not allocated to the PAMC or the CONSOL Marine Terminal segments. The other business activities include the development of the Itmann Mine, the Greenfield Reserves and Resources, closed 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 bituminous coal, sold primarily to power generators, industrial end-users and metallurgical end-users. 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 \$94 million for the year ended December 31, 2021, compared to earnings before income tax of \$17 million for the year ended December 31, 2020. Included in the 2021 earnings was an unrealized loss on commodity derivative instruments of \$52 million (see Note 21 - Derivatives in the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information). Variances are discussed below.

<i>(in millions)</i>	For the Years Ended December 31,		
	2021	2020	Variance
Revenue:			
Coal Revenue	\$ 1,085	\$ 771	\$ 314
Freight Revenue	104	40	64
Unrealized Loss on Commodity Derivative Instruments	(52)	—	(52)
Miscellaneous Other Income	22	84	(62)
Gain on Sale of Assets	1	—	1
Total Revenue and Other Income	<u>1,160</u>	<u>895</u>	<u>265</u>
Cost of Coal Sold:			
Operating Costs	669	543	126
Depreciation, Depletion and Amortization	195	171	24
Total Cost of Coal Sold	<u>864</u>	<u>714</u>	<u>150</u>
Other Costs:			
Other Costs	12	44	(32)
Depreciation, Depletion and Amortization	12	27	(15)
Total Other Costs	<u>24</u>	<u>71</u>	<u>(47)</u>
Freight Expense	104	40	64
Selling, General and Administrative Costs	72	53	19
Interest Expense, net	2	—	2
Total Costs and Expenses	<u>1,066</u>	<u>878</u>	<u>188</u>
Earnings Before Income Tax	<u>\$ 94</u>	<u>\$ 17</u>	<u>\$ 77</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,		
	2021	2020	Variance
Bailey	11,753	8,669	3,084
Enlow	6,809	5,691	1,118
Harvey	5,300	4,410	890
Total	23,862	18,770	5,092

Coal production was 23.9 million tons for the year ended December 31, 2021, compared to 18.8 million tons for the year ended December 31, 2020. The PAMC's coal production increased primarily due to improved demand for the Company's coal after reaching a low point in the second quarter of 2020 due to negative impacts associated with the COVID-19 pandemic.

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,		
	2021	2020	Variance
Total Tons Sold (in millions)	23.7	18.7	5.0
Average Revenue per Ton Sold	\$ 45.75	\$ 41.31	\$ 4.44
Average Cash Cost of Coal Sold per Ton (1)	\$ 28.25	\$ 29.12	\$ (0.87)
Depreciation, Depletion and Amortization Costs per Ton Sold (Non-Cash Cost)	8.18	9.12	(0.94)
Average Cost of Coal Sold per Ton (1)	\$ 36.43	\$ 38.24	\$ (1.81)
Average Margin per Ton Sold (1)	\$ 9.32	\$ 3.07	\$ 6.25
Add: Depreciation, Depletion and Amortization Costs per Ton Sold	8.18	9.12	(0.94)
Average Cash Margin per Ton Sold (1)	\$ 17.50	\$ 12.19	\$ 5.31

(1) Average cash cost of coal sold per ton and average cost of coal sold per ton are non-GAAP measures, and average margin per ton sold and average cash margin per ton sold are operating ratios 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 \$1,085 million for the year ended December 31, 2021, compared to \$771 million for the year ended December 31, 2020. After a steep decline following the onset of the COVID-19 pandemic in the first half of 2020, demand for the Company's coal has improved throughout the COVID-19 pandemic. As a result of improved global coal demand, continued tightness of coal supply and higher natural gas and electric power prices, the Company realized higher pricing on both its export contracts and contracts that contain positive electric power-price adjustments, as well as an increase in the volume of coal sold in the year ended December 31, 2021, compared to the year ended December 31, 2020.

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 \$104 million for the year ended December 31, 2021, compared to \$40 million for the year ended December 31, 2020. The \$64 million increase was due to increased shipments to customers where the Company was contractually obligated to provide transportation services.

Unrealized Loss on Commodity Derivative Instruments

The Company periodically sells or purchases forward contracts, swaps and options in the over-the-counter coal market in order to manage its exposure to coal prices. The increases in API2 coal prices resulted in unrealized mark-to-market losses of \$52 million for the year ended December 31, 2021, related to these commodity derivative contracts. The Company did not experience similar unrealized gains or losses during the year ended December 31, 2020 as the Company did not previously enter into hedging arrangements to manage its exposure to coal prices.

Miscellaneous Other Income

Miscellaneous other income was \$22 million for the year ended December 31, 2021, compared to \$84 million for the year ended December 31, 2020. The \$62 million decrease was primarily the result of higher sales of certain mining rights and additional customer contract buyouts in the year ended December 31, 2020 compared to the year ended December 31, 2021. These partial contract buyouts involved negotiations to reduce coal quantities of several customer contracts in exchange for payment of certain fees to the Company, and do not impact forward contract terms.

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 \$864 million for the year ended December 31, 2021, or \$150 million higher than the \$714 million for the year ended December 31, 2020. The increase in the total cost of coal sold was primarily driven by increased production activity during the year ended December 31, 2021, mainly in response to greater market demand. Average cost of coal sold per ton was \$36.43 for the year ended December 31, 2021, compared to \$38.24 for the year ended December 31, 2020. The decrease in the average cost of coal sold per ton is reflective of higher productivity levels and effective cost control measures.

Other Costs

Other costs include items that are assigned to the PAMC division but are not included in unit costs, such as idle mine costs, coal reserve holding costs and purchased coal costs. Total other costs decreased \$47 million in the year ended December 31, 2021 compared to the year ended December 31, 2020. The higher costs in the year ended December 31, 2020 were primarily attributable to the temporary idling of longwalls at the Bailey and Enlow Fork mines due to the effects of the COVID-19 pandemic, which triggered the widespread government-imposed shutdowns that significantly reduced electricity consumption and industrial activity and, therefore, demand for the Company's coal in that year.

Selling, General and Administrative Costs

The amount of selling, general and administrative costs related to the PAMC division was \$72 million for the year ended December 31, 2021, compared to \$53 million for the year ended December 31, 2020. The \$19 million increase was primarily related to increased expense under the long-term and short-term incentive compensation plans for the year ended December 31, 2021, which was payable to the Company's employees as a result of achieving certain financial metrics and a substantial increase in the Company's share price compared to the year ended December 31, 2020.

CONSOL MARINE TERMINAL ANALYSIS:

The CONSOL Marine Terminal division provides coal export terminal services through the Port of Baltimore. The division also includes selling, general and administrative activities and interest expense, as well as various other activities assigned to the CONSOL Marine Terminal division.

The CONSOL Marine Terminal division had earnings before income tax of \$32 million for the year ended December 31, 2021, compared to earnings before income tax of \$33 million for the year ended December 31, 2020.

<i>(in millions)</i>	For the Years Ended December 31,		
	2021	2020	Variance
Revenue:			
Terminal Revenue	\$ 65	\$ 67	\$ (2)
Miscellaneous Other Income	4	1	3
Total Revenue and Other Income	69	68	1
Other Costs and Expenses:			
Operating and Other Costs	21	20	1
Depreciation, Depletion and Amortization	5	5	—
Selling, General, and Administrative Costs	5	4	1
Interest Expense, net	6	6	—
Total Other Costs and Expenses	37	35	2
Earnings Before Income Tax	\$ 32	\$ 33	\$ (1)

Throughput tons for the year ended December 31, 2021 were 13.8 million tons, compared to 10.1 million tons for the year ended December 31, 2020. This increase was primarily due to the COVID-related demand decline that impacted part of 2020. However, terminal revenue for the year ended December 31, 2020 included revenues from a take-or-pay contract for volumes in excess of actual throughput tons. This contract expired on December 31, 2020 and was not renewed.

OTHER ANALYSIS:

The other division includes revenue and expenses from various corporate and diversified business activities that are not allocated to the PAMC or the CONSOL Marine Terminal divisions. The diversified business activities include the development of the Itmann Mine, the Greenfield Reserves and Resources, closed 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 \$91 million for the year ended December 31, 2021, compared to a loss before income tax of \$59 million for the year ended December 31, 2020. Variances are discussed below.

<i>(in millions)</i>	For the Years Ended December 31,		
	2021	2020	Variance
Revenue:			
Coal Revenue	\$ 7	\$ 2	\$ 5
Miscellaneous Other Income	12	42	(30)
Gain on Sale of Assets	11	15	(4)
Total Revenue and Other Income	30	59	(29)
Other Costs and Expenses:			
Operating and Other Costs	42	60	(18)
Depreciation, Depletion and Amortization	13	8	5
Selling, General, and Administrative Costs	12	16	(4)
Gain on Debt Extinguishment	(1)	(21)	20
Interest Expense, net	55	55	—
Total Other Costs and Expenses	121	118	3
Loss Before Income Tax	\$ (91)	\$ (59)	\$ (32)

Coal Revenue

Coal revenue consists of the sale of coal mined during the development of the Itmann Mine located in Wyoming County, West Virginia. The increase is due to the increased volume of coal mined during the ongoing development of the mine.

Miscellaneous Other Income

Miscellaneous other income was \$12 million for the year ended December 31, 2021, compared to \$42 million for the year ended December 31, 2020. The change is due to the following items:

<i>(in millions)</i>	For the Years Ended December 31,		
	2021	2020	Variance
Royalty Income - Non-Operated Coal	\$ 8	\$ 12	\$ (4)
Interest Income	3	1	2
Rental Income	1	1	—
Sale of Certain Coal Lease Contracts	—	18	(18)
Litigation Proceeds	—	9	(9)
Property Easements and Option Income	—	1	(1)
Total Miscellaneous Other Income	\$ 12	\$ 42	\$ (30)

Royalty income - non-operated coal decreased in the period-to-period comparison due to a decline in operating activity by third-party companies mining in reserves to which we have a royalty claim, which reduced our royalty revenues.

The decrease in income resulting from the sale of certain coal lease contracts is attributable to one of several transactions completed in the year ended December 31, 2020 related to the Company's non-operating surface and mineral assets outside of the PAMC. These transactions helped to enhance the Company's liquidity and improve its financial flexibility in the year ended December 31, 2020, but did not reoccur during the year ended December 31, 2021. See Note 2 - Major Transactions in the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information.

Litigation proceeds in the amount of \$9 million were received during the year ended December 31, 2020 as a result of positive developments in legal matters in which the Company was the plaintiff but did not reoccur during the year ended December 31, 2021.

Gain on Sale of Assets

Gain on sale of assets decreased \$4 million in the period-to-period comparison primarily due to a decrease in the quantity of the number of gas wells sold in 2021 compared to 2020.

Operating and Other Costs

Operating and other costs were \$42 million for the year ended December 31, 2021, compared to \$60 million for the year ended December 31, 2020. 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,		
	2021	2020	Variance
Employee-Related Legacy Liability Expense	\$ 9	\$ 26	\$ (17)
Coal Reserve Holding Costs	9	5	4
Operating Cost of Coal Sold - Itmann	7	1	6
Closed and Idle Mines	4	4	—
Litigation Expense	2	8	(6)
Other	11	16	(5)
Total Operating and Other Costs	\$ 42	\$ 60	\$ (18)

Employee-Related Legacy Liability Expense decreased \$17 million in the period-to-period comparison primarily due to changes in actuarial assumptions made at the beginning of each year. See Note 15 - Pension and Other Postretirement Benefits Plans and Note 16 - Coal Workers' Pneumoconiosis and Workers' Compensation in the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information.

Operating Cost of Coal Sold - Itmann 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 and direct administration costs. The increase is due to the increased volume of coal mined during the ongoing development of the mine.

Depreciation, Depletion and Amortization

Depreciation, depletion and amortization increased \$5 million in the period-to-period comparison due to adjustments to the Company's asset retirement obligations 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 resources utilized, a percentage of total revenue and a percentage of total projected capital expenditures. The decrease of \$4 million is primarily a result of fees incurred in connection with the CCR Merger for the year ended December 2020. This was offset, in part, by increased expense under the long-term and short-term incentive compensation plans for the year ended December 31, 2021, which was payable to the Company's employees as a result of achieving certain financial metrics and a substantial increase in the Company's share price compared to the year ended December 31, 2020.

Gain on Debt Extinguishment

Gain on debt extinguishment of \$1 million and \$21 million was recognized in the years ended December 31, 2021 and December 31, 2020, respectively, due to the open market repurchases of the Company's 11.00% Senior Secured Second Lien Notes due 2025, which traded substantially below par value in 2020 but experienced a significant recovery in prices in 2021.

Interest Expense, net

Interest expense, net of amounts capitalized, remained materially consistent in the period-to-period comparison.

Results of Operations: Year Ended December 31, 2020 Compared with the Year Ended December 31, 2019

Net (Loss) Income Attributable to CONSOL Energy Inc. Shareholders

CONSOL Energy reported net loss attributable to CONSOL Energy Inc. stockholders of \$10 million for the year ended December 31, 2020, compared to net income attributable to CONSOL Energy Inc. stockholders of \$76 million for the year ended December 31, 2019.

CONSOL Energy's business consists of the Pennsylvania Mining Complex and the CONSOL Marine Terminal segments, as well as various corporate and other business activities that are not allocated to the PAMC or the CONSOL Marine Terminal segments. The other business activities include the development of the Itmann Mine, the Greenfield Reserves and Resources, closed 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 bituminous coal, sold primarily to power generators, industrial end-users and metallurgical end-users. 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 \$17 million for the year ended December 31, 2020, compared to earnings before income tax of \$197 million for the year ended December 31, 2019. Variances are discussed below.

<i>(in millions)</i>	For the Years Ended December 31,		
	2020	2019	Variance
Revenue:			
Coal Revenue	\$ 771	\$ 1,289	\$ (518)
Freight Revenue	40	20	20
Miscellaneous Other Income	84	23	61
Total Revenue and Other Income	895	1,332	(437)
Cost of Coal Sold:			
Operating Costs	543	846	(303)
Depreciation, Depletion and Amortization	171	175	(4)
Total Cost of Coal Sold	714	1,021	(307)
Other Costs:			
Other Costs	44	20	24
Depreciation, Depletion and Amortization	27	11	16
Total Other Costs	71	31	40
Freight Expense	40	20	20
Selling, General and Administrative Costs	53	63	(10)
Total Costs and Expenses	878	1,135	(257)
Earnings Before Income Tax	\$ 17	\$ 197	\$ (180)

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,		
	2020	2019	Variance
Bailey	8,669	12,218	(3,549)
Enlow	5,691	10,043	(4,352)
Harvey	4,410	5,024	(614)
Total	18,770	27,285	(8,515)

Coal production was 18.8 million tons for the year ended December 31, 2020, compared to 27.3 million tons for the year ended December 31, 2019. The PAMC division's coal production decreased primarily due to the temporary idling of longwalls at the Bailey and Enlow Fork mines. This was mainly in response to weakened customer demand as a result of a warmer than normal winter, followed by global demand destruction due to the COVID-19 pandemic and, in response, the widespread government-imposed shut-downs, which significantly reduced electricity consumption and, therefore, demand for the Company's coal.

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,		
	2020	2019	Variance
Total Tons Sold (in millions)	18.7	27.3	(8.6)
Average Revenue per Ton Sold	\$ 41.31	\$ 47.17	\$ (5.86)
Average Cash Cost of Coal Sold per Ton (1)	\$ 29.12	\$ 30.97	\$ (1.85)
Depreciation, Depletion and Amortization Costs per Ton Sold (Non-Cash Cost)	9.12	6.40	2.72
Average Cost of Coal Sold per Ton (1)	\$ 38.24	\$ 37.37	\$ 0.87
Average Margin per Ton Sold (1)	\$ 3.07	\$ 9.80	\$ (6.73)
Add: Depreciation, Depletion and Amortization Costs per Ton Sold	9.12	6.40	2.72
Average Cash Margin per Ton Sold (1)	\$ 12.19	\$ 16.20	\$ (4.01)

(1) Average cash cost of coal sold per ton and average cost of coal sold per ton are non-GAAP measures and average margin per ton sold and average cash margin per ton sold are operating ratios 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 \$771 million for the year ended December 31, 2020, compared to \$1,289 million for the year ended December 31, 2019. Total tons sold decreased in the period-to-period comparison in response to weakened customer demand due to a warmer than normal winter followed by the COVID-19 pandemic, each of which reduced electricity consumption and, therefore, demand for the Company's coal. Additionally, lower natural gas prices as compared to the prior year contributed to electric generation trending toward gas, rather than coal, as a fuel source. The decrease in overall demand, including in both the domestic and export markets the Company serves, resulted in lower pricing received on the Company's sales contracts.

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 \$40 million for the year ended December 31, 2020, compared to \$20 million for the year ended December 31, 2019. The \$20 million increase was due to increased shipments to customers where the Company was contractually obligated to provide transportation services.

Miscellaneous Other Income

Miscellaneous other income was \$84 million for the year ended December 31, 2020, compared to \$23 million for the year ended December 31, 2019. The \$61 million increase was primarily the result of the sale of certain mining rights and additional customer contract buyouts in the year ended December 31, 2020, offset, in part, by a decrease in sales of externally purchased coal to blend and resell. These partial contract buyouts involved negotiations to reduce coal quantities of several customer contracts in exchange for payment of certain fees to the Company, and do not impact forward contract terms.

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 \$714 million for the year ended December 31, 2020, or \$307 million lower than the \$1,021 million for the year ended December 31, 2019. Average cost of coal sold per ton was \$38.24 for year ended December 31, 2020, compared to \$37.37 for the year ended December 31, 2019. The decrease in the total cost of coal sold was primarily driven by decreased production activity during the year ended December 31, 2020, mainly in response to weakened market demand, while on a per unit basis, the decreased production resulted in an overall increase in the average cost of coal sold per ton.

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 \$40 million in the year ended December 31, 2020 compared to the year ended December 31, 2019. The increase was primarily attributable to the temporary idling of longwalls at the Bailey and Enlow Fork mines due to the COVID-19 pandemic and, in response, the widespread government-imposed shutdowns, which significantly reduced electricity consumption and industrial activity and, therefore, demand for the Company's coal.

Selling, General and Administrative Costs

The amount of selling, general and administrative costs related to the PAMC division was \$53 million for the year ended December 31, 2020, compared to \$63 million for the year ended December 31, 2019. The \$10 million decrease in the period-to-period comparison was primarily related to several initiatives launched by management to reduce costs, including compensation reductions, curtailment of discretionary expenses and headcount management, partially offset by fees incurred as a result of the CCR Merger.

CONSOL MARINE TERMINAL ANALYSIS:

The CONSOL Marine Terminal division provides coal export terminal services through the Port of Baltimore. The division also includes selling, general and administrative activities and interest expense, as well as various other activities assigned to the CONSOL Marine Terminal division.

The CONSOL Marine Terminal division had earnings before income tax of \$33 million for the year ended December 31, 2020, compared to earnings before income tax of \$34 million for the year ended December 31, 2019.

<i>(in millions)</i>	For the Years Ended December 31,		
	2020	2019	Variance
Revenue:			
Terminal Revenue	\$ 67	\$ 67	\$ —
Miscellaneous Other Income	1	1	—
Total Revenue and Other Income	68	68	—
Other Costs and Expenses:			
Operating and Other Costs	20	22	(2)
Depreciation, Depletion and Amortization	5	4	1
Selling, General, and Administrative Costs	4	2	2
Interest Expense, net	6	6	—
Total Other Costs and Expenses	35	34	1
Earnings Before Income Tax	\$ 33	\$ 34	\$ (1)

Overall earnings before income tax were relatively consistent in the period-to-period comparison. The improvement in operating and other costs was the result of cost reduction initiatives implemented at the CONSOL Marine Terminal, and was also directly related to reduced throughput due to weakened export markets and global demand destruction as a result of the COVID-19 pandemic and, in response, the widespread government-imposed shut-downs. However, due to the take-or-pay arrangements in both the years ended December 31, 2020 and 2019, the decline in demand was mitigated. This improvement was offset by an increase in selling, general, and administrative costs, which are allocated to the Company's divisions based on a percentage of resources utilized, a percentage of total revenue and a percentage of total projected capital expenditures.

OTHER ANALYSIS:

The other division includes revenue and expenses from various corporate and diversified business activities that are not allocated to the PAMC or the CONSOL Marine Terminal divisions. The diversified business activities include the development of the Itmann Mine, the Greenfield Reserves and Resources, closed 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 \$59 million for the year ended December 31, 2020, compared to a loss before income tax of \$133 million for the year ended December 31, 2019. Variances are discussed below.

<i>(in millions)</i>	For the Years Ended December 31,		
	2020	2019	Variance
Revenue:			
Coal Revenue	\$ 2	\$ —	\$ 2
Miscellaneous Other Income	42	29	13
Gain on Sale of Assets	15	2	13
Total Revenue and Other Income	59	31	28
Other Costs and Expenses:			
Operating and Other Costs	60	61	(1)
Depreciation, Depletion and Amortization	8	17	(9)
Selling, General and Administrative Costs	16	2	14
(Gain) Loss on Debt Extinguishment	(21)	24	(45)
Interest Expense, net	55	60	(5)
Total Other Costs and Expenses	118	164	(46)
Loss Before Income Tax	\$ (59)	\$ (133)	\$ 74

Coal Revenue

Coal revenue consists of the sale of coal mined during the development of the Itmann Mine located in Wyoming County, West Virginia.

Miscellaneous Other Income

Miscellaneous other income was \$42 million for the year ended December 31, 2020, compared to \$29 million for the year ended December 31, 2019. The change is due to the following items:

(in millions)	For the Years Ended December 31,		
	2020	2019	Variance
Sale of Certain Coal lease Contracts	\$ 18	\$ —	\$ 18
Royalty Income - Non-Operated Coal	12	22	(10)
Litigation Proceeds	9	—	9
Property Easements and Option Income	1	2	(1)
Rental Income	1	2	(1)
Interest Income	1	3	(2)
Total Miscellaneous Other Income	\$ 42	\$ 29	\$ 13

The increase in income resulting from the sale of certain coal lease contracts is attributable to one of several transactions completed in the year ended December 31, 2020 related to the Company's non-operating surface and mineral assets outside of the PAMC. These transactions helped to enhance the Company's liquidity and improve its financial flexibility. See Note 2 - Major Transactions in the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information.

Royalty income - non-operated coal decreased in the period-to-period comparison due to a decline in operating activity by third-party companies mining in reserves to which we have a royalty claim, which reduced our royalty revenues.

Litigation proceeds in the amount of \$9 million were received during the year ended December 31, 2020 as a result of positive developments in legal matters in which the Company is the plaintiff.

Gain on Sale of Assets

Gain on sale of assets increased \$13 million in the period-to-period comparison primarily due to the sale of various gas wells during the year ended December 31, 2020.

Operating and Other Costs

Operating and other costs were \$60 million for the year ended December 31, 2020, compared to \$61 million for the year ended December 31, 2019. Operating and other costs decreased in the period-to-period comparison due to the following items:

(in millions)	For the Years Ended December 31,		
	2020	2019	Variance
Employee-Related Legacy Liability Expense	\$ 26	\$ 37	\$ (11)
Coal Reserve Holding Costs	5	5	—
Litigation Expense	8	4	4
Closed and Idle Mines	4	4	—
Operating Cost of Coal Sold - Itmann	1	—	1
Other	16	11	5
Total Operating and Other Costs	\$ 60	\$ 61	\$ (1)

Employee-Related Legacy Liability Expense decreased \$11 million in the period-to-period comparison primarily due to changes in actuarial assumptions made at the beginning of each year. See Note 15 - Pension and Other Postretirement Benefits Plans and Note 16 - Coal Workers' Pneumoconiosis and Workers' Compensation in the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information.

Operating Cost of Coal Sold - Itmann 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 and direct administration costs.

Depreciation, Depletion and Amortization

Depreciation, depletion and amortization decreased \$9 million in the period-to-period comparison due to adjustments to the Company's asset retirement obligations 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 resources utilized, a percentage of total revenue and a percentage of total projected capital expenditures. The increase of \$14 million is primarily a result of fees incurred in connection with the CCR Merger and also a result of increases in the portion of selling, general and administrative expenses allocated to the Other division due to an increase of resources utilized at the Itmann Mine (as a result of its continued development), closed mines and in other business development activities as compared to the prior year.

(Gain) Loss on Debt Extinguishment

Gain on debt extinguishment of \$21 million was recognized in the year ended December 31, 2020 due to the open market repurchases of the Company's 11.00% Senior Secured Second Lien Notes due 2025, which traded substantially below par value.

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 13 - Long-Term Debt in the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information.

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 \$5 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 due 2025 during the years ended December 31, 2020 and 2019, totaling approximately \$54 million and \$53 million, respectively (see Note 5 - Stock and Debt Repurchases of the Notes to the Consolidated Financial Statements in Item 8 of this Form 10-K for additional information).

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 \$238 million at December 31, 2021. 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 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, 2021, CONSOL Energy has deferred tax assets in excess of deferred tax liabilities of approximately \$57 million. At December 31, 2021, 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. At December 31, 2021, CONSOL Energy has liabilities for uncertain tax positions of \$4 million. There were no liabilities for uncertain tax positions for the year ended December 31, 2020.

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. At December 31, 2021 and December 31, 2020, CONSOL has valuation allowances related to net operating losses of \$1 million and \$3 million, respectively.

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 potential sources of liquidity include cash generated from operations, cash on hand, borrowings under the revolving credit facility and securitization facility (which are discussed below), the proceeds of the sale of the PEDFA Bonds loaned to us (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 demand for coal experienced unprecedented decline but has substantially improved since the significant COVID-related demand trough in the second quarter of 2020. During the year ended December 31, 2021, the Company made repayments of \$28 million, \$25 million, \$17 million and \$31 million on its equipment-financed debt, Term Loan A Facility, 11.00% Senior Secured Second Lien Notes and Term Loan B Facility, respectively. As of December 31, 2021, our total liquidity was \$381 million, which comprises \$150 million of cash and cash equivalents and the remaining capacity of \$231 million on our revolving credit facility.

While many government-imposed shut-downs of non-essential businesses in the United States and abroad have been phased out, there is a possibility that additional shut-downs may be reinstated if the severity of the pandemic grows. Depressed demand for our coal may also result from a general recession or reduction in overall business activity caused by COVID-19. During the widespread government-imposed shut-downs in fiscal year 2020, some of our customers unsuccessfully attempted to invoke force majeure or similar provisions in the contracts they have in place with us in order to avoid taking possession of and paying us for our coal that they are contractually obligated to purchase. A decrease in demand for our coal, the failure of our customers to purchase coal from us that they are obligated to purchase pursuant to existing contracts, or disruptions in the logistics chain preventing us from shipping our coal would have a material adverse effect on our results of operations and financial condition. During the 2021 fiscal year and continuing into 2022, CONSOL Energy has encountered multiple transportation delays as a result of the disruption of the global supply chain and logistics infrastructure. The extent to which COVID-19 may adversely impact our business depends on future developments, which are highly uncertain and unpredictable, including new information concerning the severity of COVID-19 variants, the pace and effectiveness of vaccination efforts and the effectiveness of actions globally to contain or mitigate its effects. We expect this could negatively impact our results of operations, cash flows and financial condition. The Company will continue to take steps it believes are appropriate to mitigate the impact of COVID-19 on its operations, liquidity and financial condition.

The Company expects to maintain adequate liquidity through its operating cash flow and revolving credit facility to fund its working capital and capital expenditures in the short-term and long-term. The Company's cash flow from operations for the year ended December 31, 2021 was supported by its contracted position, strong spot market activity and its ongoing cost and capital control measures.

The Company started a capital construction project on the coarse refuse disposal area in 2017, which is expected to continue through 2023. The construction on the coarse refuse disposal area is now funded, in part, by the \$75 million of tax-exempt solid waste disposal revenue bonds, the proceeds of which were loaned to the Company and which the Company expects to expend over approximately the next two years, as qualified work is completed. Through the year ended December 31, 2021, the Company received reimbursement for qualified expenses from restricted cash held in escrow in the amount of \$29 million. The Company has \$46 million remaining in restricted cash associated with this financing that will be used to fund future spending on the coarse refuse disposal area. The Company also began construction of the Itmann Mine in the second half of 2019; development mining began in April 2020, and full production is expected following construction of a preparation plant near the mine site, which is planned for completion during the second half of 2022. When fully operational, the Company anticipates approximately 900 thousand product tons per year of high-quality, low-vol coking coal production from the Itmann Mine. The preparation plant being constructed also includes a highly efficient rail loadout and the capability for processing up to an additional 750 thousand to 1 million third-party product tons annually. This potential third-party processing revenue is expected to provide an additional avenue of growth for the Company.

Uncertainty in the financial markets brings additional potential risks to CONSOL Energy. These risks include a reduction of our ability to raise capital in the equity markets, less availability and higher costs of additional credit and potential counterparty defaults. Overall market disruptions, similar to what was experienced in 2020, 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.

Over the past few years, the insurance and surety markets have been increasingly challenging, particularly for coal companies. We have experienced rising premiums, reduced coverage and/or fewer providers willing to underwrite policies and surety bonds. Terms have generally become more unfavorable, including increases in the amount of collateral required to secure surety bonds. Further cost burdens on our ability to maintain adequate insurance and bond coverage may adversely impact our operations, financial position and liquidity.

The Company initiated an API2 hedging program in the second quarter of 2021. As a precursor to initiating this strategy, market dynamics demonstrated ongoing pricing volatility and a trend toward shorter-term export contracts. Given these factors, the Company has sought to utilize swap arrangements to mitigate the pricing volatility and secure future cash flows for a portion of 2022 export sales. These swap arrangements partially mitigate the Company's exposure to pricing volatility associated with its spot export business and certain of its physical contracts which contain variable pricing based on the API2 index.

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, 2021. The various multi-employer benefit plans are discussed in Note 17—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 \$4,760, \$5,383 and \$6,042 for the years ended December 31, 2021, 2020 and 2019, respectively. Based on available information at December 31, 2021, CONSOL Energy's obligation for the UMWA Combined Benefit Fund and 1992 Benefit Plan is estimated to be approximately \$46,381. 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, 2021. Management believes these items will expire without being funded. See Note 23—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.

The Company is continuing to actively monitor the effects of the ongoing COVID-19 pandemic on its liquidity and capital resources. As disclosed previously and above, we took several steps throughout the COVID-19 pandemic to reinforce our liquidity. From a coal shipment perspective, the decline in coal demand seemed to have hit its lowest point in May 2020 and has since shown significant improvement. However, if the demand for our coal decreases due to future COVID-19 variants or any potential government-induced lockdowns, this could adversely affect our liquidity in future periods. Our Revolving Credit Facility, Term Loan A Facility, Term Loan B Facility, Securitization Facility and the Indenture entered into in connection with our 11.00% Senior Secured Second Lien Notes due 2025 (collectively, the “Credit Facilities”) contain certain financial covenants. Events resulting from the effects of COVID-19 may negatively impact our liquidity and, as a result, our ability to comply with these covenants, which were amended during the second quarter of 2020. These events could lead us to seek further amendments or waivers from our lenders, limit access to or require accelerated repayment of amounts borrowed under the Credit Facilities, or require us to pursue alternative financing. We have no assurance that any such alternative financing, if required, could be obtained at terms acceptable to us, or at all, as a result of the effects of COVID-19 on capital markets at such time.

Cash Flows (in millions)

	For the Years Ended December 31,		
	2021	2020	Change
Cash Provided by Operating Activities	\$ 306	\$ 129	\$ 177
Cash Used in Investing Activities	\$ (127)	\$ (76)	\$ (51)
Cash Used in Financing Activities	\$ (31)	\$ (82)	\$ 51

Cash provided by operating activities increased \$177 million in the period-to-period comparison, primarily due to a \$117 million increase in Adjusted EBITDA, a non-GAAP financial measure, as well as other working capital changes that occurred throughout both periods.

Cash used in investing activities increased \$51 million in the period-to-period comparison. Capital expenditures increased \$47 million primarily due to an early buyout of an existing operating lease for a set of longwall shields and the construction of a preparation plant near the Itmann Mine. Further details regarding the Company's capital expenditures are set forth below.

	For the Years Ended December 31,		
	2021	2020	Change
Building and Infrastructure	\$ 62	\$ 41	\$ 21
Equipment Purchases and Rebuilds	45	25	20
Refuse Storage Area	18	17	1
IS&T Infrastructure	2	1	1
Other	6	2	4
Total Capital Expenditures	\$ 133	\$ 86	\$ 47

Cash used in financing activities decreased \$51 million in the period-to-period comparison, primarily driven by the receipt of \$75 million in proceeds loaned to the Company from the issuance of Pennsylvania Economic Development Financing Authority tax-exempt solid waste disposal revenue bonds during the year ended December 31, 2021. This was offset, in part, by an increase in net payments on indebtedness in the period-to-period comparison due to the Company's ongoing deleveraging efforts.

Senior Secured Credit Facilities

In November 2017, the Company entered into a revolving credit facility with PNC Bank, N.A. 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 to increase the borrowing commitment of the Revolving Credit Facility to \$400 million and reallocate the principal amounts outstanding under the TLA Facility and the TLB Facility. On June 5, 2020, the Company amended the Senior Secured Credit Facilities (the “amendment”) to provide eight quarters of financial covenant relaxation, effect an increase in the rate at which borrowings under the Revolving Credit Facility and the TLA Facility bear interest, and add an anti-cash hoarding provision. On March 29, 2021, the Company amended the Senior Secured Credit Facilities to revise the negative covenant with respect to other indebtedness to allow the Company to incur obligations under the tax-exempt solid waste disposal revenue bonds. 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 increased the applicable margin by 50 basis points on both the Revolving Credit Facility and the TLA Facility. The maturity date of the Revolving Credit and TLA Facilities is March 28, 2023. The TLB Facility's maturity date is September 28, 2024. In June 2019, the TLA Facility began amortizing in equal quarterly installments of (i) 3.75% of the original principal amount thereof, for four consecutive quarterly installments commencing with the quarter ended June 30, 2019, (ii) 6.25% of the original principal amount thereof for the subsequent eight quarterly installments commencing with the quarter ended June 30, 2020 and (iii) 8.75% of the original principal amount thereof for the quarterly installments thereafter, with the remaining balance due at final maturity. In June 2019, the TLB Facility began amortizing 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 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. 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 interest in the Pennsylvania Mining Complex, (ii) the equity interests in the Partnership held by the Company (iii) the CONSOL Marine Terminal, (iv) the Itmann Mine, and (v) the 1.4 billion tons of Greenfield Reserves and Resources. 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 added additional conditions to be met for the covenants relating to investments in joint ventures, general investments, share repurchases, dividends, and repurchases of the Second Lien Notes (as defined below). The additional conditions require that there be no outstanding borrowings and no more than \$200 million of outstanding letters of credit on the Revolving Credit Facility. Further restrictions apply to investments in joint ventures, share repurchases and dividends that require the total net leverage ratio shall not be greater than 2.00 to 1.00.

The Revolving Credit Facility and the 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. The maximum first lien gross leverage ratio is calculated as the ratio of Consolidated First Lien Debt to Consolidated EBITDA. 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 subtracts cash payments related to legacy employee liabilities. The maximum total net leverage ratio is calculated as the ratio of Consolidated Indebtedness, minus Cash on Hand, to Consolidated EBITDA. The minimum fixed charge coverage ratio is calculated as the ratio of Consolidated EBITDA to Consolidated Fixed Charges. 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 amendment revised the financial covenants applicable to the Revolving Credit Facility and the TLA Facility relating to the maximum first lien gross leverage ratio, maximum total net leverage ratio and minimum fixed charge coverage ratio, so that:

- for the fiscal quarters ending June 30, 2020 through March 31, 2021, the maximum first lien gross leverage ratio shall be 2.50 to 1.00, the maximum total net leverage ratio shall be 3.75 to 1.00, and the minimum fixed charge coverage ratio shall be 1.00 to 1.00;
- for the fiscal quarters ending June 30, 2021 through September 30, 2021, the maximum first lien gross leverage ratio shall be 2.25 to 1.00 and the maximum total net leverage ratio shall be 3.50 to 1.00;
- for the fiscal quarters ending June 30, 2021 through March 31, 2022, the minimum fixed charge coverage ratio shall be 1.05 to 1.00;
- for the fiscal quarters ending December 31, 2021 through March 31, 2022, the maximum first lien gross leverage ratio shall be 2.00 to 1.00 and the maximum total net leverage ratio shall be 3.25 to 1.00; and
- for the fiscal quarters ending on or after June 30, 2022, the maximum first lien gross leverage ratio shall be 1.75 to 1.00, the maximum total net leverage ratio shall be 2.75 to 1.00 and the minimum fixed charge coverage ratio shall be 1.10 to 1.00.

The maximum first lien gross leverage ratio was 0.97 to 1.00 at December 31, 2021. The maximum total net leverage ratio was 1.49 to 1.00 at December 31, 2021. The minimum fixed charge coverage ratio was 1.73 to 1.00 at December 31, 2021. Accordingly, the Company was in compliance with all of its financial covenants under the Senior Secured Credit Facilities as of December 31, 2021.

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 Annual Report on Form 10-K with the SEC 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 Annual Report on Form 10-K. There was no required repayment during the year ended December 31, 2020 with respect to the year ended December 31, 2019. During the year ended December 31, 2021, CONSOL Energy made the required repayment of approximately \$5 million based on the amount of the Company's excess cash flow as of December 31, 2020. As a result of achieving certain financial metrics as of December 31, 2021, the Company is not required to make an excess cash flow payment with respect to the year ended December 31, 2021. 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.

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, 2021, the Revolving Credit Facility had no borrowings outstanding and \$169 million of letters of credit outstanding, leaving \$231 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 November 30, 2017, 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 March 2020, the securitization facility was amended to, among other things, extend the maturity date from August 30, 2021 to March 27, 2023.

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, 2021, eligible accounts receivable totaled approximately \$22 million. At December 31, 2021, the facility had no outstanding borrowings and \$22 million of letters of credit outstanding, leaving no unused capacity. CONSOL Energy posted \$157 thousand of cash collateral to secure the difference in outstanding letters of credit and the eligible accounts receivable. Costs associated with the receivables facility totaled \$1,048 thousand for the year ended December 31, 2021. 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.

Since November 15, 2021, the Company has had the right to 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, 2021, the Company had the right to 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). As of December 31, 2021, the Company has not redeemed the Second Lien Notes, in part or in full.

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 was 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.

Pennsylvania Economic Development Financing Authority Bonds

In April 2021, CONSOL Energy borrowed the proceeds received from the sale of tax-exempt bonds issued by the Pennsylvania Economic Development Financing Authority ("PEDFA") in aggregate principal amount of \$75 million. The PEDFA Bonds bear interest at a fixed rate of 9.00% for an initial term of seven years. The PEDFA Bonds mature on April 1, 2051, but are subject to mandatory purchase by the Company on April 13, 2028, at the expiration of the initial term rate period. The PEDFA Bonds were issued pursuant to an indenture (the "PEDFA Indenture") dated as of April 1, 2021, by and between PEDFA and Wilmington Trust, N.A., a national banking association, as trustee (the "PEDFA Notes Trustee"). PEDFA made a loan of the proceeds of the PEDFA Bonds to the Company pursuant to a Loan Agreement (the "Loan Agreement") dated as of April 1, 2021 between PEDFA and the Company. Under the terms of the Loan Agreement, the Company agreed to make all payments of principal, interest and other amounts at any time due on the PEDFA Bonds or under the PEDFA Indenture. PEDFA assigned its rights as lender under the Loan Agreement, excluding certain reserved rights, to the PEDFA Notes Trustee. Certain subsidiaries of the Company (the "PEDFA Notes Guarantors") executed a Guaranty Agreement (the "Guaranty") dated as of April 1, 2021 in favor of the PEDFA Notes Trustee, guarantying the obligations of the Company under the Loan Agreement to pay the PEDFA Bonds when and as due. The obligations of the Company under the Loan Agreement and of the PEDFA Notes Guarantors under the Guaranty are secured by second priority liens on substantially all of the assets of the Company and the PEDFA Notes Guarantors on parity with the Second Lien Notes. The Loan Agreement and Guaranty incorporate by reference covenants in the Indenture under which the Second Lien Notes were issued (discussed above).

Material Cash Requirements

CONSOL Energy expects to make payments of \$78,910 on its long-term debt obligations, including interest, in 2022. Refer to Note 13 – Long-Term Debt for additional information concerning material cash requirements in future years. CONSOL Energy expects to make payments of \$30,835 on its operating and finance lease obligations, including interest, in 2022. Refer to Note 14 – Leases for additional information concerning material cash requirements in future years. CONSOL Energy expects to make payments of \$47,604 on its employee-related long-term liabilities in 2022. Refer to Note 15 – Pension and Other Postretirement Benefit Plans and Note 16 – Coal Workers’ Pneumoconiosis and Workers’ Compensation for additional information concerning material cash requirements in future years. CONSOL Energy believes it will be able to satisfy these material requirements with cash generated from operations, cash on hand, borrowings under the revolving credit facility and securitization facility, and, if necessary, cash generated from its ability to issue additional equity or debt securities.

Debt

At December 31, 2021, CONSOL Energy had total long-term debt and finance lease obligations of \$661 million outstanding, including the current portion of long-term debt of \$57 million. This long-term debt consisted of:

- An aggregate principal amount of \$239 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 \$149 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 \$103 million of industrial revenue bonds which were issued to finance the CONSOL Marine Terminal facility, which 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 \$75 million of tax-exempt solid waste disposal revenue bonds, which were issued to finance the ongoing expansion of the coal refuse disposal area at the Bailey Preparation Plant, which bear interest at 9.00% per annum for an initial term of seven years and mature in April 2051. Interest on the tax-exempt solid waste disposal revenue bonds is payable on February 1 and August 1 of each year.
- An aggregate principal amount of \$41 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 \$48 million of finance leases with a weighted average interest rate of 6.21%.
- Advance royalty commitments of \$5 million with a weighted average interest rate of 8.01% per annum.
- An aggregate principal amount of \$2 million of asset-backed financing arrangements due in September 2024 at an interest rate of 3.61%.

At December 31, 2021, CONSOL Energy had no borrowings outstanding and approximately \$169 million of letters of credit outstanding under the \$400 million senior secured Revolving Credit Facility. At December 31, 2021, CONSOL Energy had no borrowings outstanding and approximately \$22 million of letters of credit outstanding under the \$100 million Securitization Facility.

Stock 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. Since its inception, the Company’s Board of Directors has subsequently amended the program several times, the most recent of which amendment in April 2021 raised the aggregate limit of the Company’s repurchase authority to \$320 million and extended the program until December 31, 2022.

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 or notes 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 or notes, 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 tax matters agreement between the Company and its former parent and is subject to market conditions and other factors.

During the year ended December 31, 2021, CONSOL Energy spent approximately \$17 million to retire \$18 million of its 11.00% Senior Secured Second Lien Notes due 2025, which continued to trade below par value during the first half of 2021. No shares of common stock were repurchased under this program during the year ended December 31, 2021.

Total Equity and Dividends

Total equity attributable to CONSOL Energy was \$673 million at December 31, 2021 and \$554 million at December 31, 2020. See the Consolidated Statements of Stockholders’ Equity in Item 8 of this Form 10-K for additional details.

On December 30, 2020, the CCR Merger was completed (see Note 2 – Major Transactions). CONSOL Energy accounted for the change in its ownership interest in the Partnership as an equity transaction, which was reflected as a reduction of noncontrolling interest with corresponding increases to common stock and capital in excess of par value.

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, with additional conditions of there being no outstanding borrowings and no more than \$200 million of outstanding letters of credit on the Revolving Credit Facility, and the total net leverage ratio shall not be greater than 2.00 to 1.00. The Company’s total net leverage ratio was 1.49 to 1.00 and the cumulative credit was approximately \$160 million at December 31, 2021. The cumulative credit starts with \$50 million and builds with excess cash flow commencing in 2018. Separately, 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.

Recent Accounting Pronouncements

In October 2021, the Financial Accounting Standards Board (the “FASB”) issued Accounting Standards Update (“ASU”) 2021-08 - Business Combinations (Topic 805). The amendments in this Update apply to all entities that enter into a business combination within the scope of Subtopic 805-10, Business Combinations—Overall. The amendments in this Update require that an entity (acquirer) recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with Topic 606. The amendments in this Update do not affect the accounting for other assets or liabilities that may arise from revenue contracts with customers in accordance with Topic 606. The amendments in this Update are effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. Management is currently evaluating the impact of this guidance, but does not expect this update to have a material impact on the Company's financial statements.

In May 2021, the FASB issued ASU 2021-04 - Earnings Per Share (Topic 260), Debt—Modifications and Extinguishments (Subtopic 470-50), Compensation—Stock Compensation (Topic 718) and Derivatives and Hedging—Contracts in Entity’s Own Equity (Subtopic 815-40). The amendments in this update affect all entities that issue freestanding written call options that are classified in equity. Specifically, the amendments affect those entities when a freestanding equity-classified written call option is modified or exchanged and remains equity classified after the modification or exchange. The amendments that relate to the recognition and measurement of EPS for certain modifications or exchanges of freestanding equity-classified written call options affect entities that present EPS in accordance with the guidance in Topic 260, Earnings Per Share. The amendments in this update are effective for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. Management is currently evaluating the impact of this guidance, but does not expect this update to have a material impact on the Company's financial statements.

In January 2021, the FASB issued ASU 2021-01 - Reference Rate Reform (Topic 848) to clarify that certain optional expedients and exceptions in Topic 848 for contract modifications and hedge accounting apply to derivatives that are affected by the discounting transition. Specifically, certain provisions in Topic 848, if elected by an entity, apply to derivative instruments that use an interest rate for margining, discounting, or contract price alignment that is modified as a result of reference rate reform. Amendments in this Update to the expedients and exceptions in Topic 848 capture the incremental consequences of the scope clarification and tailor the existing guidance to derivative instruments affected by the discounting transition. The Company adopted this guidance in 2021, and there was no material impact on the Company's financial statements.

In March 2020, the FASB issued ASU 2020-04 - Reference Rate Reform (Topic 848) - Facilitation of the Effects of Reference Rate Reform on Financial Reporting. The amendments in this Update provide optional guidance for a limited period of time to ease the potential burden in accounting for (or recognizing the effects of) reference rate reform on financial reporting. In response to concerns about structural risks of interbank offered rates (IBORs), and, particularly, the risk of cessation of the London Interbank Offered Rate (LIBOR), regulators in several jurisdictions around the world have undertaken reference rate reform initiatives to identify alternative reference rates that are more observable or transaction based and less susceptible to manipulation. This Update also provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships, and other transactions affected by reference rate reform if certain criteria are met. The amendments in this Update apply only to contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued because of reference rate reform. The amendments in this Update are effective for all entities as of March 12, 2020 through December 31, 2022. An entity may elect to apply the amendments for contract modifications by Topic or Industry Subtopic as of any date from the beginning of an interim period that includes or is subsequent to March 12, 2020, or prospectively from a date within an interim period that includes or is subsequent to March 12, 2020, up to the date that the financial statements are available to be issued. Once elected for a Topic or an Industry Subtopic, the amendments in this Update must be applied prospectively for all eligible contract modifications for that Topic or Industry Subtopic. The Company adopted this guidance in 2021, and there was no material impact on the Company's financial statements.

In January 2020, the FASB issued ASU 2020-01 - Investments - Equity Securities (Topic 321), Investments - Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815). The amendments in this Update 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. The amendments in this Update are effective for fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. Early adoption is permitted. The Company adopted this guidance in 2021, and there was no 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. The Company adopted this guidance in 2021, and there was no 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, (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, and/or (iv) changes in published indices. 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.

During 2021, the Company initiated a targeted commodity price hedging strategy. The Company has sought to utilize these swap arrangements to mitigate pricing volatility inherent in a portion of the Company's 2022 physical contracts, related to variable pricing and the Company's spot export business, and secure future cash flows for export sales. The commodity market volatility has increased as demonstrated by significant market pricing increases throughout 2021. Mark-to-market unrealized losses during the year ended December 31, 2021 were \$52 million. The impact to 2022 pre-tax earnings arising from changes to API2 pricing will be substantially offset between mark-to-market revaluations and revenue generated from applicable physical contracts.

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, 2021, CONSOL Energy had \$377 million aggregate principal amount of debt outstanding under fixed-rate instruments, including unamortized debt issuance costs of \$5 million, and \$225 million of debt outstanding under variable-rate instruments, including unamortized debt issuance costs of \$4 million. CONSOL Energy's primary exposure to market risk for changes in interest rates relates to the Company's senior secured credit facilities. 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. Currently, our hedging arrangements partially mitigate our exposure to fluctuations in LIBOR interest rates through December 2022. A hypothetical 100 basis-point increase in the average rate for CONSOL Energy's variable-rate instruments would decrease pre-tax future earnings by \$2 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.

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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, 2021 and 2020, 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, 2021, 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 at December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, 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, 2021, 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 11, 2022 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 included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

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 \$238 million at December 31, 2021. 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 8 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, 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 11, 2022

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

	For the Years Ended December 31,		
	2021	2020	2019
Revenue and Other Income:			
Coal Revenue	\$ 1,092,022	\$ 772,662	\$ 1,288,529
Terminal Revenue	65,193	66,810	67,363
Freight Revenue	103,819	39,990	19,667
Unrealized Loss on Commodity Derivative Instruments (Note 21)	(52,204)	—	—
Miscellaneous Other Income (Note 4)	38,394	126,886	53,349
Gain on Sale of Assets	11,723	15,295	1,995
Total Revenue and Other Income	1,258,947	1,021,643	1,430,903
Costs and Expenses:			
Operating and Other Costs	743,340	667,595	948,012
Depreciation, Depletion and Amortization	224,583	210,760	207,097
Freight Expense	103,819	39,990	19,667
Selling, General and Administrative Costs	89,113	72,706	67,111
(Gain) Loss on Debt Extinguishment	(657)	(21,352)	24,455
Interest Expense, net	63,342	61,186	66,464
Total Costs and Expenses	1,223,540	1,030,885	1,332,806
Earnings (Loss) Before Income Tax	35,407	(9,242)	98,097
Income Tax Expense (Note 6)	1,297	3,972	4,539
Net Income (Loss)	34,110	(13,214)	93,558
Less: Net (Loss) Income Attributable to Noncontrolling Interest	—	(3,459)	17,557
Net Income (Loss) Attributable to CONSOL Energy Inc. Stockholders	\$ 34,110	\$ (9,755)	\$ 76,001
Earnings (Loss) per Share:			
Total Basic Earnings (Loss) per Share	\$ 0.99	\$ (0.37)	\$ 2.82
Total Dilutive Earnings (Loss) per Share	\$ 0.96	\$ (0.37)	\$ 2.81

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,		
	2021	2020	2019
Net Income (Loss)	\$ 34,110	\$ (13,214)	\$ 93,558
Other Comprehensive Income (Loss):			
Actuarially Determined Long-Term Liability Adjustments:			
Amortization of Prior Service Credits (net of tax: \$601, \$619, \$697)	(1,804)	(1,786)	(2,075)
Recognized Net Actuarial Loss (net of tax: \$(5,122), \$(5,596), \$(3,958))	15,374	16,161	11,773
Settlement Loss Recognized (net of tax: \$(6), \$0, \$0)	16	—	—
Other Comprehensive Gain (Loss) before Reclassifications (net of tax: \$(21,979), \$109, \$11,690)	65,617	(145)	(34,830)
Unrecognized Gain (Loss) on Derivatives:			
Unrealized Gain (Loss) on Cash Flow Hedges (net of tax: \$596, \$674, \$37)	1,721	(2,004)	(117)
Other Comprehensive Income (Loss)	80,924	12,226	(25,249)
Comprehensive Income (Loss)	\$ 115,034	\$ (988)	\$ 68,309
Less: Comprehensive (Loss) Income Attributable to Noncontrolling Interest	—	(3,400)	17,551
Comprehensive Income Attributable to CONSOL Energy Inc. Stockholders	<u>\$ 115,034</u>	<u>\$ 2,412</u>	<u>\$ 50,758</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, 2021	December 31, 2020
ASSETS		
Current Assets:		
Cash and Cash Equivalents	\$ 149,913	\$ 50,850
Restricted Cash - Current	32,605	—
Accounts and Notes Receivable		
Trade Receivables, net	104,099	118,289
Other Receivables, net	11,631	42,157
Inventories (Note 9)	62,876	56,200
Prepaid Expenses and Other Assets	25,216	25,445
Total Current Assets	386,340	292,941
Property, Plant and Equipment (Note 10):		
Property, Plant and Equipment	5,250,805	5,143,696
Less—Accumulated Depreciation, Depletion and Amortization	3,272,255	3,094,634
Total Property, Plant and Equipment—Net	1,978,550	2,049,062
Other Assets:		
Deferred Income Taxes (Note 6)	57,011	68,821
Right of Use Asset - Operating Leases (Note 14)	21,956	53,436
Restricted Cash - Non-current	15,688	—
Salary Retirement (Note 15)	38,947	—
Other, net	75,025	59,106
Total Other Assets	208,627	181,363
TOTAL ASSETS	\$ 2,573,517	\$ 2,523,366

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

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

	December 31, 2021	December 31, 2020
LIABILITIES AND EQUITY		
Current Liabilities:		
Accounts Payable	\$ 80,343	\$ 71,229
Current Portion of Long-Term Debt (Note 13)	57,332	53,846
Operating Lease Liability (Note 14)	6,682	20,241
Other Accrued Liabilities (Note 12)	300,875	223,154
Total Current Liabilities	445,232	368,470
Long-Term Debt:		
Long-Term Debt (Note 13)	568,052	566,858
Finance Lease Obligations (Note 14)	26,598	36,203
Total Long-Term Debt	594,650	603,061
Deferred Credits and Other Liabilities:		
Postretirement Benefits Other Than Pensions (Note 15)	329,659	387,637
Pneumoconiosis Benefits (Note 16)	203,473	229,720
Asset Retirement Obligations (Note 8)	210,718	228,182
Workers' Compensation (Note 16)	58,148	64,390
Salary Retirement (Note 15)	26,013	35,359
Operating Lease Liability (Note 14)	15,274	35,655
Other	17,537	17,373
Total Deferred Credits and Other Liabilities	860,822	998,316
TOTAL LIABILITIES	1,900,704	1,969,847
Stockholders' Equity:		
Common Stock, \$0.01 Par Value; 62,500,000 Shares Authorized, 34,480,181 Shares Issued and Outstanding at December 31, 2021; 34,031,374 Shares Issued and Outstanding at December 31, 2020	345	340
Capital in Excess of Par Value	646,945	642,887
Retained Earnings	280,960	246,850
Accumulated Other Comprehensive Loss	(255,437)	(336,558)
TOTAL EQUITY	672,813	553,519
TOTAL LIABILITIES AND EQUITY	\$ 2,573,517	\$ 2,523,366

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 Earnings	Accumulated Other Comprehensive (Loss) Income	Total CONSOL Energy Inc. Stockholders' Equity	Non- Controlling Interest	Total Equity
December 31, 2018	\$ 274	\$ 550,995	\$ 182,148	\$ (323,482)	\$ 409,935	\$ 141,676	\$ 551,611
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	\$ 259	\$ 523,762	\$ 259,903	\$ (348,725)	\$ 435,199	\$ 137,196	\$ 572,395
Net Loss	—	—	(9,755)	—	(9,755)	(3,459)	(13,214)
Actuarially Determined Long-Term Liability Adjustments (Net of (\$4,868) Tax)	—	—	—	14,171	14,171	59	14,230
Interest Rate Hedge (Net of (\$674) Tax)	—	—	—	(2,004)	(2,004)	—	(2,004)
Comprehensive (Loss) Income	—	—	(9,755)	12,167	2,412	(3,400)	(988)
Adoption of ASU 2016-13 (Net of (\$1,109) Tax)	—	—	(3,298)	—	(3,298)	—	(3,298)
Issuance of Common Stock	2	(2)	—	—	—	—	—
Amortization of Stock-Based Compensation Awards	—	11,161	—	—	11,161	418	11,579
Shares/Units Withheld for Taxes	—	(646)	—	—	(646)	(217)	(863)
Distributions to Noncontrolling Interest	—	—	—	—	—	(5,575)	(5,575)
CCR Merger	79	108,612	—	—	108,691	(128,422)	(19,731)
December 31, 2020	\$ 340	\$ 642,887	\$ 246,850	\$ (336,558)	\$ 553,519	\$ —	\$ 553,519
Net Income	—	—	34,110	—	34,110	—	34,110
Actuarially Determined Long-Term Liability Adjustments (Net of (\$26,506) Tax)	—	—	—	79,203	79,203	—	79,203
Interest Rate Hedge (Net of (\$596) Tax)	—	—	—	1,721	1,721	—	1,721
Comprehensive Income	—	—	34,110	80,924	115,034	—	115,034
Issuance of Common Stock	5	(5)	—	—	—	—	—
Amortization of Stock-Based Compensation Awards	—	6,632	—	—	6,632	—	6,632
Shares Withheld for Taxes	—	(2,303)	—	—	(2,303)	—	(2,303)
CCR Merger	—	(266)	—	197	(69)	—	(69)
December 31, 2021	\$ 345	\$ 646,945	\$ 280,960	\$ (255,437)	\$ 672,813	\$ —	\$ 672,813

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,		
	2021	2020	2019
Cash Flows from Operating Activities:			
Net Income (Loss)	\$ 34,110	\$ (13,214)	\$ 93,558
Adjustments to Reconcile Net Income (Loss) to Net Cash Provided by Operating Activities:			
Depreciation, Depletion and Amortization	224,583	210,760	207,097
Stock/Unit-Based Compensation	6,632	11,579	12,760
Gain on Sale of Assets	(11,723)	(15,295)	(1,995)
Amortization of Debt Issuance Costs	8,552	7,447	6,416
(Gain) Loss on Debt Extinguishment	(657)	(21,352)	24,455
Loss on Commodity Derivative Instruments	52,204	—	—
Deferred Income Taxes	(14,760)	11,685	(17,419)
Equity in Earnings of Affiliates	644	1,251	—
Changes in Operating Assets:			
Trade and Other Receivables	44,707	11,130	(38,960)
Inventories	(6,676)	(2,069)	(5,485)
Prepaid Expenses and Other Assets	229	7,574	497
Changes in Other Assets	(13,797)	(21,058)	17,302
Changes in Operating Liabilities:			
Accounts Payable	11,473	(30,759)	(21,714)
Other Operating Liabilities	27,461	(2,915)	(7,884)
Changes in Other Liabilities	(57,413)	(25,433)	(24,062)
Net Cash Provided by Operating Activities	<u>305,569</u>	<u>129,331</u>	<u>244,566</u>
Cash Flows from Investing Activities:			
Capital Expenditures	(132,752)	(86,004)	(169,739)
Proceeds from Sales of Assets	13,572	9,899	2,201
Other Investing Activity	(8,181)	(229)	(5,003)
Net Cash Used in Investing Activities	<u>(127,361)</u>	<u>(76,334)</u>	<u>(172,541)</u>
Cash Flows from Financing Activities:			
Proceeds from Finance Lease Obligations	—	19,314	—
Payments on Finance Lease Obligations	(27,447)	(28,295)	(18,549)
Proceeds from Term Loan A	—	—	26,250
Payments on Term Loan A	(25,000)	(22,500)	(11,250)
Payments on Term Loan B	(30,911)	(2,750)	(124,437)
Payments on Second Lien Notes	(17,092)	(32,064)	(59,421)
Proceeds from Long-Term Debt	75,000	—	—
Proceeds from Asset-Backed Financing	—	—	3,757
Payments on Asset-Backed Financing	(731)	(705)	(240)
Distributions to Noncontrolling Interest	—	(5,575)	(22,220)
Shares/Units Withheld for Taxes	(2,303)	(863)	(4,963)
Repurchases of Common Stock	—	—	(32,733)
Purchases of CCR Units	—	—	(369)
Debt Issuance and Financing Fees	(2,368)	(9,002)	(12,492)
Net Cash Used in Financing Activities	<u>(30,852)</u>	<u>(82,440)</u>	<u>(256,667)</u>
Net Increase (Decrease) in Cash and Cash Equivalents and Restricted Cash	147,356	(29,443)	(184,642)
Cash and Cash Equivalents and Restricted Cash at Beginning of Period	50,850	80,293	264,935
Cash and Cash Equivalents and Restricted Cash at End of Period	<u>\$ 198,206</u>	<u>\$ 50,850</u>	<u>\$ 80,293</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:

A summary of the significant accounting policies of CONSOL Energy Inc. and its subsidiaries (“we,” “our,” “us,” “our Company,” “the Company” and “CONSOL Energy”) 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.

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 includes the unused proceeds of tax-exempt bonds issued by the Pennsylvania Economic Development Financing Authority (“PEDFA”). Restricted cash also represents cash collateral supporting the Company's surety bond portfolio and letters of credit issued under the Company's accounts receivable securitization program. As of December 31, 2021, the Company had \$48,293 in restricted cash. As of December 31, 2020, the Company had no restricted cash.

Trade Receivables and Allowance for Credit Losses

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. See Note 7 - Credit Losses for additional information regarding the Company's measurement of expected credit losses. There were no material financing receivables with a contractual maturity greater than one year at December 31, 2021 and 2020.

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, 2021, 2020 and 2019, capitalized interest totaled \$2,425, \$1,911 and \$6,686, 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, 2021, 2020 and 2019.

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 Income (Loss). 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 Financial Accounting Standards Board ("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 Income (Loss).

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 are 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 costs 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 Income (Loss).

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.

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, 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. The Company's coal contracts generally do not 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. The Company also utilizes derivative instruments to manage exposure to the risk of fluctuating coal prices related to forecasted or index-priced sales of coal or to the risk of changes in the fair value of a fixed price physical sales contract. The Company may sell or purchase forward contracts, swaps and options in the over-the-counter coal market in order to manage its exposure to coal prices. The Company does not seek cash flow hedge accounting treatment for its coal-related derivative financial instruments and therefore, changes in fair value are reflected in current earnings (see Note 21 - Derivatives and Note 22 - 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 (loss) attributable to CONSOL Energy Inc. stockholders by the weighted average number of shares outstanding during the reporting period. Dilutive earnings per share are computed similarly to basic earnings per share, except that the weighted average number of shares outstanding is 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 diluted earnings per share because their effect would be anti-dilutive:

	For the Years Ended December 31,		
	2021	2020	2019
Anti-Dilutive Restricted Stock Units	45,653	1,400,950	175,752
Anti-Dilutive Performance Share Units	—	110,470	20,202
	<u>45,653</u>	<u>1,511,420</u>	<u>195,954</u>

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

Dollars in thousands, except per share data	For the Years Ended December 31,		
	2021	2020	2019
Numerator:			
Net Income (Loss)	\$ 34,110	\$ (13,214)	\$ 93,558
Less: Net (Loss) Income Attributable to Noncontrolling Interest	—	(3,459)	17,557
Net Income (Loss) Attributable to CONSOL Energy Inc. Stockholders	<u>\$ 34,110</u>	<u>\$ (9,755)</u>	<u>\$ 76,001</u>
Denominator:			
Weighted-average shares of common stock outstanding	34,404,360	26,066,971	26,938,339
Effect of dilutive shares *	984,198	—	132,769
Weighted-average diluted shares of common stock outstanding	<u>35,388,558</u>	<u>26,066,971</u>	<u>27,071,108</u>
Earnings (Loss) per Share:			
Basic	\$ 0.99	\$ (0.37)	\$ 2.82
Dilutive	\$ 0.96	\$ (0.37)	\$ 2.81

* During periods in which the Company incurs a net loss, diluted weighted average shares outstanding are equal to basic weighted average shares outstanding because the effect of all equity awards is anti-dilutive.

As of December 31, 2021, CONSOL Energy has 500,000 shares of preferred stock authorized, none of which are issued or outstanding.

Shares of common stock outstanding were as follows:

	2021	2020	2019
Balance, Beginning of Year	34,031,374	25,932,618	27,437,844
Issuance Related to CCR Merger (1)	—	7,967,690	—
Retirement Related to Stock Repurchase (2)	—	—	(1,717,497)
Issuance Related to Stock-Based Compensation (3)	448,807	131,066	212,271
Balance, End of Year	<u>34,480,181</u>	<u>34,031,374</u>	<u>25,932,618</u>

(1) See Note 2 - Major Transactions for additional information.

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

(3) See Note 18 - Stock-Based Compensation for additional information.

Recent Accounting Pronouncements

In October 2021, the FASB issued Accounting Standards Update (“ASU”) 2021-08 - Business Combinations (Topic 805). The amendments in this update apply to all entities that enter into a business combination within the scope of Subtopic 805-10, Business Combinations—Overall. The amendments in this update require that an entity (acquirer) recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with Topic 606. The amendments in this update do not affect the accounting for other assets or liabilities that may arise from revenue contracts with customers in accordance with Topic 606. The amendments in this update are effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. Management is currently evaluating the impact of this guidance, but does not expect this update to have a material impact on the Company's financial statements.

In May 2021, the FASB issued ASU 2021-04 - Earnings Per Share (Topic 260), Debt—Modifications and Extinguishments (Subtopic 470-50), Compensation—Stock Compensation (Topic 718) and Derivatives and Hedging—Contracts in Entity’s Own Equity (Subtopic 815-40). The amendments in this update affect all entities that issue freestanding written call options that are classified in equity. Specifically, the amendments affect those entities when a freestanding equity-classified written call option is modified or exchanged and remains equity classified after the modification or exchange. The amendments that relate to the recognition and measurement of EPS for certain modifications or exchanges of freestanding equity-classified written call options affect entities that present EPS in accordance with the guidance in Topic 260, Earnings Per Share. The amendments in this update are effective for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. Management is currently evaluating the impact of this guidance, but does not expect this update to have a material impact on the Company's financial statements.

In January 2021, the FASB issued ASU 2021-01 - Reference Rate Reform (Topic 848) to clarify that certain optional expedients and exceptions in Topic 848 for contract modifications and hedge accounting apply to derivatives that are affected by the discounting transition. Specifically, certain provisions in Topic 848, if elected by an entity, apply to derivative instruments that use an interest rate for margining, discounting, or contract price alignment that is modified as a result of reference rate reform. Amendments in this update to the expedients and exceptions in Topic 848 capture the incremental consequences of the scope clarification and tailor the existing guidance to derivative instruments affected by the discounting transition. The Company adopted this guidance in 2021, and there was no material impact on the Company's financial statements.

In March 2020, the FASB issued ASU 2020-04 - Reference Rate Reform (Topic 848) - Facilitation of the Effects of Reference Rate Reform on Financial Reporting. The amendments in this update provide optional guidance for a limited period of time to ease the potential burden in accounting for (or recognizing the effects of) reference rate reform on financial reporting. In response to concerns about structural risks of interbank offered rates (IBORs), and, particularly, the risk of cessation of the London Interbank Offered Rate (LIBOR), regulators in several jurisdictions around the world have undertaken reference rate reform initiatives to identify alternative reference rates that are more observable or transaction based and less susceptible to manipulation. This update also provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships, and other transactions affected by reference rate reform if certain criteria are met. The amendments in this update apply only to contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued because of reference rate reform. The amendments in this update are effective for all entities as of March 12, 2020 through December 31, 2022. An entity may elect to apply the amendments for contract modifications by Topic or Industry Subtopic as of any date from the beginning of an interim period that includes or is subsequent to March 12, 2020, or prospectively from a date within an interim period that includes or is subsequent to March 12, 2020, up to the date that the financial statements are available to be issued. Once elected for a Topic or an Industry Subtopic, the amendments in this update must be applied prospectively for all eligible contract modifications for that Topic or Industry Subtopic. The Company adopted this guidance in 2021, and there was no material impact on the Company's financial statements.

In January 2020, the FASB issued ASU 2020-01 - Investments - Equity Securities (Topic 321), Investments - Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815). The amendments in this update 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. The amendments in this update are effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years. The Company adopted this guidance in 2021, and there was no 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. The Company adopted this guidance in 2021, and there was no 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 the current portion of the Company's operating lease liability, previously included in Other Accrued Liabilities on the Consolidated Balance Sheets. These reclassifications had no effect on previously reported total assets, net income, stockholders' equity or cash flows from operating activities.

NOTE 2—MAJOR TRANSACTIONS:***Merger with PA Mining Complex LP***

On October 22, 2020, CONSOL Energy, the Partnership, the General Partner, a wholly-owned subsidiary of CONSOL Energy, and Merger Sub entered into a definitive merger agreement pursuant to which Merger Sub merged with and into the Partnership, with the Partnership surviving as an indirect, wholly-owned subsidiary of CONSOL Energy. On December 30, 2020, the CCR Merger was completed and CONSOL Energy issued 7,967,690 shares of common stock to acquire the 10,912,138 common units of the Partnership not owned by CONSOL Energy prior to the CCR Merger at a fixed exchange ratio of 0.73 shares of CONSOL Energy common stock for each Partnership unit, for total implied consideration of \$51,710. As a result of the CCR Merger, the Partnership's common units are no longer publicly traded.

Except for the Partnership's incentive distribution rights, which were automatically canceled immediately prior to the effective time of the CCR Merger for no consideration in accordance with the Partnership's partnership agreement, the interests in the Partnership owned by CONSOL Energy and its subsidiaries remain outstanding as limited partner interests in the surviving entity. The General Partner continues to own the non-economic general partner interest in the surviving entity.

Since CONSOL Energy controlled the Partnership prior to the CCR Merger and continues to control the Partnership after the CCR Merger, CONSOL Energy accounted for the change in its ownership interest in the Partnership as an equity transaction, which was reflected as a reduction of noncontrolling interest with corresponding increases to common stock and capital in excess of par value. No gain or loss was recognized in CONSOL Energy's Consolidated Statements of Income as a result of the CCR Merger. The tax effects of the CCR Merger were reported as adjustments to deferred income taxes and capital in excess of par value.

Prior to the effective date of the CCR Merger, public unitholders held a 39.3% equity interest in the Partnership's outstanding common units and CONSOL Energy owned the remaining 60.7% equity interest in the Partnership's outstanding common units. The earnings of the Partnership that were attributed to its common units held by the public prior to the CCR Merger are reflected in Net (Loss) Income Attributable to Noncontrolling Interest in the Consolidated Statements of Income.

The Company incurred \$9,822 of transaction costs directly attributable to the CCR Merger during the year ended December 31, 2020, including financial advisory, legal service and other professional fees, which were recorded to Selling, General and Administrative Costs in the Consolidated Statements of Income.

Settlement Transaction with Murray Energy

On September 16, 2020, CONSOL entered into a settlement transaction with (i) Murray Energy Holdings Co., Murray Energy Corporation, and their direct and indirect subsidiaries (such entities that are debtors in possession in Murray Energy Holdings Co.'s jointly administered Chapter 11 bankruptcy cases) and (ii) ACNR Holdings, Inc. to fully and finally resolve the disputes raised in the litigation captioned *CONSOL Energy Inc. v Murray Energy Holdings Co., et al., Adversary Case 2:20-ap-02036*, arising out of Murray Energy Holdings Co.'s bankruptcy proceedings and any and all other disputes, controversies, or causes of action between and among them. The underlying agreements and compromises, which have been memorialized in definitive documentation, were treated as a single, integrated transaction. As of December 31, 2021, this single, integrated transaction resulted in \$4,867 of Other Receivables, net, and \$19,790 of Other Assets, net, included in the Consolidated Balance Sheets. As of December 31, 2020, this single, integrated transaction resulted in \$4,867 of Other Receivables, net, and \$22,055 of Other Assets, net, included in the Consolidated Balance Sheets. See Note 23 - Commitments and Contingent Liabilities with respect to additional information relating to certain liabilities of the Company under the Coal Act (as defined below).

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, 2021	For the Year Ended December 31, 2020	For the Year Ended December 31, 2019
Domestic Coal Revenue	\$ 590,941	\$ 506,554	\$ 822,389
Export Coal Revenue	501,081	266,108	466,140
Terminal Revenue	65,193	66,810	67,363
Freight Revenue	103,819	39,990	19,667
Total Revenue from Contracts with Customers	<u>\$ 1,261,034</u>	<u>\$ 879,462</u>	<u>\$ 1,375,559</u>

Coal Revenue

The Company has disaggregated its coal revenue between domestic and export revenues, which depicts the pricing and contract differences between the two. Domestic coal revenue tends to be derived from contracts that typically have a term of one year or longer and the pricing is typically fixed. Export coal revenue tends to be derived from spot or shorter-term contracts with pricing determined closer to the time of shipment or based on a market index.

CONSOL Energy's coal revenue is generally recognized when title passes to the customer and the price is fixed and determinable. Generally, title passes when coal is loaded at the central preparation facility, at terminal locations or other customer destinations. The Company's coal contract revenue per ton is fixed and determinable based upon either fixed forward pricing or pricing derived from established indices and adjusted for nominal quality characteristics. Some coal contracts also contain positive electric power price-related adjustments, which represent market-driven price adjustments, wherein no value is exchanged, in addition to a fixed base price per ton. The Company's coal contracts generally do not allow for retroactive adjustments to pricing after title to the coal has passed. 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 and per ton price fluctuations based on certain coal sales price indices. 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. The Company has determined that each ton of coal represents a separate and distinct performance obligation. 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. 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 generally immaterial to the Company's net income (loss). At December 31, 2021 and 2020, 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, 2021, 2020 and 2019, the Company has not recognized any amortization of previously existing capitalized costs of obtaining customer contracts. Further, the Company has not recognized any coal 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 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, 2021 and 2020, 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, 2021, 2020 and 2019, 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 goods pass to the customer, or over time when services are provided.

NOTE 4—MISCELLANEOUS OTHER INCOME:

	For the Years Ended December 31,		
	2021	2020	2019
Sale of Certain Mining Rights	\$ 21,756	\$ 39,437	\$ —
Royalty Income - Non-Operated Coal	8,661	12,032	22,208
Interest Income	3,287	1,230	2,937
Rental Income	1,095	1,314	2,517
Purchased Coal Sales	—	—	12,385
Contract Buyout	—	44,703	9,959
Sale of Certain Coal Lease Contracts	—	17,847	—
Other	3,595	10,323	3,343
Miscellaneous Other Income	<u>\$ 38,394</u>	<u>\$ 126,886</u>	<u>\$ 53,349</u>

The sale of certain mining rights involved transactions in connection with future coal reserves completed in the years ended December 31, 2021 and 2020.

Royalty income represents earned revenue related to overriding royalty agreements or coal reserve leases between the Company and third-party operators.

Purchased coal sales include earned revenue related to coal purchased externally by the Company to blend and resell in order to fulfill various contracts.

Contract buyout income was primarily the result of partial contract buyouts that involved negotiations to reduce coal quantities several customers were otherwise obligated to purchase under contracts in exchange for payment of certain fees to the Company, and do not impact forward contract terms.

The sale of certain coal lease contracts was in connection with one of several transactions completed in the year ended December 31, 2020 related to the Company's non-operating surface and mineral assets outside of the Pennsylvania Mining Complex.

NOTE 5—STOCK 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. Prior to the CCR Merger, the Company was also authorized to purchase the Partnership's outstanding common units under this program. As a result of the CCR Merger, the Partnership's common units are no longer publicly traded. Since its inception, the Company's Board of Directors has subsequently amended the program several times, the most recent of which amendment in April 2021 raised the aggregate limit of the Company's repurchase authority to \$320,000 and extended the program until December 31, 2022.

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 or notes 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 or notes, and the program 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 tax matters agreement between the Company and its former parent, and is subject to market conditions and other factors.

During the years ended December 31, 2021, 2020 and 2019, the Company spent \$17,092 to retire \$18,040, spent \$32,064 to retire \$54,481 and spent \$53,698 to retire \$52,648 of its 11.00% Senior Secured Second Lien Notes due 2025, respectively. No shares of common stock were repurchased under this program during the years ended December 31, 2021 and 2020. During the year ended December 31, 2019, the Company repurchased and retired 1,717,497 shares of the Company's common stock 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.

NOTE 6—INCOME TAXES:

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

	For the Years Ended December 31,		
	2021	2020	2019
Current:			
U.S. Federal	\$ 13,769	\$ (5,933)	\$ 15,905
U.S. State	2,145	(2,294)	4,717
Non-U.S.	143	514	1,336
	<u>16,057</u>	<u>(7,713)</u>	<u>21,958</u>
Deferred:			
U.S. Federal	(16,657)	10,936	(9,386)
U.S. State	1,897	749	(8,033)
	<u>(14,760)</u>	<u>11,685</u>	<u>(17,419)</u>
Total Income Tax Expense	<u>\$ 1,297</u>	<u>\$ 3,972</u>	<u>\$ 4,539</u>

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

	For the Years Ended December 31,					
	2021		2020		2019	
	Amount	Percent	Amount	Percent	Amount	Percent
Statutory U.S. federal income tax rate	\$ 7,436	21.0%	\$ (1,941)	21.0%	\$ 20,600	21.0%
State income taxes, net of federal tax benefit	(642)	(1.8)	(1,109)	12.0	3,125	3.2
Effect of foreign income taxes	125	0.4	406	(4.4)	1,336	1.4
Excess tax depletion	(10,535)	(29.8)	—	—	(13,141)	(13.4)
Uncertain tax positions	1,473	4.2	—	—	—	—
Compensation	3,192	9.0	1,310	(14.2)	1,799	1.8
Valuation allowance	(544)	(1.5)	1,479	(16.0)	1,400	1.4
Tax credits	(210)	(0.6)	1,150	(12.4)	(2,536)	(2.6)
Non-controlling interest	—	—	726	(7.9)	(3,687)	(3.8)
State rate change and prior period adjustments	642	1.8	1,797	(19.4)	(4,565)	(4.6)
Other	360	1.0	154	(1.6)	208	0.2
Income Tax Expense / Effective Rate	<u>\$ 1,297</u>	<u>3.7%</u>	<u>\$ 3,972</u>	<u>(42.9)%</u>	<u>\$ 4,539</u>	<u>4.6%</u>

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

	December 31,	
	2021	2020
Deferred Tax Asset:		
Postretirement benefits other than pensions	\$ 84,130	\$ 101,673
Pneumoconiosis benefits	47,681	60,284
Asset retirement obligations	47,180	56,779
Workers' compensation	11,419	17,493
Compensation	5,203	5,158
State bonus, net of Federal	4,219	6,918
Long-term disability	1,931	2,757
Net operating loss	937	6,134
Operating lease liability	135	11,377
Mine subsidence	—	17,271
Salary retirement	—	9,446
Financing	—	2,077
Other	5,772	4,175
Total Deferred Tax Asset	208,607	301,542
Valuation Allowance	(937)	(2,879)
Net Deferred Tax Asset	207,670	298,663
Deferred Tax Liability:		
Equity Partnerships	(99,811)	(35,570)
Property, plant and equipment	(40,064)	(172,026)
Advance mining royalties	(7,270)	(10,908)
Salary retirement	(2,739)	—
Financing	(640)	—
Right of use assets	(135)	(11,338)
Total Deferred Tax Liability	(150,659)	(229,842)
Net Deferred Tax Asset	\$ 57,011	\$ 68,821

Certain provisions of the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act"), which was signed into law by the President of the United States in March 2020, impact the Company and are therefore contemplated in the 2021 and 2020 income tax provision computations. The CARES Act contained modifications on the limitation of business interest such that the Company anticipates full utilization of all interest expense for federal income tax purposes.

At December 31, 2021, the Company has net operating loss carryforwards of approximately \$937 for state income tax purposes, which will, if ultimately utilized, offset future taxable income. These net operating losses, if unused, will expire in 2040 and 2041.

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. After considering all available evidence, management has determined that a valuation allowance in the amount of \$937 is appropriate to establish for state tax attributes not anticipated to be utilized before expiration.

Unrecognized Tax Benefits

The Company utilizes the "more likely than not" standard in recognizing a tax benefit in its financial statements. For the years ended December 31, 2021 and 2020, a reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	December 31,	
	2021	2020
Balance at January 1	\$ —	\$ —
Additions based on tax positions related to the current year	774	—
Additions for tax positions of prior years	2,859	—
Reductions for tax positions of prior years	—	—
Reductions due to the statute of limitations	—	—
Settlements	—	—
Balance at December 31	\$ 3,633	\$ —

The Company recorded an unrecognized tax benefit for the tax year ending December 31, 2021 of \$3,633 related to a position taken on state taxes. The Company believes it is reasonably possible to reach a resolution on this matter within the next twelve months. The actual amount of any change to the unrecognized tax benefit could vary depending on the timing and nature of the settlement; therefore, an estimate of change cannot be provided. Related interest and penalties were not accrued as these were estimated to be immaterial.

The Company is subject to taxation in the United States and its various states, as well as Canada and its various provinces. The Company is subject to examination for the tax periods 2018 through 2021 for federal and state returns.

NOTE 7—CREDIT LOSSES:

Effective January 1, 2020, the Company adopted ASU 2016-013, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* using a modified retrospective approach. This ASU replaces the incurred loss impairment model with an expected credit loss impairment model for financial instruments, including trade and other receivables. The amendment requires entities to consider forward-looking information to estimate expected credit losses, resulting in earlier recognition of losses for receivables that are current or not yet due, which were not considered under previous accounting guidance. The Company recorded a cumulative-effect adjustment to retained earnings in the amount of \$3,298, net of \$1,109 of income taxes, for expected credit losses on financial assets at the adoption date.

The following table illustrates the impact of ASC 326.

	January 1, 2020		
	As Reported Under ASC 326	Pre-ASC 326 Adoption	Impact of ASC 326 Adoption
Trade Receivables	\$ 3,051	\$ 2,100	\$ 951
Other Non-Trade Contractual Arrangements	4,167	711	3,456
Allowance for Credit Losses on Receivables	<u>\$ 7,218</u>	<u>\$ 2,811</u>	<u>\$ 4,407</u>

Trade receivables are recorded at the invoiced amount and do not bear interest. The Company markets its coal and terminal services to top-performing rail-served power plants in its core market areas. The Company also serves industrial and metallurgical consumers in international markets. Credit is extended based on an evaluation of a customer's financial condition and a customer's ability to perform its obligations. Trade receivable balances are monitored against approved credit terms. Credit terms are reviewed and adjusted as considered necessary based on changes to a customer's credit profile. If a customer's credit deteriorates, the Company may reduce credit risk exposure by reducing credit terms, obtaining letters of credit, obtaining credit insurance, or requiring pre-payment for shipments.

Other non-trade contractual arrangements consist primarily of overriding royalty agreements and other financial arrangements between the Company and various counterparties. The table below excludes fully reserved receivables associated with certain transactions in the amount of \$8,263 and \$5,097 at December 31, 2021 and 2020, respectively, as management believes it is probable that these outstanding balances will not be collected. At December 31, 2021, the allowance for credit losses associated with other non-trade contractual arrangements was \$12,329 and \$2,882, included in Other Receivables, net and Other Assets, net, respectively, on the Consolidated Balance Sheets. At December 31, 2020, the allowance for credit losses associated with other non-trade contractual arrangements was \$6,960 and \$1,661, included in Other Receivables, net and Other Assets, net, respectively, on the Consolidated Balance Sheets.

The Company is exposed to credit losses primarily through sales of products and services. The Company's expected loss allowance methodology for accounts receivable is developed using historical collection experience, current and future economic and market conditions and a review of the current status of customers' trade and other accounts receivables. Due to the short-term nature of such receivables, the estimate of the amount of accounts receivable that may not be collected is based on an aging of the accounts receivable balances and the financial condition of customers. Additionally, specific allowance amounts are established to record the appropriate provision for customers that have a higher probability of default. The Company's monitoring activities include timely account reconciliations, dispute resolution, payment confirmation, consideration of customers' financial condition and macroeconomic conditions. Balances are written off when determined to be uncollectible. The Company considered the current and expected future economic and market conditions surrounding the novel coronavirus (COVID-19) pandemic and determined that the estimate of credit losses was not significantly impacted.

Management estimates the allowance balance using relevant available information, from internal and external sources, relating to past events, current conditions, and reasonable and supportable forecasts. Historical credit loss experience provides the basis for the estimation of expected credit losses. Adjustments to historical loss information are made for changes to the assessment of anticipated payment, changes in economic conditions, current industry trends in the markets the Company serves, and changes in the financial health of the Company's counterparties.

The following table provides a roll-forward of the allowance for credit losses that is deducted from the amortized cost basis of accounts receivable to present the net amount expected to be collected.

	Trade Receivables	Other Non-Trade Contractual Arrangements
Beginning Balance, December 31, 2020	\$ 4,426	\$ 3,524
Provision for expected credit losses	171	3,424
Ending Balance, December 31, 2021	<u>\$ 4,597</u>	<u>\$ 6,948</u>

NOTE 8—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 Company's asset retirement obligations at December 31, 2021 and 2020 is as follows:

	As of December 31,	
	2021	2020
Balance at Beginning of Period	\$ 248,769	\$ 271,952
Accretion Expense	18,652	17,905
Payments	(18,144)	(13,529)
Revisions in Estimated Cash Flows	(10,334)	(9,248)
Other	(825)	(18,311)
Balance at End of Period	<u>\$ 238,118</u>	<u>\$ 248,769</u>

For the year ended December 31, 2021, Other includes (\$825) associated with dispositions of permitted areas. For the year ended December 31, 2020, Other includes (\$18,311) related to the disposition of degasification wells.

NOTE 9—INVENTORIES:

Inventory components consist of the following:

	December 31,	
	2021	2020
Coal	\$ 12,078	\$ 7,163
Supplies	50,798	49,037
Total Inventories	<u>\$ 62,876</u>	<u>\$ 56,200</u>

NOTE 10—PROPERTY, PLANT AND EQUIPMENT:

Property, plant and equipment consists of the following:

	December 31,	
	2021	2020
Plant and Equipment	\$ 3,213,512	\$ 3,134,149
Coal Properties and Surface Lands	877,271	874,567
Airshafts	473,866	452,976
Mine Development	357,479	354,691
Advance Mining Royalties	328,677	327,313
Total Property, Plant and Equipment	5,250,805	5,143,696
Less: Accumulated Depreciation, Depletion and Amortization	3,272,255	3,094,634
Total Property, Plant and Equipment - Net	<u>\$ 1,978,550</u>	<u>\$ 2,049,062</u>

As of December 31, 2021 and 2020, property, plant and equipment includes gross assets under finance leases of \$80,232 and \$112,334, respectively. Accumulated amortization for finance leases was \$34,036 and \$56,761 at December 31, 2021 and 2020, respectively. Amortization expense for assets under finance leases approximated \$27,846, \$24,066 and \$15,691 for the years ended December 31, 2021, 2020 and 2019, respectively, and is included in Depreciation, Depletion and Amortization in the accompanying Consolidated Statements of Income. See Note 14 - Leases for further discussion of finance leases.

NOTE 11—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 March 2020, the securitization facility was amended to, among other things, extend the maturity date from August 30, 2021 to March 27, 2023.

Pursuant to the securitization facility, CONSOL Thermal Holdings LLC, an indirect, wholly-owned subsidiary of the Partnership, sells current and future trade receivables to CONSOL Pennsylvania Coal Company LLC, a wholly-owned subsidiary of the Company. CONSOL Marine Terminals LLC, a wholly-owned subsidiary of the Company, 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, a wholly-owned subsidiary of the Company (the "SPV"). The SPV, in turn, pledges its interests in the receivables to PNC Bank, N.A., 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 pays other customary fees to the lenders, including a fee on unused commitments equal to 0.60% per annum.

At December 31, 2021, the Company's eligible accounts receivable yielded \$21,649 of borrowing capacity. At December 31, 2021, the facility had no outstanding borrowings and \$21,806 of letters of credit outstanding, leaving no unused capacity. CONSOL Energy posted \$157 of cash collateral to secure the difference in the outstanding letters of credit and the eligible accounts receivable. Cash collateral of \$157 is included in Restricted Cash - Current in the Consolidated Balance Sheets. At December 31, 2020, the Company's eligible accounts receivable yielded \$31,868 of borrowing capacity. At December 31, 2020, the facility had no outstanding borrowings and \$31,218 of letters of credit outstanding, leaving available borrowing capacity of \$650. Costs associated with the receivables facility totaled \$1,048, \$1,156 and \$1,441 for the years ended December 31, 2021, 2020 and 2019, 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 12—OTHER ACCRUED LIABILITIES:

	December 31,	
	2021	2020
Subsidence Liability	\$ 93,871	\$ 89,554
Commodity Derivatives	52,204	—
Accrued Compensation and Benefits	50,146	27,209
Accrued Interest	9,042	6,236
Accrued Other Taxes	5,556	7,126
Accrued Equipment Obligations	—	6,698
Other	16,415	17,815
Current Portion of Long-Term Liabilities:		
Asset Retirement Obligations	27,400	20,587
Postretirement Benefits Other than Pensions	23,638	26,073
Pneumoconiosis Benefits	12,398	12,203
Workers' Compensation	10,205	9,653
Total Other Accrued Liabilities	<u>\$ 300,875</u>	<u>\$ 223,154</u>

NOTE 13—LONG-TERM DEBT:

	December 31,	
	2021	2020
Debt:		
Term Loan B due in September 2024 (Principal of \$239,277 and \$270,188 less Unamortized Discount of \$687 and \$938, respectively, 4.61% and 4.65% Weighted Average Interest Rate, respectively)	\$ 238,590	\$ 269,250
11.00% Senior Secured Second Lien Notes due November 2025	149,107	167,147
MEDCO Revenue Bonds in Series due September 2025 at 5.75%	102,865	102,865
9.00% PEDFA Solid Waste Disposal Revenue Bonds due April 2028	75,000	—
Term Loan A due in March 2023 (5.25% and 5.50% Weighted Average Interest Rate, respectively)	41,250	66,250
Other Asset-Backed Financing Arrangements	2,082	2,813
Advance Royalty Commitments (8.01% and 13.68% Weighted Average Interest Rate, respectively)	4,858	2,185
Less: Unamortized Debt Issuance Costs	9,111	9,921
	<u>604,641</u>	<u>600,589</u>
Less: Amounts Due in One Year*	36,589	33,731
Long-Term Debt	<u>\$ 568,052</u>	<u>\$ 566,858</u>

*Excludes current portion of Finance Lease Obligations of \$20,743 and \$20,115 at December 31, 2021 and 2020, respectively.

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

Year ended December 31,	Amount
2022	36,589
2023	12,810
2024	234,847
2025	252,402
2026	398
Thereafter	77,393
Total Long-Term Debt Maturities	<u>\$ 614,439</u>

In November 2017, CONSOL Energy entered into a revolving credit facility with PNC Bank, N.A. with commitments up to \$300,000 (the “Revolving Credit Facility”), a Term Loan A Facility of up to \$100,000 (the “TLA Facility”) and a Term Loan B Facility of up to \$400,000 (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 to increase the borrowing commitment of the Revolving Credit Facility to \$400,000 and reallocate the principal amounts outstanding under the TLA Facility and the TLB Facility. On June 5, 2020, the Company amended the Senior Secured Credit Facilities (the “amendment”) to provide eight quarters of financial covenant relaxation, effect an increase in the rate at which borrowings under the Revolving Credit Facility and the TLA Facility bear interest, and add an anti-cash hoarding provision. On March 29, 2021, the Company amended the Senior Secured Credit Facilities to revise the negative covenant with respect to other indebtedness to allow the Company to incur obligations under the tax-exempt solid waste disposal revenue bonds. On April 13, 2021, the Pennsylvania Economic Development Financing Authority (“PEDFA”) Solid Waste Disposal Revenue Bonds were issued. 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 the TLA Facility depends on the total net leverage ratio, whereas the applicable margin for the TLB Facility is fixed. The amendment increased the applicable margin by 50 basis points on both the Revolving Credit Facility and the TLA Facility. The maturity date of the Revolving Credit and TLA Facilities is March 28, 2023. The TLB Facility’s maturity date is September 28, 2024. Obligations under the Senior Secured Credit Facilities are guaranteed by (i) all owners of 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. 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 interest in the PAMC, (ii) the equity interests in the Partnership held by the Company, (iii) the CONSOL Marine Terminal, (iv) the Itmann Mine and (v) the 1.4 billion tons of Greenfield Reserves and Resources.

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 added additional conditions to be met for the covenants relating to investments in joint ventures, general investments, share repurchases, dividends and repurchases of Second Lien Notes. The additional conditions require that the Company have no outstanding borrowings and no more than \$200,000 of outstanding letters of credit on the Revolving Credit Facility. Further restrictions apply to investments in joint ventures, share repurchases and dividends that require the Company’s total net leverage ratio shall not be greater than 2.00 to 1.00.

The Revolving Credit Facility and the TLA Facility also include covenants relating to (i) a maximum first lien gross leverage ratio, (ii) a maximum total net leverage ratio, and (iii) a minimum fixed charge coverage ratio. The maximum first lien gross leverage ratio is calculated as the ratio of Consolidated First Lien Debt to Consolidated EBITDA. 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 subtracts cash payments related to legacy employee liabilities. The maximum total net leverage ratio is calculated as the ratio of Consolidated Indebtedness, minus Cash on Hand, to Consolidated EBITDA. The minimum fixed charge coverage ratio is calculated as the ratio of Consolidated EBITDA to Consolidated Fixed Charges. 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 amendment revised the financial covenants applicable to the Revolving Credit Facility and the TLA Facility relating to the maximum first lien gross leverage ratio, maximum total net leverage ratio and minimum fixed charge coverage ratio, so that:

- for the fiscal quarters ending June 30, 2020 through March 31, 2021, the maximum first lien gross leverage ratio shall be 2.50 to 1.00, the maximum total net leverage ratio shall be 3.75 to 1.00, and the minimum fixed charge coverage ratio shall be 1.00 to 1.00;
- for the fiscal quarters ending June 30, 2021 through September 30, 2021, the maximum first lien gross leverage ratio shall be 2.25 to 1.00 and the maximum total net leverage ratio shall be 3.50 to 1.00;
- for the fiscal quarters ending June 30, 2021 through March 31, 2022, the minimum fixed charge coverage ratio shall be 1.05 to 1.00;
- for the fiscal quarters ending December 31, 2021 through March 31, 2022, the maximum first lien gross leverage ratio shall be 2.00 to 1.00 and the maximum total net leverage ratio shall be 3.25 to 1.00; and
- for the fiscal quarters ending on or after June 30, 2022, the maximum first lien gross leverage ratio shall be 1.75 to 1.00, the maximum total net leverage ratio shall be 2.75 to 1.00 and the minimum fixed charge coverage ratio shall be 1.10 to 1.00.

The Company’s maximum first lien gross leverage ratio was 0.97 to 1.00 at December 31, 2021. The Company’s maximum total net leverage ratio was 1.49 to 1.00 at December 31, 2021. The Company’s minimum fixed charge coverage ratio was 1.73 to 1.00 at December 31, 2021. Accordingly, the Company was in compliance with all of its financial covenants under the Senior Secured Credit Facilities as of December 31, 2021.

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 Annual Report on 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 Annual Report on Form 10-K. During the year ended December 31, 2021, CONSOL Energy made the required repayment of \$4,848 based on the amount of the Company’s excess cash flow as of December 31, 2020. As a result of achieving certain financial metrics as of December 31, 2021, the Company is not required to make an excess cash flow payment with respect to the year ended December 31, 2021. 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.

At December 31, 2021, the Revolving Credit Facility had no borrowings outstanding and \$169,241 of letters of credit outstanding, leaving \$230,759 of unused capacity. At December 31, 2020, the Revolving Credit Facility had no borrowings outstanding and \$125,938 of letters of credit outstanding, leaving \$274,062 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 \$300,000 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 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. The Indenture contains covenants that 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 only non-guarantor subsidiary of the Senior Secured Credit Facilities is the SPV which holds the assets pledged to the Accounts Receivable Securitization Facility. The SPV had total assets of \$104,548 and \$123,468, comprised mainly of \$104,099 and \$122,639 trade receivables, net, as of December 31, 2021 and 2020, respectively. For the years ended December 31, 2021, 2020 and 2019, net (loss) income attributable to the SPV was (\$54), \$2,854 and \$4,841, respectively, which primarily reflected intercompany fees related to purchasing the receivables, which are eliminated in the Consolidated Financial Statements contained within this Annual Report on Form 10-K. During the years ended December 31, 2021, 2020 and 2019, there were no borrowings or payments under the Accounts Receivable Securitization Facility. See Note 11 - Accounts Receivable Securitization for additional information. All other subsidiaries are guarantors of the Senior Secured Credit Facilities.

During the year ended December 31, 2021, the Company spent \$17,092 to retire \$18,040 of its outstanding 11.00% Senior Secured Second Lien Notes due in 2025 and made a required repayment of \$4,848 on the TLB Facility (discussed above). During the year ended December 31, 2020, the Company spent \$32,064 to retire \$54,481 of its outstanding 11.00% Senior Secured Second Lien Notes due in 2025. As part of these transactions, \$657 and \$21,352 was included in Gain on Debt Extinguishment on the Consolidated Statements of Income for the years ended December 31, 2021 and 2020, respectively.

In April 2021, CONSOL Energy borrowed the proceeds received from the sale of tax-exempt bonds issued by PEDFA in an aggregate principal amount of \$75,000 (the “PEDFA Bonds”). The PEDFA Bonds bear interest at a fixed rate of 9.00% for an initial term of seven years. The PEDFA Bonds mature on April 1, 2051, but are subject to mandatory purchase by the Company on April 13, 2028, at the expiration of the initial term rate period. The PEDFA Bonds were issued pursuant to an indenture (the “PEDFA Indenture”) dated as of April 1, 2021, by and between PEDFA and Wilmington Trust, N.A., a national banking association, as trustee (the “PEDFA Notes Trustee”). PEDFA made a loan of the proceeds of the PEDFA Bonds to the Company pursuant to a Loan Agreement (the “Loan Agreement”) dated as of April 1, 2021 between PEDFA and the Company. Under the terms of the Loan Agreement, the Company agreed to make all payments of principal, interest and other amounts at any time due on the PEDFA Bonds or under the PEDFA Indenture. PEDFA assigned its rights as lender under the Loan Agreement, excluding certain reserved rights, to the PEDFA Notes Trustee. Certain subsidiaries of the Company (the “PEDFA Notes Guarantors”) executed a Guaranty Agreement (the “Guaranty”) dated as of April 1, 2021 in favor of the PEDFA Notes Trustee, guarantying the obligations of the Company under the Loan Agreement to pay the PEDFA Bonds when and as due. The obligations of the Company under the Loan Agreement and of the PEDFA Notes Guarantors under the Guaranty are secured by second priority liens on substantially all of the assets of the Company and the PEDFA Notes Guarantors on parity with the Second Lien Notes. The Loan Agreement and Guaranty incorporate by reference covenants in the Indenture under which the Second Lien Notes were issued (discussed above).

The Company started a capital construction project on the PAMC coarse refuse disposal area in 2017, which is now funded, in part, by the \$75,000 of PEDFA Bond proceeds loaned to the Company. The Company expects to expend these funds over approximately the next two years, as qualified work is completed. During the year ended December 31, 2021, the Company received reimbursement for qualified expenses in the amount of \$28,867. Additionally, the Company has \$46,136 in restricted cash at December 31, 2021 associated with this financing that will be used to fund future spending on the coarse refuse disposal area.

The Company is a borrower under an asset-backed financing arrangement related to certain equipment. The equipment, which had an approximate value of \$2,082 and \$2,813 at December 31, 2021 and 2020, respectively, fully collateralizes the loan. As of December 31, 2021, the total outstanding loan of \$2,082 matures in September 2024. The loan had a weighted average interest rate of 3.61% at December 31, 2021 and 2020.

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, 2021 and 2020, the interest rate swap contracts were reflected in the Consolidated Balance Sheets at their fair value of \$517 and \$2,834, respectively, which is recorded in Other Accrued Liabilities and Other Liabilities. The fair value of the interest rate swaps reflected an unrealized gain of \$1,721 (net of \$596 tax) at December 31, 2021, and an unrealized loss of (\$2,004) (net of (\$674) tax) at December 31, 2021 and 2020. This unrealized gain (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 gain (loss) on cash flow hedges. Some of the Company's interest rate swaps reached their effective date in the years ended December 31, 2021 and 2020. As such, losses of \$2,220 and \$1,587 were recognized in interest expense in the Consolidated Statements of Income for the years ended December 31, 2021 and 2020, respectively. During 2022, notional amounts of \$50,000 will become effective. Based on the fair value of the Company's cash flow hedges at December 31, 2021, the Company expects expense of approximately \$428 to be reclassified into earnings in the next 12 months.

NOTE 14—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 years ended December 31, 2021 and 2020, these short-term lease expenses were not material to the Company’s financial statements.

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, Right of Use (“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 years ended December 31, 2021 and 2020, the components of operating lease expense were as follows:

	December 31,	
	2021	2020
Fixed operating lease expense	\$ 17,695	\$ 24,359
Variable operating lease expense	6,884	3,835
Total operating lease expense	<u>\$ 24,579</u>	<u>\$ 28,194</u>

Supplemental cash flow information related to the Company’s operating leases for the years ended December 31, 2021 and 2020 was as follows:

	December 31,	
	2021	2020
Cash paid for amounts included in the measurement of operating lease liabilities	\$ 25,330	\$ 24,293
Cash paid for early buyout of existing operating lease for longwall shields	18,380	—
ROU assets obtained in exchange for operating lease obligations	—	—

The following table presents the lease balances within the Consolidated Balance Sheets, weighted average lease term, and the weighted average discount rate related to the Company’s operating leases at December 31, 2021 and 2020:

Lease Assets and Liabilities	Classification	December 31,	
		2021	2020
Assets:			
Operating Lease ROU Assets	Other Assets	\$ 21,956	\$ 53,436
Liabilities:			
Current:			
Operating Lease Liabilities	Operating Lease Liabilities	\$ 6,682	\$ 20,241
Long-Term:			
Operating Lease Liabilities	Operating Lease Liabilities	\$ 15,274	\$ 35,655
Total Operating Lease Liabilities		<u>\$ 21,956</u>	<u>\$ 55,896</u>
Weighted average remaining lease term (in years)		3.98	4.65
Weighted average discount rate		6.78%	6.84%

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 Sheets.

For the years ended December 31, 2021 and 2020, the components of finance lease expense were as follows:

	December 31,	
	2021	2020
Amortization of right of use assets	\$ 27,846	\$ 24,066
Interest expense	3,501	2,375
Total finance lease expense	\$ 31,347	\$ 26,441

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, 2021 and 2020:

	December 31, 2021	December 31, 2020
Weighted average remaining lease term (in years)	2.03	2.68
Weighted average discount rate	6.21%	5.79%

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, 2021:

	Finance Leases	Operating Leases
2022	\$ 22,906	\$ 7,929
2023	22,167	5,585
2024	5,190	4,843
2025	366	3,322
2026	19	3,322
Thereafter	—	277
Total minimum lease payments	50,648	25,278
Less amount representing interest	3,307	3,322
Present value of minimum lease payments	\$ 47,341	\$ 21,956

During the year ended December 31, 2021, the Company entered into an agreement reducing the term for its building lease.

NOTE 15—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 Separation and Distribution Agreement that provided for the separation and distribution (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 exceeded this threshold during the year ended December 31, 2021. Accordingly, CONSOL Energy recognized expense of \$22 for the year ended December 31, 2021 in Operating and Other Costs in the Consolidated Statements of Income. The settlement charges represented a pro rata portion of the net unrecognized loss based on the percentage reduction in the projected benefit obligation due to the lump sum payments. The settlement charges noted above also resulted in a remeasurement of the pension plan at June 30, 2021, which reduced the pension liability by \$1,009. The settlement and corresponding remeasurement of the pension plan resulted in an adjustment of \$766 to Other Comprehensive Income, net of \$265 in deferred taxes. Lump sum payments did not exceed this threshold during the years ended December 31, 2020 and 2019.

Other Postretirement Benefit Plan

Certain subsidiaries of CONSOL Energy provide medical and prescription drug benefits to retired employees covered by either the Coal Industry Retiree Health Benefit Act of 1992 (the Coal Act) or 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, 2021 and 2020 is as follows:

	Pension Benefits at December 31,		Other Postretirement Benefits at December 31,	
	2021	2020	2021	2020
Change in benefit obligation:				
Benefit obligation at beginning of period	\$ 778,868	\$ 720,098	\$ 413,710	\$ 464,329
Service cost	1,114	1,183	—	—
Interest cost	14,230	20,176	7,274	12,795
Actuarial (gain) loss	(25,073)	84,663	(42,836)	(38,455)
Plan settlement	(719)	—	—	—
Benefits and other payments	(45,414)	(47,252)	(24,851)	(24,959)
Benefit obligation at end of period	<u>\$ 723,006</u>	<u>\$ 778,868</u>	<u>\$ 353,297</u>	<u>\$ 413,710</u>
Change in plan assets:				
Fair value of plan assets at beginning of period	\$ 740,978	\$ 668,481	\$ —	\$ —
Actual return on plan assets	36,867	118,403	—	—
Company contributions	2,254	1,346	24,851	24,959
Benefits and other payments	(45,414)	(47,252)	(24,851)	(24,959)
Plan settlement	(719)	—	—	—
Fair value of plan assets at end of period	<u>\$ 733,966</u>	<u>\$ 740,978</u>	<u>\$ —</u>	<u>\$ —</u>
Funded status:				
Noncurrent assets	\$ 38,947	\$ —	\$ —	\$ —
Current liabilities	(1,974)	(2,531)	(23,638)	(26,073)
Noncurrent liabilities	(26,013)	(35,359)	(329,659)	(387,637)
Net asset (obligation) recognized	<u>\$ 10,960</u>	<u>\$ (37,890)</u>	<u>\$ (353,297)</u>	<u>\$ (413,710)</u>
Amounts recognized in accumulated other comprehensive loss consist of:				
Net actuarial loss	\$ 231,726	\$ 256,988	\$ 82,851	\$ 132,203
Prior service credit	—	—	(16,138)	(18,544)
Net amount recognized (before tax effect)	<u>\$ 231,726</u>	<u>\$ 256,988</u>	<u>\$ 66,713</u>	<u>\$ 113,659</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,		
	2021	2020	2019	2021	2020	2019
Components of net periodic benefit (credit) cost:						
Service cost	\$ 1,114	\$ 1,183	\$ 3,950	\$ —	\$ —	\$ —
Interest cost	14,230	20,176	25,101	7,274	12,795	18,320
Expected return on plan assets	(42,168)	(41,821)	(40,457)	—	—	—
Amortization of prior service credits	—	—	(367)	(2,405)	(2,405)	(2,405)
Recognized net actuarial loss	5,469	6,922	5,958	6,516	9,277	9,262
Settlement loss recognized	22	—	—	—	—	—
Net periodic benefit (credit) cost	\$ (21,333)	\$ (13,540)	\$ (5,815)	\$ 11,385	\$ 19,667	\$ 25,177

(Credits) expenses related to pension and other post-employment benefits are reflected in Operating and Other Costs in the Consolidated Statements of Income.

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,	
	2021	2020
Projected benefit obligation	\$ 27,988	\$ 778,868
Accumulated benefit obligation	\$ 27,734	\$ 778,618
Fair value of plan assets	\$ —	\$ 740,978

Assumptions:

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

	Pension Obligations at December 31,		Other Postretirement Obligations at December 31,	
	2021	2020	2021	2020
Discount rate	2.83%	2.36%	2.79%	2.39%
Rate of compensation increase	3.78%	3.76%	—	—

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 For the Years Ended December 31,			Other Postretirement Benefits For the Years Ended December 31,		
	2021	2020	2019	2021	2020	2019
	Discount rate	2.46%	3.35%	4.37%	2.39%	3.27%
Expected long-term return on plan assets	5.60%	6.48%	6.90%	—	—	—
Rate of compensation increase	3.76%	3.68%	3.73%	—	—	—

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,	
	2021	2020
Health care cost trend rate for next year	5.35%	5.43%
Rate to which the cost trend is assumed to decline (ultimate trend rate)	4.00%	4.50%
Year that the rate reaches ultimate trend rate	2046	2038

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 13% U.S. equity securities, 8.5% non-U.S. equity securities, 3.5% global equity securities and 75% 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, 2021 and 2020 by asset category are as follows:

Asset Category	Fair Value Measurements at December 31, 2021				Fair Value Measurements at December 31, 2020			
	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	\$ 102	\$ 102	\$ —	\$ —	\$ 100	\$ 100	\$ —	\$ —
Mercer Common Collective Trusts (a)	733,864	—	—	—	740,878	—	—	—
Total	<u>\$ 733,966</u>	<u>\$ 102</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 740,978</u>	<u>\$ 100</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, 2021 or 2020.

There are no assets in the other postretirement benefit plan at December 31, 2021 or 2020.

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 2022. Pension benefit payments are primarily funded from the Trust. CONSOL Energy expects to pay benefits of \$1,974 from the non-qualified pension plan in 2022. CONSOL Energy does not expect to contribute to the other postretirement benefit plan in 2022 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
2022	\$ 43,826	\$ 23,638
2023	\$ 44,331	\$ 22,893
2024	\$ 42,723	\$ 22,063
2025	\$ 41,253	\$ 21,810
2026	\$ 42,622	\$ 21,460
Year 2027-2031	\$ 193,244	\$ 101,663

NOTE 16—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 made it easier for claimants to be awarded CWP benefits. 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, 2021 and 2020 is as follows:

	CWP		Workers' Compensation	
	at December 31,		at December 31,	
	2021	2020	2021	2020
Change in benefit obligation:				
Benefit obligation at beginning of period	\$ 241,923	\$ 214,473	\$ 73,441	\$ 71,480
State administrative fees and insurance bond premiums	—	—	1,778	1,996
Service cost	4,460	4,603	4,236	6,276
Interest cost	4,710	6,206	1,127	1,844
Actuarial (gain) loss	(22,256)	29,510	(2,039)	1,897
Benefits paid	(12,966)	(12,869)	(11,282)	(10,052)
Benefit obligation at end of period	<u>\$ 215,871</u>	<u>\$ 241,923</u>	<u>\$ 67,261</u>	<u>\$ 73,441</u>
Funded status:				
Current assets	\$ —	\$ —	\$ 1,092	\$ 602
Current liabilities	(12,398)	(12,203)	(10,205)	(9,653)
Noncurrent liabilities	(203,473)	(229,720)	(58,148)	(64,390)
Net obligation recognized	<u>\$ (215,871)</u>	<u>\$ (241,923)</u>	<u>\$ (67,261)</u>	<u>\$ (73,441)</u>
Amounts recognized in accumulated other comprehensive loss consist of:				
Net actuarial loss (gain)	\$ 40,638	\$ 71,259	\$ (10,726)	\$ (8,866)
Net amount recognized (before tax effect)	<u>\$ 40,638</u>	<u>\$ 71,259</u>	<u>\$ (10,726)</u>	<u>\$ (8,866)</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,		
	2021	2020	2019	2021	2020	2019
Service cost	\$ 4,460	\$ 4,603	\$ 3,791	\$ 4,236	\$ 6,276	\$ 5,685
Interest cost	4,710	6,206	7,001	1,127	1,844	2,585
Recognized net actuarial loss (gain)	8,364	5,604	1,016	(179)	(488)	(774)
State administrative fees and insurance bond premiums	—	—	—	1,778	1,996	2,157
Net periodic benefit cost	\$ 17,534	\$ 16,413	\$ 11,808	\$ 6,962	\$ 9,628	\$ 9,653

Expenses related to CWP and workers' compensation are reflected in Operating and Other Costs in the Consolidated Statements of Income.

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 For the Years Ended December 31,			Workers' Compensation For the Years Ended December 31,		
	2021	2020	2019	2021	2020	2019
Benefit obligations	2.85%	2.53%	3.41%	2.74%	2.35%	3.25%
Net periodic benefit costs	2.53%	3.41%	4.42%	2.35%	3.25%	4.26%

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 2022, 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 Benefits	Workers' Compensation		
		Total Benefits	Actuarial Benefits	Other Benefits
2022	\$ 12,398	\$ 11,504	\$ 9,113	\$ 2,391
2023	\$ 12,119	\$ 11,395	\$ 8,944	\$ 2,451
2024	\$ 11,917	\$ 11,371	\$ 8,859	\$ 2,512
2025	\$ 11,603	\$ 11,443	\$ 8,868	\$ 2,575
2026	\$ 11,395	\$ 11,525	\$ 8,886	\$ 2,639
Year 2027-2031	\$ 56,278	\$ 58,808	\$ 44,589	\$ 14,219

NOTE 17—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 \$4,760, \$5,383 and \$6,042 for the years ended December 31, 2021, 2020 and 2019, respectively. Based on available information at December 31, 2021, CONSOL Energy's gross obligation for the Combined Fund and 1992 Benefit Plan is estimated to be approximately \$46,381.

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 \$16,199, \$17,421 and \$18,669 at December 31, 2021, 2020 and 2019, respectively. The 2021, 2020 and 2019 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 includes 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 \$9,378 were accrued for at December 31, 2021, and will be paid into employees' accounts in 2022. There were no such discretionary contributions accrued for or made by the Company in the years ended December 31, 2020 and 2019. Total payments and costs were \$9,117, \$8,114 and \$10,737 for the years ended December 31, 2021, 2020 and 2019, 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,		
	2021	2020	2019
Net periodic benefit costs	\$ 1,075	\$ 1,700	\$ 1,483
Discount rate assumption used to determine net periodic benefit costs	1.86%	2.86%	3.97%

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 \$9,528 and \$11,374 at December 31, 2021 and 2020, respectively.

NOTE 18—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.

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 Company accounts for forfeitures of stock-based compensation as they occur. The total stock-based compensation expense recognized during the years ended December 31, 2021, 2020 and 2019 was \$6,632, \$11,161, and \$11,351, 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. The related deferred tax benefit totaled \$1,657, \$2,871 and \$2,856 for the years ended December 31, 2021, 2020 and 2019, respectively.

As of December 31, 2021, CONSOL Energy has \$2,492 of unrecognized compensation cost related to all nonvested stock-based compensation awards, which is expected to be recognized over a weighted-average period of 0.93 years. When restricted stock and performance share unit awards become vested, the issuances are made from CONSOL Energy's common stock shares.

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, 2021, 2020 and 2019 was \$6,716, \$6,913 and \$4,407, 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, 2020	1,488,961	\$ 13.07
Granted	90,734	\$ 10.58
Vested	(586,059)	\$ 12.93
Forfeited	(18,754)	\$ 10.55
Nonvested at December 31, 2021	<u>974,882</u>	<u>\$ 12.94</u>

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, 2021, 2020 and 2019 was \$707, \$1,042 and \$6,323, 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, 2020	336,845	\$ 17.81
Granted	16,121	\$ 7.85
Vested	(90,070)	\$ 7.85
Forfeited	(76,544)	\$ 36.15
Nonvested at December 31, 2021	<u>186,352</u>	<u>\$ 14.24</u>

NOTE 19—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 \$19,011, \$42,200 and \$4,424 for the years ended December 31, 2021, 2020 and 2019, respectively.

As of December 31, 2021, 2020 and 2019, CONSOL Energy purchased goods and services related to capital projects in the amount of \$1,054, \$1,671 and \$3,785, respectively, which are included in Accounts Payable, Current Portion of Long-Term Debt and Other Accrued Liabilities on the Consolidated Balance Sheets.

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

	For the Years Ended December 31,		
	2021	2020	2019
Cash Paid For:			
Interest (net of amounts capitalized)	\$ 54,401	\$ 62,997	\$ 73,574
Income taxes (net of refunds received)	\$ 3,199	\$ 1,476	\$ 40,139

NOTE 20—CONCENTRATION OF CREDIT RISK AND MAJOR CUSTOMERS:

CONSOL Energy primarily markets its thermal coal to electric power producers in the eastern United States. Revenues generated from electric power producers and other customers in the eastern United States were 54%, 65% and 65% for the years ended December 31, 2021, 2020 and 2019, respectively. The Company has contractual relationships with certain coal exporters who distribute coal to international markets. For the years ended December 31, 2021, 2020 and 2019, approximately 46%, 35% and 35%, respectively, of the Company's coal revenues were derived from these exporters. The Company uses the end usage point as the basis for attributing tons to individual countries. Because title to the Company's export shipments typically transfers to brokerage customers at a point that does not necessarily reflect the end usage point, the Company attributes export tons to the country with the end usage point, if known. India was attributed greater than 10% of total revenue during the year ended December 31, 2021. No individual country outside of the United States was attributed greater than 10% of total revenue during the years ended December 31, 2020 and 2019.

During the years ended December 31, 2021, 2020 and 2019, three customers each comprised over 10% of the Company's total sales, aggregating approximately 40%, 55% and 70%, respectively, of the Company's total sales. Additionally, three of the Company's customers each had outstanding balances in excess of 10% of the total trade receivable balance as of December 31, 2021 and 2020.

Concentration of credit risk is summarized below:

	December 31,	
	2021	2020
Thermal coal utilities	\$ 41,582	\$ 32,343
Coal exporters and distributors	53,949	82,948
Steel and coke producers	11,560	5,302
Other	1,605	2,122
Total Trade Receivables	108,696	122,715
Less: Allowance for credit losses	4,597	4,426
Total Trade Receivables, net	\$ 104,099	\$ 118,289

NOTE 21—DERIVATIVES:*Interest Rate Risk Management*

During the year ended December 31, 2019, the Company entered into interest rate swaps to manage exposures to interest rate risk on long-term debt 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. For additional information on these arrangements, refer to Note 13 - Long-Term Debt.

Coal Price Risk Management Positions

The Company may sell or purchase forward contracts, swaps and options in the over-the-counter coal market in order to manage its exposure to coal prices. The Company has exposure to the risk of fluctuating coal prices related to forecasted or index-priced sales of coal or to the risk of changes in the fair value of a fixed price physical sales contract. As of December 31, 2021, the Company held coal-related financial contracts to sell an aggregate notional volume of 2.0 million metric tons and to buy an aggregate notional volume of 690 thousand metric tons, which will settle in 2022.

Tabular Derivatives Disclosures

The Company has master netting agreements with all of its counterparties which allow for the settlement of contracts in an asset position with contracts in a liability position in the event of default or termination. Such netting arrangements reduce the Company's credit exposure related to these counterparties to the extent the Company has any liability to such counterparties. For classification purposes, the Company records the net fair value of all the positions with a given counterparty as a net asset or liability in the Consolidated Balance Sheets. The fair value of derivatives reflected in the accompanying Consolidated Balance Sheets are set forth in the table below.

	December 31, 2021		December 31, 2020	
	Asset Derivatives	Liability Derivatives	Asset Derivatives	Liability Derivatives
Coal Swap Contracts	\$ 1,086	\$ (53,290)	\$ —	\$ —
Effect of Counterparty Netting	(1,086)	1,086	—	—
Net Derivatives as Classified in the Consolidated Balance Sheets	\$ —	\$ (52,204)	\$ —	\$ —

The net amount of liability derivatives is included in Other Accrued Liabilities in the accompanying Consolidated Balance Sheets.

Currently, the Company does not seek cash flow hedge accounting treatment for its coal-related derivative financial instruments and therefore, changes in fair value are reflected in current earnings. During the year ended December 31, 2021, the Company recognized unrealized losses on its coal-related derivatives of \$52,204. These unrealized losses are included in Unrealized Loss on Commodity Derivative Instruments on the accompanying Consolidated Statements of Income.

The Company classifies the cash effects of its derivatives within the Cash Flows from Operating Activities section of the Consolidated Statements of Cash Flows.

NOTE 22—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. The Company's Level 2 assets and liabilities include interest rate swaps and coal commodity contracts with fair values derived from quoted prices in over-the-counter markets.

Level Three - Unobservable inputs significant to the fair value measurement supported by little or no market activity.

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, 2021			Fair Value Measurements at December 31, 2020		
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Commodity Derivatives	\$ —	\$ (52,204)	\$ —	\$ —	\$ —	\$ —
Interest Rate Swaps	\$ —	\$ (517)	\$ —	\$ —	\$ (2,834)	\$ —

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, 2021		December 31, 2020	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Long-Term Debt	\$ 613,752	\$ 628,431	\$ 610,510	\$ 517,862

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 23—COMMITMENTS AND CONTINGENT LIABILITIES:

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, 2021. 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, 2021 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 the U.S. District Court for the Southern District of West Virginia 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. On July 15, 2020, Plaintiffs filed an interlocutory appeal with the Fourth Circuit Court of Appeals on the Order denying class certification. The Fourth Circuit denied Plaintiffs’ appeal on August 14, 2020. On October 1, 2020, the District Court entered a pretrial order setting the trial date, which was held in February 2021. No ruling has been issued by the judge. 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, the Company's Chief Administrative Officer, in the U.S. District Court for the Southern District of West Virginia 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. On July 15, 2020, Plaintiffs filed an interlocutory appeal with the Fourth Circuit Court of Appeals on the Order denying class certification. The Fourth Circuit denied Plaintiffs’ appeal on August 14, 2020. On October 1, 2020, the District Court entered a pretrial order setting the trial date, which was held in February 2021. No ruling has been issued by the judge. The Company believes it has a meritorious defense and intends to vigorously defend this suit.

United Mine Workers of America 1992 Benefit Plan Litigation: In 2013, Murray Energy and its subsidiaries (“Murray”) entered into a stock purchase agreement (the “Murray sale agreement”) with the Company's former parent pursuant to which Murray acquired the stock of CCC and certain subsidiaries and certain other assets and liabilities. At the time of sale, the liabilities included certain retiree medical liabilities under the Coal Act and certain federal black lung liabilities under the Black Lung Benefits Act (“BLBA”). Based upon information available, the Company estimates that the annual servicing costs of these liabilities are approximately \$10 million to \$20 million per year for the next ten years. The annual servicing cost would decline each year since the beneficiaries of the Coal Act consist principally of miners who retired prior to 1994. Murray filed for Chapter 11 bankruptcy in October 2019. As part of the bankruptcy proceedings, Murray unilaterally entered into a settlement with the 1992 Benefit Plan to transfer retirees in the Murray Energy Section 9711 Plan to the 1992 Benefit Plan. This was approved by the bankruptcy court on April 30, 2020. On May 2, 2020, the 1992 Benefit Plan filed an action in the United States District Court for the District of Columbia asking the court to make a determination whether the Company's former parent or the Company has any continuing retiree medical liabilities under the Coal Act. The Murray sale agreement includes indemnification by Murray with respect to the Coal Act and BLBA liabilities. In addition, the Company had agreed to indemnify its former parent relative to certain pre-separation liabilities. As of September 16, 2020, the Company entered into a settlement agreement with Murray and withdrew its claims in bankruptcy. See Note 2 - Major Transactions for a discussion of this settlement agreement. The Company will continue to vigorously defend any claims that attempt to transfer any of such liabilities directly or indirectly to the Company, including raising all applicable defenses against the 1992 Benefit Plan’s suit.

Other Matters: On July 27, 2021, the Company's former parent informed the Company that it had received a request from the UMWA 1974 Pension Plan for information related to the facts and circumstances surrounding the former parent's 2013 sale of certain of its coal subsidiaries to Murray (the “Letter Request”). The Letter Request indicates that litigation by the UMWA 1974 Pension Plan against the Company's former parent related to potential withdrawal liabilities from the plan created by the 2019 bankruptcy of Murray is reasonably foreseeable. There has been no indication of potential claims against the Company by the UMWA 1974 Pension Plan and, at this time, no liability of the Company's former parent has been assessed.

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 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 financial guarantees have been extended to support sales contracts, insurance policies, surety indemnity agreements, 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, 2021, 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. Certain letters of credit included in the table below were issued against other commitments included in this table. 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	\$ 58,747	\$ 52,397	\$ 6,350	\$ —	\$ —
Environmental	398	398	—	—	—
Other	131,902	107,693	24,209	—	—
Total Letters of Credit	\$ 191,047	\$ 160,488	\$ 30,559	\$ —	\$ —
Surety Bonds:					
Employee-Related	\$ 81,524	\$ 80,224	\$ 1,300	\$ —	\$ —
Environmental	537,015	498,909	38,106	—	—
Other	4,327	4,178	149	—	—
Total Surety Bonds	\$ 622,866	\$ 583,311	\$ 39,555	\$ —	\$ —
Guarantees:					
Other	\$ 1,156	\$ 1,156	\$ —	\$ —	\$ —

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 of December 31, 2021, the Company paid \$1,090 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, 2021 is believed to be approximately \$1,000.

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 24—SEGMENT INFORMATION:

The Company reports segment information based on the “management” approach. The management approach designates the internal reporting used by management to make decisions on and assess performance of the Company’s reportable segments. CONSOL Energy presently consists of two reportable segments, the PAMC and the CONSOL Marine Terminal. The PAMC includes the Bailey Mine, the Enlow Fork Mine, the Harvey Mine and a centralized preparation plant. The PAMC segment’s principal activities include the mining, preparation and marketing of bituminous coal, sold primarily to power generators, industrial end-users and metallurgical end-users. The CONSOL Marine Terminal provides coal export terminal services through the Port of Baltimore. Selling, general and administrative costs are allocated to the Company’s segments based on a percentage of resources utilized, a percentage of total revenue and a percentage of total projected capital expenditures. CONSOL Energy’s Other segment includes revenue and expenses from various corporate and diversified business activities that are not allocated to the PAMC or the CONSOL Marine Terminal segments. The diversified business activities include the development of the Itmann Mine, the Greenfield Reserves and Resources, closed mine activities, other income, gain on asset sales related to non-core assets, and gain/loss on debt extinguishment. Additionally, interest expense and income taxes, as well as various other non-operated activities, none of which are individually significant to the Company, are also reflected in CONSOL Energy’s Other segment and are not allocated to the PAMC and CONSOL Marine Terminal segments.

The Company evaluates the performance of its segments utilizing Adjusted EBITDA and various sales and production metrics. Adjusted EBITDA is not a measure of financial performance determined in accordance with GAAP, and items excluded from Adjusted EBITDA may be significant in understanding and assessing the Company’s financial condition. Therefore, Adjusted EBITDA should not be considered in isolation, nor as an alternative to net income, income from operations, or cash flows from operations, or as a measure of the Company’s profitability, liquidity, or performance under GAAP. The Company uses Adjusted EBITDA to measure the operating performance of its segments and to allocate resources to its segments. Investors should be aware that the Company’s presentation of Adjusted EBITDA may not be comparable to similarly titled measures used by other companies.

The CONSOL Marine Terminal had been disclosed in CONSOL Energy’s Other segment during the year ended December 31, 2019. The recent COVID-19 pandemic negatively impacted the Company’s 2020 financial performance and influenced its outlook with respect to the importance of coal exports. Effective December 31, 2020, the Company disclosed the CONSOL Marine Terminal in a separate reportable segment due to its increased contribution to Adjusted EBITDA as well as the increased reliance on coal exports serviced by the CONSOL Marine Terminal in accordance with how the Company’s chief operating decision maker receives and reviews financial information.

Reportable segment results for the year ended December 31, 2021 are:

	PAMC	CONSOL Marine Terminal	Other	Adjustments and Eliminations	Consolidated
Coal Revenue	\$ 1,085,080	\$ —	\$ 6,942	\$ —	\$ 1,092,022
Terminal Revenue	—	65,193	—	—	65,193
Freight Revenue	103,819	—	—	—	103,819
Total Revenue from Contracts with Customers	\$ 1,188,899	\$ 65,193	\$ 6,942	\$ —	\$ 1,261,034
Adjusted EBITDA	\$ 360,480	\$ 43,491	\$ (25,725)	\$ —	\$ 378,246
Segment Assets	\$ 1,773,609	\$ 108,877	\$ 691,031	\$ —	\$ 2,573,517
Depreciation, Depletion and Amortization	\$ 206,727	\$ 4,834	\$ 13,022	\$ —	\$ 224,583
Capital Expenditures	\$ 100,896	\$ 974	\$ 30,882	\$ —	\$ 132,752

Reportable segment results for the year ended December 31, 2020 are:

	PAMC	CONSOL Marine Terminal	Other	Adjustments and Eliminations	Consolidated
Coal Revenue	\$ 771,363	\$ —	\$ 1,299	\$ —	\$ 772,662
Terminal Revenue	—	66,810	—	—	66,810
Freight Revenue	39,990	—	—	—	39,990
Total Revenue from Contracts with Customers	\$ 811,353	\$ 66,810	\$ 1,299	\$ —	\$ 879,462
Adjusted EBITDA	\$ 228,211	\$ 44,356	\$ (11,044)	\$ —	\$ 261,523
Segment Assets	\$ 1,864,514	\$ 108,711	\$ 550,141	\$ —	\$ 2,523,366
Depreciation, Depletion and Amortization	\$ 198,272	\$ 5,095	\$ 7,393	\$ —	\$ 210,760
Capital Expenditures	\$ 70,195	\$ 1,455	\$ 14,354	\$ —	\$ 86,004

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

	PAMC	CONSOL Marine Terminal	Other	Adjustments and Eliminations	Consolidated
Coal Revenue	\$ 1,288,529	\$ —	\$ —	\$ —	\$ 1,288,529
Terminal Revenue	—	67,363	—	—	67,363
Freight Revenue	19,667	—	—	—	19,667
Total Revenue from Contracts with Customers	\$ 1,308,196	\$ 67,363	\$ —	\$ —	\$ 1,375,559
Adjusted EBITDA	\$ 394,354	\$ 44,491	\$ (32,909)	\$ —	\$ 405,936
Segment Assets	\$ 1,981,721	\$ 87,558	\$ 624,523	\$ —	\$ 2,693,802
Depreciation, Depletion and Amortization	\$ 185,616	\$ 4,078	\$ 17,403	\$ —	\$ 207,097
Capital Expenditures	\$ 148,709	\$ 6,675	\$ 14,355	\$ —	\$ 169,739

For the years ended December 31, 2021, 2020 and 2019, the Company's reportable segments had revenues from the following customers, each comprising over 10% of the Company's total sales:

	For the Years Ended December 31,		
	2021	2020	2019
Customer A	\$ 186,622	\$ 134,354	\$ 242,702
Customer B	*	\$ 223,891	\$ 507,099
Customer C	\$ 141,968	\$ 116,536	\$ 215,099
Customer D	\$ 170,901	*	*

* Revenues from these customers during the periods presented 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,		
	2021	2020	2019
Total Segment Revenue and Freight from External Customers	\$ 1,261,034	\$ 879,462	\$ 1,375,559
Unrealized Loss on Commodity Derivative Instruments (Note 21)	(52,204)	—	—
Other Income not Allocated to Segments (Note 4)	38,394	126,886	53,349
Gain on Sale of Assets	11,723	15,295	1,995
Total Consolidated Revenue and Other Income	\$ 1,258,947	\$ 1,021,643	\$ 1,430,903

Adjusted EBITDA:

	For the Years Ended December 31,		
	2021	2020	2019
Earnings (Loss) Before Income Tax	\$ 35,407	\$ (9,242)	\$ 98,097
Interest Expense, net	63,342	61,186	66,464
(Gain) Loss on Debt Extinguishment	(657)	(21,352)	24,455
Interest Income	(3,287)	(1,230)	(2,937)
Depreciation, Depletion and Amortization	224,583	210,760	207,097
Unrealized Loss on Commodity Derivative Instruments	52,204	—	—
Pension Settlement	22	—	—
CCR Merger Fees	—	9,822	—
Stock/Unit-Based Compensation	6,632	11,579	12,760
Adjusted EBITDA	\$ 378,246	\$ 261,523	\$ 405,936

Enterprise-Wide Disclosures:

For the years ended December 31, 2021, 2020 and 2019, CONSOL Energy revenue was predominantly attributable to customers based in the United States of America. India was attributed greater than 10% of total revenue during the year ended December 31, 2021. No individual country outside of the United States was attributed greater than 10% of total revenue during the years ended December 31, 2020 and 2019.

CONSOL Energy's property, plant and equipment is predominantly located in the United States. At December 31, 2021 and 2020, less than 1% of the Company's net property, plant and equipment was located in Canada.

NOTE 25—RELATED PARTY TRANSACTIONS

PA Mining Complex LP

On December 30, 2020, CONSOL Energy completed the acquisition of all of the outstanding common units of PA Mining Complex LP, and PA Mining Complex LP became the Company's indirect wholly-owned subsidiary (see Note 2 - Major Transactions for additional information). In connection with the closing of the CCR Merger, CONSOL Energy issued 7,967,690 shares of its common stock to acquire the 10,912,138 common units of the Partnership held by third-party investors at a fixed exchange ratio of 0.73 shares of CEIX common stock for each Partnership unit, for total implied consideration of \$51,710.

Prior to the CCR Merger, CONSOL Energy, certain of its subsidiaries and the Partnership were party to various agreements, including an Omnibus Agreement dated September 30, 2016, as amended on November 28, 2017, and an Affiliated Company Credit Agreement. Under the Omnibus Agreement, CONSOL Energy provided the Partnership with certain services in exchange for payments by the Partnership for those services. In connection with the closing of the CCR Merger, the Affiliated Company Credit Agreement was terminated, all obligations and guarantees thereunder repaid and discharged and all liens granted in connection therewith released. In connection with the termination of the Affiliated Company Credit Agreement and in exchange for, and in satisfaction of, payment of the outstanding balance of approximately \$176,535 thereunder, the Partnership issued 37,322,410 Partnership common units to the Company.

Charges for services from the Company to the Partnership prior to the CCR Merger include the following:

	For the Years Ended December 31,	
	2020	2019
Operating and Other Costs	\$ 3,820	\$ 3,219
Selling, General and Administrative Costs	9,604	8,309
Total Services from CONSOL Energy	<u>\$ 13,424</u>	<u>\$ 11,528</u>

Operating and Other Costs included pension service costs and insurance expenses. Selling, General and Administrative Costs included charges for incentive compensation, an annual administrative support fee and reimbursement for the provision of certain management and operating services provided by the Company.

NOTE 26—SUBSEQUENT EVENTS

The Company has evaluated all subsequent events through the date the financial statements were issued. No material recognized or non-recognizable subsequent events were identified.

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, 2021 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 of the Company; (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, 2021. 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, 2021.

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 112 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.

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, 2021, 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, 2021, 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, 2021 and 2020, 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, 2021, and the related notes and our report dated February 11, 2022 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 11, 2022

ITEM 9B. OTHER INFORMATION

Amendment to CEO Employment Agreement

On February 10, 2022, the Board of Directors of the Company approved a second amendment to the existing Employment Agreement between the Company and its Chief Executive Officer, James A. Brock, dated as of February 15, 2018, as amended on February 10, 2021 (the "Employment Agreement"). The purpose of the second amendment is to provide for additional compensation to Mr. Brock in the form of a \$1,000,000 retention payment and also to vest certain equity awards to ensure his continued employment with the Company through December 31, 2023.

Terms of Existing Employment Agreement

Under the terms of the Employment Agreement, Mr. Brock's initial three (3) year term initially expired on February 18, 2021 and was automatically extended for one (1) additional year through February 18, 2022 because neither party had given the requisite notice to not extend. The Employment Agreement will continue to automatically extend for one (1) additional year unless not later than sixty (60) days immediately preceding its anniversary, the Company or Mr. Brock has given written notice to the other that it does not wish to extend the Employment Agreement.

The current Employment Agreement requires the Company to make lump sum retention payments of \$1,000,000 on December 31, 2021 and also on December 31, 2022 based on Mr. Brock's continued employment with the Company on December 31, 2021 and December 31, 2022, respectively. In the event of Mr. Brock's involuntary termination of employment absent Cause (as defined in the Employment Agreement), death or Permanent Disability (as defined in the Employment Agreement) prior to December 31, 2022, the Company will accelerate payment of the \$1,000,000 retention payment to him.

Terms of Second Amendment

The second amendment provides for an additional retention payment with respect to Mr. Brock's continued employment such that in the event Mr. Brock elects to continue his employment through December 31, 2023, the Company will pay him a cash lump sum equal to \$1,000,000 no later than thirty (30) days following December 31, 2023. In the event of Mr. Brock's involuntary termination of employment absent Cause, death or Permanent Disability prior to December 31, 2023, the Company will accelerate payment of the \$1,000,000 retention payment to him.

Additionally, the second amendment provides that Mr. Brock shall be considered fully vested in all then-outstanding and unvested time-based equity awards held by Mr. Brock if he continues his employment with the Company through December 31, 2023.

Mine Safety - Reporting of Shutdowns and Patterns of Violations

Section 1503 of the Dodd-Frank Wall Street Reform and Consumer Protection Act requires disclosure of the issuance of an imminent danger order under Section 107(a) of the Federal Mine Safety and Health Act of 1977 ("the Mine Act") by the Mine Safety and Health Administration ("MSHA").

On February 9, 2022, during a routine MSHA inspection of the Bailey Mine longwall bleeder system, the Inspector found what he believed to be methane in excess of 5% and issued a 107(a) order. At this time, a bottle sample has not confirmed the excess methane. Ventilation was immediately adjusted, the methane was ultimately rendered harmless, and the order was terminated. No electrical power or known ignition source was present in the cited area of the bleeder. There were no injuries or damages associated with these findings and the mine was returned to normal operations. The Bailey Mine is part of the PAMC, the location of which is described in detail in Part I of this report.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

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 Directors," "Executive Officers," "Beneficial Ownership of Securities" and "Board of Directors and Compensation Information - Board of Directors and its Committees" in the Company's Proxy Statement on Schedule 14A for its 2022 Annual Meeting of Stockholders (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 - 2021," "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 required 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, 2021, 2020 and 2019
Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2021, 2020 and 2019
Consolidated Balance Sheets at December 31, 2021 and 2020
Consolidated Statements of Stockholders' Equity for the Years Ended December 31, 2021, 2020 and 2019
Consolidated Statements of Cash Flows for the Years Ended December 31, 2021, 2020 and 2019
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
2.5***	Agreement and Plan of Merger, dated as of October 22, 2020, by and among CONSOL Energy Inc., Transformer LP Holdings Inc., Transformer Merger Sub LLC, CONSOL Coal Resources LP and CONSOL Coal Resources GP LLC	Filed as Exhibit 2.1 to Form 8-K (File No. 001-38147) filed on October 23, 2020
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	Certificate of Amendment to Amended and Restated Certificate of Incorporation of the Company	Filed as Exhibit 3.1 to Form 8-K (File No. 001-38147) filed on May 8, 2020
3.3	Second Amended and Restated Bylaws of the Company	Filed as Exhibit 3.2 to Form 8-K (File No. 001-38147) filed on May 8, 2020
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 as Exhibit 4.2 to Form 10-K (File No. 001-38147) filed on February 12, 2021
4.3	Indenture, dated as of April 1, 2021, among CONSOL Energy Inc., the subsidiary guarantors party thereto and Wilmington Trust, N.A., as trustee	Filed as Exhibit 4.1 to Form 8-K (File No. 001-38147) filed on April 19, 2021
4.4	Loan Agreement, dated as of April 1, 2021, between the Pennsylvania Economic Development Financing Authority and the Company	Filed as Exhibit 4.2 to Form 8-K (File No. 001-38147) filed on April 19, 2021
4.5	Guaranty Agreement, dated as of April 1, 2021, among the subsidiary guarantors of CONSOL Energy Inc. and Wilmington Trust, N.A., as trustee	Filed as Exhibit 4.3 to Form 8-K (File No. 001-38147) filed on April 19, 2021

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 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
10.5	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
10.6	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
10.7	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
10.8	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
10.9	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
10.10	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
10.11	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
10.12	First Amendment to Receivables Financing Agreement dated as of May 29, 2018	Filed as Exhibit 10.13 to Form 10-K (File No. 001-38147) filed on February 12, 2021
10.13	Second Amendment to Receivables Financing Agreement dated as of June 26, 2018	Filed as Exhibit 10.14 to Form 10-K (File No. 001-38147) filed on February 12, 2021
10.14	Third Amendment to Receivables Financing Agreement dated as of July 19, 2018	Filed as Exhibit 10.15 to Form 10-K (File No. 001-38147) filed on February 12, 2021
10.15	Fourth Amendment to Receivables Financing Agreement dated as of August 30, 2018	Filed as Exhibit 10.16 to Form 10-K (File No. 001-38147) filed on February 12, 2021
10.16	Fifth Amendment to Receivables Financing Agreement dated as of March 27, 2020**	Filed as Exhibit 10.2 to Form 10-Q (File No. 001-38147) filed on May 11, 2020
10.17	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
10.18	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
10.19	Employment Agreement of James A. Brock*	Filed as Exhibit 10.1 to Form 10-Q (File No. 001-38147) filed on May 3, 2018
10.20	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	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
10.29	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
10.30	Change in Control Severance Agreement for Mitesh Thakkar*	Filed herewith

10.31	Form of Notice of Restricted Stock Unit Award Terms and Conditions*	Filed as Exhibit 10.3 to Form 10-Q (File No. 001-38147) filed on May 11, 2020
10.32	Form of Notice of Performance-Based Restricted Stock Unit Award Terms and Conditions for James A. Brock*#	Filed as Exhibit 10.4 to Form 10-Q (File No. 001-38147) filed on May 11, 2020
10.33	Form of Notice of Performance-Based Cash Award*#	Filed as Exhibit 10.5 to Form 10-Q (File No. 001-38147) filed on May 11, 2020
10.34	Amendment No. 2, dated as of June 5, 2020, 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 Loan A Lenders, Citibank, N.A., as administrative agent for the Term Loan 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 June 11, 2020
10.35	Amendment No. 3, dated as of March 29, 2021, 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 Loan A Lenders, Citibank, N.A., as administrative agent for the Term Loan 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 March 31, 2021
10.36	CONSOL Energy Inc. 2020 Amended and Restated Omnibus Performance Incentive Plan*	Filed as Exhibit 4.4 to Registration Statement on Form S-8 (file No. 333-238173) filed on May 11, 2020
10.37	Form of Notice of Restricted Stock Unit Award Terms and Conditions for Non-Employee Directors*	Filed as Exhibit 10.5 to Form 10-Q (File No. 001-38147) filed on August 10, 2020
10.38	Form Notice of Performance-based Phantom Units and Terms and Conditions*	Filed as Exhibit 10.2 to Form 10-Q (File No. 001-38147) filed on May 4, 2021
10.39	Form Notice of Performance-based Market Share Units and Terms and Conditions*	Filed as Exhibit 10.3 to Form 10-Q (File No. 001-38147) filed on May 4, 2021
10.40	Form of Notice of Restricted Stock Unit Award Terms and Conditions for Non-Employee Directors*	Filed as Exhibit 10.1 to Form 10-Q (File No. 001-38147) filed on August 3, 2021
10.41	Support Agreement, dated as of October 22, 2020, by and among CONSOL Energy Inc. and CONSOL Coal Resources LP	Filed as Exhibit 10.1 to Form 8-K (File No. 001-38147) filed on October 23, 2020
10.42	Amendment to CONSOL Energy Inc. 2020 Amended and Restated Omnibus Performance Incentive Plan, effective as of December 30, 2020 (incorporated by reference to Exhibit 4.5 to CEIX's Registration Statement on Form S-8 filed on December 31, 2020)	Filed as Exhibit 4.5 to Form S-8 (File No. 001-38147) filed on December 31, 2020
10.43	First Amendment to Employment Agreement of James A. Brock*	Filed as Exhibit 10.45 to Form 10-K (File No. 001-38147) filed on February 12, 2021
10.44	Second Amendment to Employment Agreement of James A. Brock*	Filed herewith
21	Subsidiaries of CONSOL Energy Inc.	Filed herewith
23.1	Consent of Ernst & Young LLP	Filed herewith
23.2	Consent of Third-Party Qualified Person	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 as Exhibit 95 to Form 10-K (File No. 001-38147) filed on February 11, 2022
96.1	Technical Report Summary, Coal Resources and Coal Reserves, Pennsylvania Mining Complex, Pennsylvania and West Virginia	Filed herewith
96.2	Technical Report Summary, Coal Resources and Coal Reserves, Itmann No. 5 Mine, Wyoming County, West Virginia	Filed herewith
96.3	Technical Report Summary, Coal Resources, Mason Dixon and River Mine Properties, Greene County, Pennsylvania, Marshall, Monongalia, and Wetzel Counties, West Virginia	Filed herewith
101	Interactive Data File (Form 10-K for the year ended December 31, 2021, furnished in Inline 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.

** Information in this exhibit identified by brackets is confidential and has been excluded pursuant to Item 601(b)(10)(iv) of Regulation S-K because it (i) is not material and (ii) would likely cause competitive harm to the Company if publicly disclosed.

*** The schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K and will be provided to the Securities and Exchange Commission upon request. # Schedules and attachments to this Exhibit have been omitted pursuant to Item 601(a)(5) of Regulation S-K.

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 Item 601(b)(32)(ii), Exhibits 32.1 and 32.2 are being furnished and not filed.

CONSOL Energy Inc.

CONSOL Energy Inc. (NYSE: CEIX) is a Canonsburg, Pennsylvania-based producer and exporter of high-Btu bituminous thermal coal and metallurgical coal. It owns and operates some of the most productive longwall mining operations in the Northern Appalachian Basin and is developing a new metallurgical coal mine (the Itmann project) in the Central 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 ~612 million reserve tons associated with the Pennsylvania Mining Complex and the ~21 million reserve tons associated with the Itmann project, the Company also controls approximately 1.4 billion tons of greenfield thermal and metallurgical coal reserves and resources 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.

