

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

Form 10-K

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

For the fiscal year ended December 31, 2020

OR

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

Commission File Number 001-38176

VENATOR

Venator Materials PLC

(Exact name of registrant as specified in its charter)

England and Wales

(State or other jurisdiction
of incorporation or organization)

98-1373159

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

Titanium House, Hanzard Drive, Wynyard Park,
Stockton-On-Tees, TS22 5FD, United Kingdom
+44 (0) 1740 608 001

(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:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Ordinary Shares, \$0.001 par value per share	VNTR	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 its 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. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act).

Yes ☐ No ☒

The aggregate market value of the ordinary shares held by non-affiliates as of the last business day of the registrant's most recently completed second fiscal quarter (based on the closing price of \$1.79 on June 30, 2020 reported by the New York Stock Exchange) was approximately \$96,984,282.

As of February 22, 2021, the registrant had outstanding 107,216,765 ordinary shares, \$0.001 par value per share.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of Registrant's Definitive Proxy Statement for the 2021 Annual General Meeting of Shareholders may be incorporated by reference into Part III of this Form 10-K. Alternatively, we may include such information in an amendment to this annual report on Form 10-K.

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 1 of 203

VENATOR MATERIALS PLC AND SUBSIDIARIES
2020 ANNUAL REPORT ON FORM 10-K
TABLE OF CONTENTS

	<u>Page</u>
General	2
Note Regarding Forward-Looking Statements	2
 PART I 	
ITEM 1. Business	4
ITEM 1A. Risk Factors	17
ITEM 1B. Unresolved Staff Comments	40
ITEM 2. Properties	41
ITEM 3. Legal Proceedings	41
ITEM 4. Mine Safety Disclosures	43
 PART II 	
ITEM 5. Market for Registrant’s Common Equity, Related Shareholder Matters and Issuer Purchases of Equity Securities	44
ITEM 6. Selected Financial Data	45
ITEM 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations	46
ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk	62
ITEM 8. Financial Statements and Supplementary Data	63
ITEM 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	112
ITEM 9A. Controls and Procedures	113
ITEM 9B. Other Information	115
 PART III 	
ITEM 10. Directors, Executive Officers and Corporate Governance	116
ITEM 11. Executive Compensation	116
ITEM 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	116
ITEM 13. Certain Relationships and Related Transactions, and Director Independence	116
ITEM 14. Principal Accountant Fees and Services	116
 PART IV 	
ITEM 15. Exhibits and Financial Statement Schedules	117
Signatures	121

GENERAL

Except when the context otherwise requires or where otherwise indicated, (1) all references to "Venator," the "Company," "we," "us" and "our" refer to Venator Materials PLC and its subsidiaries, (2) all references to "Huntsman" refer to Huntsman Corporation and its subsidiaries, (3) all references to the "Titanium Dioxide" segment or business refer to the titanium dioxide ("TiO₂") business of Venator, (4) all references to the "Performance Additives" segment or business refer to the functional additives, color pigments, timber treatment and water treatment businesses of Venator, and (5) we refer to the internal reorganization prior to our initial public offering ("IPO"), the separation transactions initiated to separate the Venator business from Huntsman's other businesses, including the entry into and effectiveness of the separation agreement and ancillary agreements, and the financing arrangements and debt, comprising the senior secured term loan facility (the "Term Loan Facility"), the asset-based revolving facility (the "ABL Facility" and, together with the Term Loan Facility, the "Senior Credit Facilities") and the 5.75% senior unsecured notes due 2025 (the "Senior Unsecured Notes"), including the use of the net proceeds of the Senior Credit Facilities and the Senior Unsecured Notes, which were used to repay intercompany debt we owed to Huntsman and to pay related fees and expenses, as the "separation," which occurred on August 8, 2017.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain information set forth in this report contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933 and Section 21E of the Securities and Exchange Act of 1934 (the "Exchange Act"). All statements other than historical or current factual information are forward-looking statements, including without limitation statements regarding: projections of revenue, expenses, profit, margins, tax rates, tax provisions, cash flows, pension and benefit obligations and funding requirements, our liquidity position or other projected financial measures; management's plans and strategies for future operations, including statements relating to anticipated operating performance, cost reductions, construction cost estimates, restructuring activities, new product and service developments, competitive strengths or market position, acquisitions, divestitures, spin-offs, or other distributions, strategic opportunities, securities offerings, share repurchases, dividends and executive compensation; growth, declines and other trends in markets we sell into; new or modified laws, regulations and accounting pronouncements; legal proceedings, environmental, health and safety ("EHS") matters, tax audits and assessments and other contingent liabilities; foreign currency exchange rates and fluctuations in those rates; general economic and capital markets conditions; the timing of any of the foregoing; assumptions underlying any of the foregoing; and any other statements that address events or developments that we intend or believe will or may occur in the future. In some cases, forward-looking statements can be identified by terminology such as "believes," "expects," "may," "will," "should," "anticipates," "estimates" or "intends" or the negative of such terms or other comparable terminology, or by discussions of strategy. We may also make additional forward-looking statements from time to time. All such subsequent forward-looking statements, whether written or oral, by us or on our behalf, are also expressly qualified by these cautionary statements.

Forward-looking statements are based on certain assumptions and expectations of future events which may not be accurate or realized. Forward-looking statements also involve risks and uncertainties, many of which are beyond our control. Important factors that may materially affect such forward-looking statements and projections include:

- the impacts and duration of the global outbreak of the Coronavirus Disease 2019 ("COVID-19") pandemic on the global economy and all aspects of our business including our employees, customers, suppliers, partners' results of operations, financial condition and liquidity;
- volatile global economic conditions;
- cyclical and volatile demand for TiO₂ products;
- highly competitive industries and the need to innovate and develop new products;
- industry production capacity and operating rates;
- high levels of indebtedness;
- our ability to maintain sufficient cash flow to fund our operations and capital expenditures, and service our debt;
- our ability to obtain future capital on favorable terms;
- planned and unplanned production shutdowns, turnarounds, outages and other disruptions at our or our suppliers' manufacturing facilities;
- any changes to the prices at which we purchase raw materials and energy, any interruptions in supply of raw materials and energy, or any changes in regulations impacting raw materials and our supply chain;
- increased manufacturing, labeling and waste disposal regulations associated with some of our products, including the classification of TiO₂ as a carcinogen in the European Union ("EU") or any increased regulatory scrutiny;

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 4 of 203

- our ability to successfully grow and transform our business including by way of acquisitions, divestitures and restructuring activities;

- our ability to successfully transfer production of certain specialty and differentiated products formerly produced at our Pori, Finland manufacturing facility to other sites within our manufacturing network;
- our ability to successfully transfer production of existing products within our manufacturing network;
- fluctuations in currency exchange rates and tax rates;
- our ability to adequately protect our information technology systems, some of which are critical to our business;
- our ability to realize financial and operational benefits from our business improvement plans and initiatives;
- changes to laws, regulations or the interpretation thereof;
- differences in views with our joint venture participants;
- EHS laws and regulations;
- impacts of increasing climate change regulations;
- our ability to successfully defend legal claims against us, or to pursue legal claims against third parties;
- economic conditions and regulatory changes following the exit of the United Kingdom (the "U.K.") from the EU (often referred to as "Brexit");
- seasonal sales patterns in our product markets;
- our ability to comply with expanding data privacy regulations;
- our ability to maintain effective internal controls over financial reporting and disclosure;
- our indemnification of Huntsman;
- financial difficulties and related problems experienced by our customers, vendors, suppliers and other business partners;
- conflicts, military actions, terrorist attacks, public health crises, cyber-attacks and general instability;
- failure to enforce our intellectual property rights; and
- our ability to effectively manage our labor force.

All forward-looking statements, including, without limitation, management's examination of historical operating trends, are based upon our current expectations and various assumptions. Our expectations, beliefs and projections are expressed in good faith and we believe there is a reasonable basis for them, but there can be no assurance that management's expectations, beliefs and projections will result or be achieved. All forward-looking statements apply only as of the date made. We undertake no obligation to publicly update or revise forward-looking statements whether because of new information, future events or otherwise, except as required by securities and other applicable law.

There are a number of risks and uncertainties that could cause our actual results to differ materially from the forward-looking statements contained in or contemplated by this report. Any forward-looking statements should be considered in light of the risks set forth in the "Part I. Item 1A. Risk Factors."

PART I

ITEM 1. BUSINESS

Overview

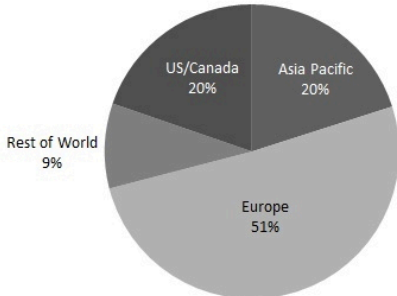
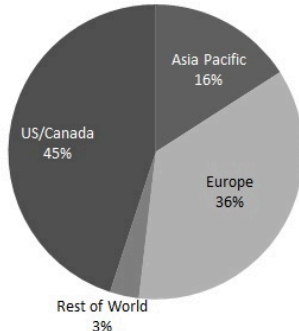
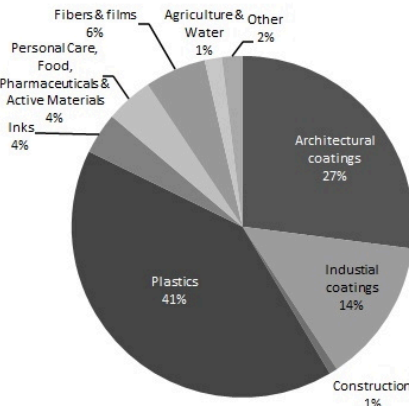
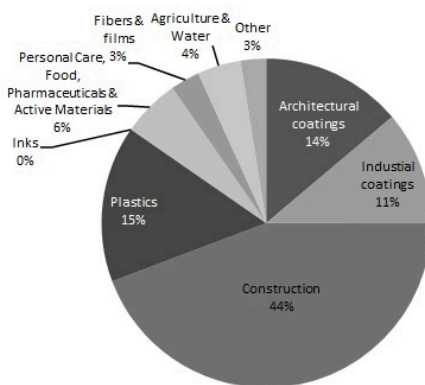
We are a leading global manufacturer and marketer of chemical products that improve the quality of life for downstream consumers and promote a sustainable future. Our products comprise a broad range of innovative chemicals and formulations that bring color and vibrancy to a variety of applications, protect and extend product life, and reduce energy consumption. We market our products globally to a diversified group of industrial customers through two segments: Titanium Dioxide, which consists of our TiO₂ business, and Performance Additives, which consists of our functional additives, color pigments, timber treatment and water treatment businesses. We are a leading global producer in many of our key product lines, including those within TiO₂, color pigments and functional additives, a leading North American producer of timber treatment products and a leading European producer of water treatment products. Headquartered in Wynyard, U.K., we employ approximately 3,700 associates worldwide and sell our products in more than 120 countries. We became an independent publicly traded company following our IPO and separation from Huntsman in August 2017.

We operate in a variety of end markets, including industrial and architectural paints and coatings, plastics, construction materials, paper, printing inks, pharmaceuticals, food, cosmetics, fibers and films and personal care. Within these end markets, our products serve approximately 3,400 customers globally. Our production capabilities allow us to manufacture a broad range of high quality functional TiO₂ products as well as specialty and differentiated TiO₂ products that provide critical performance for our customers and sell at a premium for certain end-use applications. Our functional additives, color pigments and timber treatment products provide essential properties for our customers' end-use applications by enhancing the color and appearance of construction materials and delivering performance benefits in other applications such as corrosion and fade resistance, water repellence and flame suppression. We believe that our global footprint and broad product offerings differentiate us from our competitors and allow us to better meet our customers' needs.

For the year ended December 31, 2020, we had total revenues of \$1,938 million. Adjusted EBITDA for the year ended December 31, 2020 was \$136 million, which includes \$127 million from our Titanium Dioxide segment and \$55 million from our Performance Additives segment.

Our Titanium Dioxide and Performance Additives segments have evolved in recent years through certain site closures, reductions in operating costs and new product introductions. We have a well-established position in each of the industries in which we operate. We continue to implement business improvements within our Titanium Dioxide and Performance Additives segments which are expected to provide incremental benefit in our earnings as these programs are achieved.

The table below summarizes the key products, end markets and applications, representative customers, revenues and sales information by segment as of December 31, 2020.

	Titanium Dioxide	Performance Additives																																								
Product Groups	Titanium dioxide (TiO ₂)	Iron Oxide, Complex Inorganic Colored Pigments, Metal Carboxylate Driers, Ultra Marine Blue, Barium Sulfate, Zinc Sulfide, Timber Treatment and Water Treatment chemicals.																																								
End Markets and Applications	Coatings, Plastics, Paper, Printing Inks, Fibers and Films, Pharmaceuticals, Food, Cosmetics, Agriculture and Water Purification	Coatings, Plastics, Concrete Block, Roof Tiles, Cosmetics, Pharmaceuticals, Personal Care, Timber Treatment (Decking, Fencing and Fire Retardant Treated Wood) and Water Purification.																																								
Representative Customers	AkzoNobel, Color Tech (US), Ampacet group, Avient, PPG grp, Standridge, Jotun, Sun Chemicals, LyondellBasell, CPO Guild	AkzoNobel, BASF, CRH, PPG, Sakai Chemical Industry Co., Sherwin Williams, C.M. Tucker, Phibro and Solvay																																								
LTM Revenue (as of 12/31/20)	\$1,431 million	\$507 million																																								
Sales by Geography	 <table><caption>Sales by Geography - Titanium Dioxide</caption><thead><tr><th>Geography</th><th>Percentage</th></tr></thead><tbody><tr><td>Europe</td><td>51%</td></tr><tr><td>US/Canada</td><td>20%</td></tr><tr><td>Asia Pacific</td><td>20%</td></tr><tr><td>Rest of World</td><td>9%</td></tr></tbody></table>	Geography	Percentage	Europe	51%	US/Canada	20%	Asia Pacific	20%	Rest of World	9%	 <table><caption>Sales by Geography - Performance Additives</caption><thead><tr><th>Geography</th><th>Percentage</th></tr></thead><tbody><tr><td>Europe</td><td>36%</td></tr><tr><td>US/Canada</td><td>45%</td></tr><tr><td>Asia Pacific</td><td>16%</td></tr><tr><td>Rest of World</td><td>3%</td></tr></tbody></table>	Geography	Percentage	Europe	36%	US/Canada	45%	Asia Pacific	16%	Rest of World	3%																				
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For additional information about our business segments, including related financial information, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 25. Operating Segment Information" and "Part II. Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations."

Our Business

Venator manufactures high quality TiO₂, functional additives, color pigments, timber treatment and water treatment products. Our broad product range, coupled with our ability to develop and supply specialized products into technically exacting end-use

Koppers Performance Chemicals, Inc.

Ex. 2002

applications, has positioned us as a leader in the markets we serve. We are a leader in the specialty and differentiated TiO₂ industry segments, which includes products that sell at a premium and have more stable margins than

functional TiO₂. We also have complementary functional additives, color pigments, timber treatment and water treatment businesses. We have 23 manufacturing facilities operating in nine countries with a total nameplate production capacity of approximately 1.1 million metric tons per year, excluding our plant in Pori, Finland, ongoing closure of which was announced in the third quarter of 2018. Of these facilities, seven are TiO₂ manufacturing facilities in Europe, North America and Asia, and 16 are color pigments, functional additives, water treatment and timber treatment manufacturing and processing facilities in Europe, North America, Asia and Australia. For the year ended December 31, 2020, our revenues were \$1,938 million.

Titanium Dioxide Segment

TiO₂ is derived from titanium-bearing ores and is a white inert pigment that provides whiteness, opacity and brightness to thousands of everyday items, including coatings, plastics, paper, printing inks, fibers, food and personal care products. We own a portfolio of brands, including the TIOXIDE[®], HOMBITAN[®], HOMBITEC[®] and ALTIRIS[®] ranges, the products for which are produced in our seven manufacturing facilities around the globe (excluding our plant in Pori, Finland, ongoing closure of which was announced in the third quarter of 2018). We service over 1,200 customers in most major industries and geographic regions. Our global manufacturing footprint allows us to service the needs of both local and global customers, including AkzoNobel, Color Tech (US), Ampacet group, Avient, PPG grp, Standridge, Jotun, Sun Chemicals, LyondellBasell, and CPO Guild. Annual industry demand for TiO₂ products tends to correlate with GDP growth rates over time and is seasonal. This seasonality is subject to global, regional, end-use application and other factors.

We are among the largest global TiO₂ producers, with nameplate production capacity of approximately 602,000 metric tons per year (excluding our plant in Pori, Finland, ongoing closure of which was announced in the third quarter of 2018). We are able to manufacture a broad range of high quality TiO₂ products for functional, differentiated and specialty applications. Our specialty and differentiated product grades generally sell at a premium into more specialized applications such as fibers, catalysts, food, pharmaceuticals and cosmetics.

There are two manufacturing processes for the production of TiO₂; the sulfate process and the chloride process. We believe that the chloride process accounts for approximately 44% of global production capacity. Most end-use applications can use pigments produced by either process, although there are markets that prefer pigment from a specific manufacturing route—for example, the inks market prefers sulfate products whereas the automotive coatings market prefers chloride products. Regional customers typically favor products that are available locally. The sulfate process produces TiO₂ in both the rutile and anatase forms, the latter being used in certain high-value specialty applications.

	Rutile TiO₂	Anatase TiO₂	Ultrafine TiO₂
Characteristics	Most common form of TiO ₂ . Harder and more durable crystal	Softer, less abrasive pigment, preferred for some specialty applications	Very small particles of either rutile or anatase TiO ₂ (typically less than 100nm in diameter)
Typical Applications	Coatings, printing inks, PVC window frames, plastic masterbatches	Cosmetics, pharmaceuticals, food, polyester fibers, polyamide fibers	Catalysts and cosmetics

Our production capabilities are distinguished from some of our competitors because of our ability to manufacture high quality TiO₂ using both sulfate and chloride manufacturing processes, which gives us the flexibility to tailor our products to meet our customers' needs. By operating both sulfate and chloride processes, we also have the ability to use a wide range of titanium feedstocks, which enhances the competitiveness of our manufacturing operations, by providing flexibility in the selection of raw materials. This mitigates, to some extent, fluctuations in availability for any particular feedstock and allows us to manage our raw material costs.

Once an intermediate TiO₂ pigment has been produced using either the chloride or sulfate process, it is "finished" into a product with specific performance characteristics for particular end-use applications. Co-products from both processes require treatment prior to disposal to comply with environmental regulations. In order to reduce our disposal costs and to increase our cost competitiveness, we have developed and marketed the co-products from the manufacture of titanium dioxide at our facilities. We sell approximately 38% of the co-products generated by our TiO₂ business.

We have a broad customer base and have successfully differentiated our business by establishing ourselves as a market leader in a variety of niche end-use applications where the innovation and specialization of our products is rewarded with higher growth prospects and strong customer relationships.

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 10 of 203

Performance Additives Segment

Functional Additives. Functional additives are barium and zinc based inorganic chemicals used to make colors more brilliant, coatings shine, plastic more stable and alter the flow properties of paints. We are a leading global manufacturer of zinc and barium functional additives. The demand dynamics of functional additives are closely aligned with those of functional TiO₂ products given the overlap in applications served, including coatings and plastics.

	Barium and Zinc Additives
Characteristics	Specialty pigments and fillers based on barium and zinc chemistry
Typical Applications	Coatings, films, paper and glass fiber reinforced plastics

Color Pigments. We are a leading global producer of colored inorganic pigments for the construction, coatings, plastics and specialty markets. We are one of three global leaders in the manufacture and processing of liquid, powder and granulated forms of iron oxide color pigments. We also sell complex inorganic colored pigments, carbon black and metal carboxylate driers. The cost effectiveness, weather resistance, chemical and thermal stability and coloring strength of iron oxide make it an ideal colorant for construction materials, such as concrete, brick and roof tile, and for coatings and plastics. We produce a wide range of color pigments and are the world's second largest manufacturer of technical grade ultramarine blue pigments, which have a unique blue shade and are widely used to correct colors, giving them a desirable clean, blue undertone. These attributes have resulted in ultramarine blue being used world-wide for polymeric applications such as construction plastics, food packaging, automotive polymers, consumer plastics, as well as coatings and cosmetics.

Our products are sold under a portfolio of brands that are targeted to the construction sector such as DAVIS COLORS®, GRANUFIN® and FERROXIDE® and the following brands Holliday Pigments, COPPERAS RED® and MAPICO® focused predominantly on the coatings and plastics sectors.

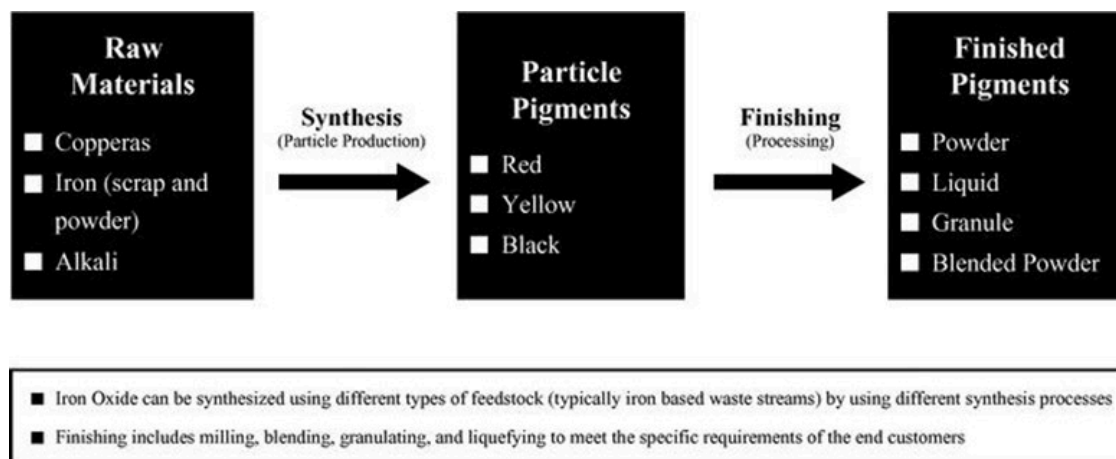
Our products are also used by manufacturers of colorants, rubber, paper, cosmetics, pet food, digital ink, toner and other industrial uses delivering benefits in other applications such as corrosion protection and catalysis.

Our construction customers value our broad product range and benefit from our custom blending, color matching and color dosing systems. Our coatings customers benefit from a consistent and quality product.

	Iron Oxides	Ultramarines	Specialty Inorganic Chemicals	Driers
Characteristics	Powdered, granulated or in liquid form synthesized from a range of feedstocks	Range of ultramarine blue and violet and also manganese violet pigments	Complex inorganic pigments and cadmium pigments	A range of metal carboxylates and driers
Typical Applications	Construction, coatings, plastics, cosmetics, inks, catalyst and laminates	Predominantly used in plastics and also coatings and cosmetics	Coatings, plastics and inks	Predominantly coatings

Copperas, iron and alkali are raw materials for the manufacture of iron oxide pigments. They are used to produce colored pigment particles which are further processed into a finished pigment in powder, liquid, granule or blended powder form. Iron oxide pigment's cost effectiveness, weather resistance, chemical and thermal stability and coloring strength make it an ideal colorant for construction materials, such as concrete, brick and roof tile, and for coatings such as paints and plastics. We are one of the three largest inorganic color pigments producers which together represent more than 50% of the global market for iron oxide pigments. The remaining market share consists primarily of competitors based in China.

Made from clay, our ultramarine blue pigments are non-toxic, weather resistant and thermally stable. Ultramarine blue pigments are used world-wide for food contact applications and are used extensively in plastics and the paint industry. Our ultramarine pigments are permitted for unrestricted use in certain cosmetics applications. We focus on supplying our customers with technical grade ultramarine blues and violets to high specification markets such as the cosmetics industry.



Timber Treatment and Water Treatment. We manufacture wood protection chemicals used primarily in residential and commercial applications to prolong the service life of wood through protection from decay and fungal or insect attack. Wood that has been treated with our products is primarily sold to consumers through major branded retail outlets.

We manufacture our timber treatment chemicals in the United States (the "U.S.") and market our products primarily in North America through Viance, LLC ("Viance"), our 50%-owned joint venture with Dupont de Nemours, Inc ("DuPont"). Our residential construction products such as ACQ, ECOLIFE™ and Copper Azole are sold for use in decking, fencing and other residential outdoor wood structures. Our industrial construction products such as Chromated Copper Arsenate are sold for use in telephone poles and salt water piers and pilings.

We manufacture our water treatment chemicals in Germany, and these products are used to improve water purity in industrial, commercial and municipal applications. We are one of Europe's largest suppliers of polyaluminium chloride-based flocculants with approximately 140,000 metric tons of production capacity. Our main markets are municipal and industrial waste water treatment and the paper industry.

Customers, Sales, Marketing and Distribution

Titanium Dioxide Segment

We serve over 1,200 customers through our Titanium Dioxide segment. These customers produce paints and coatings, plastics, paper, printing inks, fibers and films, pharmaceuticals, food and cosmetics.

Our ten largest customers accounted for 25% of the segment's sales in 2020 and no single TiO₂ customer represented more than 10% of our sales in 2020. Approximately 86% of our TiO₂ sales are made directly to customers through our own global sales and technical services network. This network enables us to work directly with our customers and develop a deep understanding of our customers' needs resulting in valuable relationships. The remaining 14% of sales are made through our distribution network. We maximize the reach of our distribution network by utilizing specialty distributors in selected markets.

Larger customers are typically served via our own sales network and these customers often have annual volume targets with associated pricing mechanisms. Smaller customers are served through a combination of our global sales teams and a distribution network, and the route to market decision is often dependent upon customer size and end-use application.

Our focus is on marketing products and services to higher growth and higher value applications. For example, we believe that our Titanium Dioxide segment is well-positioned to benefit from sectors such as fibers and films, catalysts, cosmetics, pharmaceuticals and food, where customers' needs are complex resulting in fewer companies that have the capability to support them. We maximize reach through specialty distributors in selected markets. Our focused sales effort, technical expertise, strong customer service and local manufacturing presence have allowed us to achieve leading market positions in a number of countries.

Performance Additives Segment

We serve over 2,400 customers through our Performance Additives segment. Koppers Performance Chemicals, Inc. is the construction industry, as well as coatings, plastics, pharmaceutical, personal care and catalyst applications.

Our ten largest customers accounted for 24% of the segment's sales in 2020 and no single Performance Additives customer represented more than 10% of our sales in 2020. Performance Additives segment sales are made directly to customers through our own global sales and technical services network, in addition to utilizing distributors. Our focused sales effort, technical expertise, strong customer service and local manufacturing presence have allowed us to achieve leading market positions in a number of the countries where we manufacture our products. We sell iron oxides primarily through our global sales force whereas our ultramarine sales are predominantly through distributors. We sell the majority of our timber treatment products directly to end customers via our joint venture, Viance.

Manufacturing and Operations

Titanium Dioxide Segment

As of December 31, 2020, our Titanium Dioxide segment had seven manufacturing facilities operating in six countries with a total nameplate production capacity of approximately 602,000 metric tons per year.

Production nameplate capacities of our TiO₂ manufacturing facilities are listed below.

Site	Annual Capacity (metric tons)				Process
	EMEA ^{(1),(3)}	North America	APAC ⁽²⁾	Total	
Greatham, U.K.	150,000			150,000	Chloride TiO ₂
Uerdingen, Germany	107,000			107,000	Sulfate TiO ₂
Duisburg, Germany	50,000			50,000	Sulfate TiO ₂
Huelva, Spain	80,000			80,000	Sulfate TiO ₂
Scarlino, Italy	80,000			80,000	Sulfate TiO ₂
Lake Charles, Louisiana ⁽⁴⁾		75,000		75,000	Chloride TiO ₂
Teluk Kalung, Malaysia			60,000	60,000	Sulfate TiO ₂
Total	467,000	75,000	60,000	602,000	

(1) "EMEA" refers to Europe, the Middle East and Africa.

(2) "APAC" refers to the Asia-Pacific region including India.

(3) Excludes our TiO₂ plant in Pori, Finland, ongoing closure of which was announced in the third quarter of 2018.

(4) This facility is owned and operated by Louisiana Pigment Company L.P. ("LPC"), a manufacturing joint venture that is owned 50% by us and 50% by Kronos Worldwide, Inc. ("Kronos"). The capacity shown reflects our 50% interest in LPC.

Performance Additives Segment

As of December 31, 2020, our Performance Additives segment had 16 manufacturing facilities operating in seven countries with a total nameplate production capacity of approximately 474,600 metric tons per year.

Product Area	Annual Capacity (metric tons)			
	EMEA	North America	APAC	Total
Functional additives	50,000			50,000
Color pigments	84,500	40,000	20,100	144,600
Timber treatment		140,000		140,000
Water treatment	140,000			140,000
Total	274,500	180,000	20,100	474,600

Joint Ventures

LPC is our 50%-owned joint venture with Kronos. We share production offtake and operating costs of the plant with Kronos, though we market our share of the production independently. The operations of the joint venture are under the direction

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 16 of 203

of a supervisory committee on which each partner has equal representation. Our investment in LPC is accounted for using the equity method.

Viance is our 50%-owned joint venture with DuPont. In the fourth quarter of 2019, it was announced that DuPont and International Flavors and Fragrances, Inc. ("IFF") entered into a definitive agreement for the merger of IFF and DuPont's Nutrition & Biosciences business. We do not anticipate that this merger will have a material impact on our business. The merger is expected to close during the first quarter of 2021. Upon closure, it is expected that DuPont's interest in Viance will transfer to IFF. Viance markets our timber treatment products. Our joint venture interest in Viance was acquired as part of the Rockwood acquisition. The joint venture sources all of its products through a contract manufacturing arrangement at our Harrisburg, North Carolina facility, and we bear a disproportionate amount of working capital risk of loss due to the supply arrangement whereby we control manufacturing on Viance's behalf. As a result, we concluded that we are the primary beneficiary and as a result, we consolidate the assets, liabilities and operating results of Viance into our consolidated financial statements.

Pacific Iron Products Sdn Bhd ("PIP") is our 50%-owned joint venture with Coogee Chemicals Pty. Ltd. that manufactures products for Venator. It was determined that the activities that most significantly impact its economic performance are raw material supply, manufacturing and sales. In this joint venture we supply all the raw materials through a fixed cost supply contract, operate the manufacturing facility and market the products of the joint venture to customers. Through a fixed price raw materials supply contract with the joint venture we are exposed to the risk related to the fluctuation of raw material pricing. We concluded that we are the primary beneficiary and as a result we consolidate the assets, liabilities and operating results of PIP into our consolidated financial statements.

Raw Materials

Titanium Dioxide Segment

The primary raw materials that are used to produce TiO₂ are various types of titanium feedstock, which include ilmenite, rutile, titanium slag (chloride slag and sulfate slag) and synthetic rutile. The world market for titanium-bearing ores has a diverse range of suppliers with the five largest accounting for approximately 40% of global supply. The majority of our titanium-bearing ores are sourced from Canada, Africa, Australia and India. Ore accounts for approximately 57% of TiO₂ variable manufacturing costs, while utilities (electricity, gas and steam), sulfuric acid and chlorine collectively account for approximately 25% of variable manufacturing costs.

The majority of the titanium-bearing ores market is transacted on short-term contracts, or longer-term volume contracts with market-based pricing re-negotiated several times per year. This form of market-based ore contract provides flexibility and responsiveness in terms of pricing and quantity obligations.

Performance Additives Segment

Our primary raw materials for our Performance Additives segment are as follows:

	Functional Additives	Color Pigments	Timber Treatment	Water Chemicals
Primary raw materials	Barium and zinc based inorganics	Iron oxide particles, scrap iron, copperas, alkali	DCOIT, copper, monoethanolamine	Aluminum hydroxide

The primary raw materials for functional additives production are barite and zinc. We currently source barite from China, where we have long standing supplier relationships and pricing is negotiated largely on a purchase by purchase basis. The quality of zinc required for our business is mainly mined in Australia but can also be sourced from Canada and South America. The majority of our zinc is sourced from two key suppliers with whom we have long standing relationships.

We source our raw material for the majority of our color pigments business from China, the U.S., France and Italy. Key raw materials are iron powder and metal scrap that are sourced from various mid-size and smaller producers primarily on a spot contract basis.

The primary raw materials for our timber treatment business are dichloro-octylisothiazolinone ("DCOIT") and copper. We source the raw materials for the majority of our timber treatment business from China and the U.S. DCOIT is sourced on a long-term

Koppers Performance Chemicals, Inc.

Ex. 2002

contract whereas copper is procured from various mid-size and larger producers primarily on a spot basis.

The primary raw materials for our water treatment business are aluminum hydroxide, hydrochloric acid and nitric acid, which are widely available from a number of sources and typically sourced through long-term contracts. We also use sulfuric acid which we source internally.

Competition

The global markets in which our business operates are highly competitive and vary according to segment.

Titanium Dioxide Segment

Competition for Titanium Dioxide products is based on price, product quality and service. Our key competitors are The Chemours Company, Tronox Holdings plc ("Tronox"), Kronos Worldwide Inc. and Lomon Billions each of which has the ability to service global markets. Unlike our chloride technology, the sulfate based TiO₂ technology used by our Titanium Dioxide segment is widely available. Accordingly, barriers to entry, apart from capital availability, may be low. The entrance of new competitors into the industry, the ability of existing or future competitors to increase production in low cost markets, and the development of proprietary technology that enables current or future competitors to produce functional grade products at a significantly lower cost, could render our technology uneconomic and reduce our ability to capture improving margins in circumstances where capacity utilization in the industry is increasing.

Competition within the specialty and differentiated TiO₂ markets is based on technical expertise in the customers' applications, customer service, product attributes (such as product form and quality), and price. Product quality is particularly critical in the technically demanding applications in which we focus as inconsistent product quality adversely impacts consistency in the end-product. Our primary competitors within specialty and differentiated TiO₂ applications include Fuji Titanium Industry, ISK, Kronos Worldwide Inc., Precheza a.s., Sakai Chemical Industry Co. and Tayca Corporation.

Performance Additives Segment

Competition within the functional additives market is primarily based on technical expertise, brand recognition, product quality and price. Key competitors for barium-based additives include 20 Microns Ltd, Sakai Chemical Industry Co., Ltd., Solvay S.A. and various Chinese barium producers. Key competitors for zinc-based additives include various Chinese lithopone producers.

Competition within the color pigments market is based on price, product quality, technical capability, brand recognition and innovation. Our primary competitors within color pigments include Cathay Pigments Group, Ferro Corporation, Lanxess AG, and Shanghai Yipin Pigments Co., Ltd.

Competition within the timber treatment market is based on price, customer support services, innovative technology, including sustainable solutions and product range. Our primary competitors are Koppers Inc. and Lonza Group.

Competition within the water treatment market is based on proximity to customers and price. Our primary competitors are Feralco Group and Kemira Oyj.

Intellectual Property

Proprietary protection of our processes, apparatuses, and other technology and inventions is important to our businesses. When appropriate, we file patent and trademark applications, often on a global basis, for new product development technologies. For example, we have obtained patents and trademark registrations covering relevant jurisdictions for key product platforms related to Functional Pigments and Additives and Active Materials technologies. These platforms are used for solar reflection (ALTIRIS® pigments), to keep colored surfaces cooler when they are exposed to the sun, enhance air purification, improve catalytic processes (HOMBIKAT®) or lead to products that help manage heat in plastic applications or lead to metal deactivation in cables (SACHTOLITH®).

We own a total of approximately 680 issued patents and pending patent applications. Our patent portfolio includes approximately 40 issued U.S. patents, approximately 430 patents issued in countries outside the U.S., and 210 pending patent applications, worldwide. While a presumption of validity exists with respect to issued U.S. patents, we cannot assure that any of our patents will not be challenged, invalidated, circumvented or rendered unenforceable. Furthermore, we cannot assure the issuance of any pending patent application, or that if patents do issue, that these patents will provide meaningful protection against competitors or

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 20 of 203

against competitive technologies. Additionally, our competitors or other third parties may obtain patents that restrict or preclude our ability to lawfully produce or sell our products in a competitive manner.

We also rely upon unpatented proprietary know-how and continuing technological innovation and other trade secrets to develop and maintain our competitive position. There can be no assurance, however, that confidentiality and other agreements into which we enter and have entered will not be breached, that they will provide meaningful protection for our trade secrets or proprietary know-how, or that adequate remedies will be available in the event of an unauthorized use or disclosure of such trade secrets and know-how. In addition, there can be no assurance that others will not obtain knowledge of these trade secrets through independent development or other access by legal means.

In addition to our own patents, patent applications, proprietary trade secrets and know-how, we are a party to certain licensing arrangements and other agreements authorizing us to use trade secrets, know-how and related technology and/or operate within the scope of certain patents owned by other entities. We also have licensed or sub-licensed intellectual property rights to third parties.

Certain of our products are well-known brand names and we have approximately 870 global trademark registrations and applications. Some of these registrations and applications include filings under the Madrid system for the international registration of marks and may confer rights in multiple countries. However, there can be no assurance that the trademark registrations will provide meaningful protection against the use of similar trademarks by competitors, or that the value of our trademarks will not be diluted. In our Titanium Dioxide segment, we consider our TIOXIDE[®], HOMBITAN[®], HOMBITEC[®], UVTITAN[®], HOMBIKAT[™], DELTIO[®] and ALTIRIS[®] trademarks to be valuable assets. In our Performance Additives segment, we consider BLANC FIXE[™], GRANUFIN[®], SACHTOLITH[®], FERROXIDE[®], ECOLIFE[™] and NICASAL[®] trademarks to be valuable assets.

Environmental, Health and Safety Matters

General

We are subject to extensive federal, state, local and international laws, regulations, rules and ordinances relating to occupational health and safety, process safety, pollution, protection of the environment and natural resources, product management and distribution, and the generation, storage, handling, transportation, treatment, disposal and remediation of hazardous substances and waste materials. In the ordinary course of business, we are subject to frequent environmental inspections and monitoring and occasional investigations by governmental enforcement authorities. In the U.S., these laws include the Resource Conservation and Recovery Act ("RCRA"), the Occupational Safety and Health Act, the Clean Air Act ("CAA"), the Clean Water Act, the Safe Drinking Water Act, and Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), as well as the state counterparts of these statutes.

In the EU, we are subject to numerous environmental, health and safety related provisions. EU regulations are automatically applicable to EU member states from the date they enter into force, while directives become binding upon incorporation into member states' national legislation. Incorporation of directives into national law must take place by the deadline set by the relevant directive, usually within two years. Applicable laws include Directive 2004/35/CE on environmental liability with regard to the prevention and remedying of environmental damage, Directive 2008/98/EC on waste ("Waste Framework Directive"), Directive 1999/31/EC on the landfill of waste, the Seveso-III Directive on prevention of major accident hazards involving dangerous substances, Directive 2000/60/EC known as the EU Water Framework Directive, Directive 2010/75/EU on industrial emissions and Regulation (EC) 1907/2006 on the Registration, Evaluation, Authorisation and Restriction of Chemicals ("REACH"). Additionally, member states operate their own domestic legislation where not prescribed by EU law, including in the core areas of health and safety in the workplace, statutory nuisance and land contamination legislation, which are subject to national jurisdiction.

On January 31, 2020, the U.K. withdrew from the EU. As a result, the U.K. was in a transition period through December 31, 2020, during which time EU rules and regulations applicable to U.K. businesses continued to remain in force. In December 2020, the U.K. and the EU announced they had entered into a post-Brexit agreement on certain aspects of trade and other strategic and political issues, potentially avoiding some of the anticipated disruption of a no-deal, hard Brexit. The full effects of Brexit remain unknown as not all details of the required new U.K. legislation is available. In addition, we do not know if the U.K. and the EU will succeed in negotiating certain terms not addressed in the December 2020 Brexit agreement. Based on the U.K. trade deal agreed with the EU at the end of the transition period, we anticipate the following could impact our operations:

- product registration requirements have changed;
- we have transferred our existing EU REACH Only Representative ("OR") responsibilities away from U.K. legal entities;

- we transferred our REACH registration dossiers held by Venator U.K. legal entities to alternative EU-based entities before the end of the transition period;
- we assigned EU OR to support transactions of our U.K. manufactured products into the EU; and
- we are monitoring developments on the new U.K. REACH regime and will participate, as appropriate, in the initial notification scheme.

In addition, our production facilities require operating permits that are subject to renewal, modification and, in certain circumstances, revocation. Actual or alleged violations of safety laws, environmental laws or permit requirements could result in restrictions or prohibitions on plant operations or product distribution, substantial civil or criminal sanctions, or injunctions limiting or prohibiting our operations altogether. In addition, some environmental laws may impose liability on a strict, joint and several basis. Moreover, changes in environmental regulations could inhibit or interrupt our operations, or require us to modify our facilities or operations and make significant environmental compliance expenditures. Accordingly, environmental or regulatory matters may cause us to incur significant unanticipated losses, costs or liabilities. Information related to EHS matters may also be found in other areas of this report including "Item 1A. Risk Factors," and "Part II, Item 8, Financial Statements and Supplementary Data—Note 22. Commitments and Contingencies —Other Proceedings and Note 23. Environmental, Health and Safety Matters."

We are subject to a wide array of laws governing chemicals, including the regulation of chemical substances and inventories under the Toxic Substances Control Act ("TSCA") in the U.S., and REACH, and the Classification, Labelling and Packaging Regulation ("CLP") regulation in Europe. Analogous regimes exist in other parts of the world, including the U.K., China, South Korea, and Taiwan. Several other countries, including Turkey and Russia, have announced that they will be introducing similar systems in the future. In addition, a number of countries where we operate, including the U.K., have adopted rules to conform chemical labeling in accordance with the globally harmonized system. Many of these foreign regulatory regimes are in the process of a multi-year implementation period for these rules. For example, the Globally Harmonised System ("GHS") established a uniform system for the classification, labeling and packaging of certain chemical substances and the European Chemicals Agency ("ECHA") is currently in the process of determining if certain chemicals should be proposed to the European Commission to receive a carcinogenic classification.

Certain of our products are being evaluated under CLP regulation and their classification could negatively impact sales. On May 31, 2016, the French Agency for Food, Environmental and Occupational Health and Safety submitted a proposal to ECHA that would classify TiO₂ as a Category 1B Carcinogen presumed to have carcinogenic potential for humans by inhalation. On September 14, 2017, the Risk Assessment ("RAC") published their final opinion, which proposed that TiO₂ be classified as a Category 2 carcinogen by inhalation. On October 4, 2019, the European Commission published a Delegated Regulation which applies to some forms of TiO₂ (in a powder form containing 1% or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$). The regulation was adopted on February 4, 2020 and will apply as of October 1, 2021. Member states, however, may choose to apply the regulation at any time after publication. On May 13, 2020, Venator and a number of other applicants filed a legal challenge seeking the annulment of the TiO₂ classification in the General Court of the EU. If successful the delegated act will be annulled, however, a decision by the Court is unlikely to be received before mid 2022.

Following the U.K.'s withdrawal from the EU, the Health and Safety Executive in the U.K. has now published the U.K.'s mandatory classification and labelling list, which includes the classification of TiO₂ as a suspected carcinogen (in a powder form containing 1% or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$). The classification will become mandatory in the U.K. beginning October 2021.

On April 25, 2019, the French Arrêté of April 17, 2019 suspending the placing on the market of foodstuffs containing additive E171 (TiO₂) was published in the French Official Journal. The suspension was effective in France for one year beginning January 1, 2020. On December 23, 2020, France extended the national suspension for one year effective until January 1, 2022 extending the restriction on the sale of TiO₂ in foodstuffs in France.

Adoption of the Category 2 Carcinogen classification may require that some end-use products manufactured with TiO₂ are classified and labeled in the EU and U.K. as containing a potentially carcinogenic component, which could negatively impact public perception, market demand and prices of products containing TiO₂. The classification may also impact our manufacturing operations leading to increased costs. The classification may have additional effects under other EU laws, e.g., those affecting medical and pharmaceutical applications, cosmetics, food packaging and food additives. The classification of TiO₂ in the EU could trigger enhanced regulatory scrutiny in other jurisdictions outside the EU, of products containing TiO₂ or products from our Performance Additives segment, which may increase our compliance obligations, impact consumer sentiment and decrease market demand.

The classification could also require that waste containing TiO₂ meeting the specifications in the classification be classified as hazardous waste, as separately determined by each Member State, which could result in significant impacts on our customers' products, wastes from our operations and the implementation of Circular Economy efforts within the EU. It is also possible that heightened regulatory scrutiny could lead to claims by employees or consumers of such products alleging adverse health impacts. Finally, the classification of TiO₂ as a Category 2 Carcinogen could lead the ECHA to evaluate other products with similar particle characteristics (such as iron oxides or functional additives) for human carcinogenic potential by inhalation, which may ultimately have similar negative impacts on other products within our portfolio.

On October 14, 2020 the European Commission published a Chemical Strategy for Sustainability. This is part of the EU's zero pollution ambition, which is a key commitment of the European Green Deal. The strategy aims to protect citizens and the environment by reforming chemicals regulation in Europe and regulating substances classified as carcinogenic, mutagenic or toxic for reproduction (CMRs) in consumer products. The strategy may introduce new regulatory categories and impact the future regulation of our products.

Environmental, Health and Safety Systems

We are committed to achieving and maintaining compliance with all applicable EHS legal requirements, and we have developed policies and management systems that are intended to identify the multitude of EHS legal requirements applicable to our operations, enhance compliance with applicable legal requirements, improve the safety of our employees, contractors, community neighbors and customers and minimize the production and emission of wastes and other pollutants. We cannot guarantee, however, that these policies and systems will always be effective or that we will be able to manage EHS legal requirements without incurring substantial costs. Although EHS legal requirements are constantly changing and are frequently difficult to comply with, these EHS management systems are designed to assist us in our compliance goals while also fostering efficiency and improvement and reducing overall risk to us.

Environmental Remediation

We have incurred, and we may in the future incur, liability to investigate and clean up waste or contamination at our current or former facilities or facilities operated by third parties at which we may have disposed of waste or other materials. Similarly, we may incur costs for the cleanup of waste that was disposed of prior to the purchase of our businesses. Under some circumstances, the scope of our liability may extend to damages to natural resources. Based on available information, we believe that the costs to investigate and remediate known contamination will not have a material effect on our financial statements. At the current time, we are unable to estimate the total cost to remediate contaminated sites.

We are undertaking detailed assessments of the environmental status of three facilities in the EU and one in the US as part of detailed site investigation and remediation processes. The assessment of the environmental status may lead to a requirement for environmental remediation as a part of these processes. Although the detailed assessment of the environmental status at these facilities is not complete, based on available information, we believe that the costs to investigate and remediate known contamination will not have a material effect on our financial statements.

Under CERCLA and similar laws in other jurisdictions, a current or former owner or operator of real property may be liable for remediation costs regardless of whether the release or disposal of hazardous substances was in compliance with law at the time it occurred, and a current owner or operator may be liable regardless of whether it owned or operated the facility at the time of the release. Outside the U.S., analogous contaminated property laws, such as those in effect in the EU, can hold past owners and/or operators liable for remediation at former facilities. We have not been notified by third parties of claims against us for cleanup liabilities at former facilities or third-party sites, including, but not limited to, sites listed under CERCLA.

Under the RCRA in the U.S. and similar laws in other jurisdictions, we may be required to remediate contamination originating from our properties as a condition to our hazardous waste permit. Some of our manufacturing sites have an extended history of industrial chemical manufacturing and use, including on-site waste disposal. We are aware of soil, groundwater or surface contamination from past operations at some of our sites, and we may find contamination at other sites in the future. Similar laws exist in a number of locations in which we currently operate, or previously operated, manufacturing facilities.

During 2018 and 2019, China implemented new laws and regulations covering environmental contamination and created the Ministry for Environment Protection. Based on available information we do not believe that these regulatory changes will have a material effect on our financial statements.

Globally, our operations are increasingly subject to regulations that seek to reduce emissions of greenhouse gases ("GHGs"), such as carbon dioxide and methane, which may be contributing to changes in the earth's climate. Increasing presence of climate change at the top of the global political and media agenda may lead to further domestic regulations and international agreements and commitments to restrict GHG emissions, all of which can lead to the necessity for increased investment in innovative energy sources and increased capital expenditure.

Recent developments in climate change related policy and regulations include the Green Deal in the EU, mandatory disclosures in the U.K. by the Task Force on Climate-related Financial Disclosures ("TCFD"), the U.K. commitment to becoming carbon neutral by 2050, and similar policy changes and commitments in other nations worldwide including the announcement that the U.S. is rejoining the Paris climate agreement. These changes could affect us in a number of ways including potential requirements to decarbonize manufacturing processes and increased costs of GHG allowances. As with other jurisdictions, our operations in the U.S. may become subject to increasing climate change regulations and we are currently monitoring these developments closely while investigating appropriate climate change strategies to enable us to comply with the new regulations and conform to new disclosure requirements such as TCFD.

We are already managing and reporting GHG emissions, to varying degrees, at our sites worldwide. These locations are subject to a number of existing GHG related laws and regulations. Potential consequences of such restrictions include capital requirements to modify assets to meet GHG emission restrictions and/or increases in energy costs above the level of general inflation, as well as direct compliance costs. Currently, however, it is not possible to estimate the likely financial impact of potential future regulation on any of our sites.

Increasing concentrations of GHGs in the earth's atmosphere may produce climate changes that have significant physical effects, such as increased frequency and severity of storms, droughts, floods and other extreme climatic events. The potential severity of the changes varies in accordance with the Representative Concentration Pathway ("RPC") used to predict the changes, however, they could have adverse effects on our assets and operations. For example, we have a number of operations in low lying areas that may be at increased risk due to flooding, rising sea levels or disruption of operations from more frequent and severe weather events. These potential effects are also included in our investigation into appropriate climate change strategies.

Human Capital Resources

Talent Management

To remain a leading global manufacturer and marketer of chemical products, it is important that we continue to attract and retain exceptional talent. Our business results depend on our ability to successfully manage our human capital resources, including attracting, identifying and retaining key talent. Factors that may affect our ability to attract and retain qualified employees include employee morale, our reputation, competition from other employers and availability of qualified individuals.

We believe that our values-based culture is a competitive advantage that is critical to our success and we implement policies that set forth these values including our Business Conduct Guidelines. We pride ourselves on maintaining high ethical standards and integrity, employee health and safety, teamwork, innovation and performance. We emphasize the importance of each of our employees supporting our core values, establishing standards for work ethic, collaboration, and a commitment to deliver results.

As of December 31, 2020, we employed approximately 3,700 associates in our operations around the world of which approximately 2,400 are in Europe, 700 are in the U.K., 400 are in Asia and 200 are in the US. We believe our relations with our employees are good. A significant number of our employees are employed in jurisdictions where they are represented by a local works council consisting of company and employee representatives. A number of our employees are members of unions and we have entered into collective bargaining agreements with these unions on terms that we believe are typical for the industry in which we operate.

We place considerable value on the growth and development of our employees. We take steps to ensure that we keep them informed on matters affecting them, the overall organization as well as on the performance of the Company. We conduct formal and informal meetings with employees, and maintain a Company intranet website with key information and other matters of interest.

We are committed to a policy of recruitment, reward and promotion on the basis of competence and ability and in compliance with all applicable laws in the jurisdictions in which we operate, including those pertaining to protected characteristics or status.

Total Rewards

We invest in our workforce by offering a competitive total rewards package that includes a combination of features, such as salaries and wages, health and wellness benefits, equity incentives, retirement benefits and training and development. We strive to offer a competitive total rewards package that is responsive to local employment markets and employee needs.

Health and Safety

The health and safety of our workforce is fundamental to the success of our business. We provide our employees initial and ongoing safety training applicable to their role, to ensure that safety policies and procedures are effectively communicated and implemented. Personal protective equipment is provided to those employees where needed for the employee to safely perform their job function. We have experienced personnel on site at each of our manufacturing locations that are tasked with providing environmental, health and personal safety education and promoting compliance.

During the COVID-19 pandemic, we have been actively managing our business to enact rigorous safety measures across our organization, including stopping non-essential business travel, increasing personal protective equipment requirements, requiring temperature checks at our sites, removing contractors from site where necessary, increasing cleaning and sanitizing measures, implementing social distancing protocols, requiring work-from-home arrangements as appropriate and reducing the amount of employees working at a site at any given time. We continue to evaluate the appropriate measures to have in place to safeguard our employees and our business and we may take further actions as government authorities require or recommend, or as we determine to be in the best interest of our employees, customers, partners and suppliers. We expect to continue these measures until we determine that COVID-19 is adequately contained at each relevant location for purposes of safeguarding our employees and our business.

Human Capital Measures

We monitor several key non-financial human capital measures to manage our business including recordable injuries, process incidents, employee gender diversity and average number of people employed by functional area. We are strongly committed to the safety of all our employees as well as providing equal opportunities to our diverse and talented workforce. These measures help our management team focus on safety, promote diversity and maintain proper functional leverage.

Information about our Executive Officers

The following table sets forth information, as of February 24, 2021, regarding the individuals who are our executive officers.

Name	Age	Position(s) at Venator
Simon Turner	57	President and Chief Executive Officer
Kurt Ogden	52	Executive Vice President and Chief Financial Officer
Russ Stolle	58	Executive Vice President, General Counsel and Chief Compliance Officer
Mahomed Maiter	59	Executive Vice President, Business Operations
Rob Portsmouth	55	Senior Vice President, EHS, Innovation and Technology

Simon Turner has served as President and Chief Executive Officer and as a director of Venator since the second quarter of 2017. Mr. Turner served as Division President, Pigments & Additives, at Huntsman from November 2008 to August 2017, Senior Vice President, Pigments & Additives, from April 2008 to November 2008, Vice President of Global Sales from September 2004 to April 2008 and General Manager Co-Products and Director Supply Chain and Shared Services from July 1999 to September 2004. Prior to joining Huntsman, Mr. Turner held various positions with Imperial Chemical Industries PLC ("ICI").

Kurt Ogden was named Executive Vice President and Chief Financial Officer of Venator in February 2019. Prior to then, he served as Venator's Senior Vice President and Chief Financial Officer from the second quarter of 2017. Mr. Ogden served as Vice President, Investor Relations and Finance of Huntsman from February 2009 until August 2017 and as Director, Corporate Finance from October 2004 to February 2009. Between 2000 and 2004, he was Executive Director Financial Planning and Analysis with Hillenbrand Industries and Vice President Treasurer with Pliant Corporation. Mr. Ogden began his career with Huntsman Chemical Corporation in 1993 and held various positions with related companies up to 2000. Mr. Ogden is a Certified Public Accountant.

Russ Stolle was named Executive Vice President, General Counsel and Chief Compliance Officer of Venator in February 2019. Prior to then, he served as Venator's Senior Vice President, General Counsel and Chief Compliance Officer from the second quarter of 2017. Mr. Stolle served as Senior Vice President and Deputy General Counsel of Huntsman from January 2010 until August 2017. From October 2006 to January 2010, Mr. Stolle served as Huntsman's Senior Vice President, Global Public Affairs and Communications, from November 2002 to October 2006, he served as Huntsman's Vice President and Deputy General Counsel, from October 2000 to November 2002, he served as Huntsman's Vice President and Chief Technology Counsel and from April 1994 to October 2000 he served as Huntsman's Chief Patent and Licensing Counsel. Prior to joining Huntsman in 1994, Mr. Stolle had been an attorney with Texaco Inc. and an associate with the law firm of Baker Botts L.L.P.

Mahomed Maiter was named Executive Vice President, Business Operations of Venator in February 2019. Prior to then he served as Venator's Senior Vice President, White Pigments from the second quarter of 2017. He has over 34 years of experience in the chemical and pigment industry covering a range of senior commercial, global sales and marketing, business development, manufacturing and business roles. From January 2007 to April 2017, Mr. Maiter served as Vice President Global Sales and Marketing, Vice President Revenue and Vice President Business Development of Huntsman's Pigments and Additives business. From August 2005 to December 2006, he was Vice President of Huntsman's European Polymers business. Mr. Maiter started his career in the chemical industry in 1985 when he joined the Tioxide business of ICI in South Africa where he held various operations and manufacturing roles. He relocated to the U.K. in June 1995 to take up a General Manager position in ICI in the Tioxide business and was subsequently appointed to Global Marketing Director and Vice President Commercial.

Rob Portsmouth has served as Senior Vice President, EHS, Innovation and Technology of Venator since January 2019. Dr. Portsmouth previously served as Vice President, Innovation of Venator since April 2017. He has over 27 years of experience in the chemical industry having started his career with Royal Dutch Shell in South Africa before joining the Tioxide business of ICI in South Africa in 1996 where he held roles in manufacturing, operations and technical management. Dr. Portsmouth relocated to the U.K. in 2003 where he served as Director of Global Marketing and Director of Business Development for Huntsman's Pigments and Additives business between 2003 and 2017. Dr. Portsmouth received his Doctorate in Chemical Engineering from the University of Cambridge (U.K.).

Availability of Information for Shareholders

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), are made available free of charge on our Internet website at www.venatorcorp.com as soon as reasonably practicable after these reports have been electronically filed with, or furnished to, the Securities and Exchange Commission (the "SEC"). The SEC also maintains an Internet website that contains reports, proxy statements, and other information regarding issuers that file electronically with the SEC at <http://www.sec.gov>. Information contained on or connected to our website is not incorporated by reference into this annual report on Form 10-K and should not be considered part of this annual report or any other filing we make with the SEC.

ITEM 1A. RISK FACTORS

We are subject to certain risks and hazards due to the nature of the business activities we conduct. The risks discussed below, any of which could materially and adversely affect our business, financial condition, cash flows, results of operations and share price, are not the only risks we face. We may experience additional risks and uncertainties not currently known to us or, as a result of developments occurring in the future, conditions that we currently deem to be immaterial may ultimately materially and adversely affect our business, financial condition, cash flows, results of operations and share price.

Risk Factors Summary

Risks Related to COVID-19 and the Economy

- The COVID-19 pandemic and related economic repercussions have created significant disruptions to the global economy and have adversely affected our business.
- Our industry is affected by global economic factors, including risks associated with volatile economic conditions. Declines in worldwide economic conditions as a result of the COVID-19 pandemic have caused demand for our products to decrease and have adversely affected our business and we may continue to experience lower demand.
- The market for many of our TiO₂ products is cyclical and volatile, and we may experience depressed market conditions for such products.

Risks Related to Competition

- The industries in which we compete are highly competitive, and we may not be able to compete effectively with our competitors that have greater financial resources or those that are vertically integrated.
- If we are unable to innovate and successfully introduce new products, or new technologies or processes, our profitability could be adversely affected.
- Our business is dependent on our intellectual property. If we are unable to enforce our intellectual property rights and prevent use of our intellectual property by third parties, our ability to compete may be adversely affected.

Risks Related to our Liquidity and Capital Resources

- Our indebtedness is substantial and a significant portion of our indebtedness is subject to variable interest rates. Our indebtedness may make us more vulnerable to financial market volatility and economic downturns and may limit our ability to respond to market conditions, to obtain additional financing or to refinance our debt.
- We may need additional capital in the future and may not be able to obtain it on favorable terms.
- If we are unable to generate sufficient cash flow from our operations, our business, financial condition and results of operations may be materially and adversely affected.
- Our customers, prospective customers, suppliers or other companies with whom we conduct business may need assurances that our financial stability is sufficient to satisfy their requirements for doing or continuing to do business with them.

Risks Related to our Manufacturing Operations and Supply

- Our manufacturing operations involve risks that may increase our operating costs, which could reduce our profitability.
- Disruptions in production at our manufacturing facilities may have a material adverse impact on our business.
- Significant price volatility or interruptions in supply of raw materials and energy may result in increased costs that we may be unable to pass on to our customers.
- Differences in views with our joint venture participants may cause our joint ventures not to operate according to their business plans or be able to compete effectively with operations of our competitors.

Risks Related to Environmental, Health and Safety Matters

- The classification of TiO₂ as a Category 2 Carcinogen in the EU, or any increased regulatory scrutiny, could decrease demand for our products and subject us to manufacturing and waste disposal regulations that could significantly increase our costs.
- Restrictions on disposal of waste from our manufacturing processes could result in higher costs and negatively impact our ability to operate our manufacturing facilities.
- We are subject to many environmental, health and safety laws and regulations that may result in unanticipated costs or liabilities.
- Our products, raw materials and operations are subject to chemical control laws in countries in which they are manufactured, transported or sold.
- Our operations are increasingly subject to climate change regulations that seek to reduce emissions of greenhouse gases.

Risks Related to Restructuring and Business Improvements

- If we are unable to successfully implement business improvements, we may not realize the benefits we anticipate from such programs or may incur additional and/or unexpected costs in order to realize them.
- We may be unsuccessful in our announced intentions to close the Pori, Finland site and transfer specialty and differentiated production to other sites within our manufacturing network.
- Costs from current and future restructurings and site closures may exceed our estimates.

Risks Related to our Employees and Pensions

- Our pension and postretirement benefit plan obligations are currently underfunded, and under certain circumstances we may have to significantly increase the level of cash funding to some or all of these plans.
- Our flexibility in managing our labor force may be adversely affected by existing or new labor and employment laws and policies in the jurisdictions in which we operate, many of which are more onerous than those of the U.S.

Risks Related to our International Operations, Regulations and Foreign Currency

- Economic conditions and regulatory changes as a result of the U.K.'s exit from the EU could adversely impact our operations, operating results and financial condition.
- Our results of operations may be adversely affected by fluctuations in currency exchange rates and tax rates and changes in tax laws in the jurisdictions in which we operate.
- The impact of differing and evolving international laws and regulations on trade or the manner of interpretation or enforcement of existing laws or regulations could adversely affect us.
- Significant developments in international trade policies could have a material adverse effect on our business.

Risks Related to Litigation and Privacy

- Our operations, financial condition and liquidity could be adversely affected by legal claims against us.
- Increasing regulatory focus on privacy issues and expanding laws could impact our business and expose us to increased liability.

General Risk Factors

- We are subject to risks relating to our information technology systems, and any failure to adequately protect our critical information technology systems could materially affect our operations.
- Conflicts, military actions, terrorist attacks, public health crises, cyber-attacks and general instability.
- Failure to maintain effective internal controls could adversely affect our ability to meet our reporting requirements.

Risks Related to Our Relationship with SK Capital

- SK Capital owns just under 40% of our ordinary shares, with an option to acquire an additional 9%, and its interests may conflict with yours.
- Certain members of our board of directors may have actual or potential conflicts of interest because of their association with SK Capital.

Risks Related to Our Relationship with Huntsman

- We have agreed to indemnify Huntsman for certain liabilities, including those related to the operation of our business while it was still owned by Huntsman, and while Huntsman will indemnify us for certain liabilities, such indemnities may not be adequate.
- We could have significant tax liabilities for periods during which Huntsman operated our business.
- The amount of tax for which we are liable for taxable periods preceding the separation may be impacted by elections Huntsman makes on our behalf.
- We may be classified as a passive foreign investment company for U.S. federal income tax purposes, which could result in adverse U.S. federal income tax consequences to U.S. Holders of our ordinary shares.
- The IRS may not agree that we are a foreign corporation for U.S. federal tax purposes.

Risks Related to Our Ordinary Shares

- A number of our shares are eligible for future sale, which may cause the market price of our ordinary shares to decline.
- The rights of our shareholders may differ from the rights typically offered to shareholders of a U.S. corporation organized in Delaware and these differences may make our ordinary shares less attractive to investors.
- U.S. investors may have difficulty enforcing civil liabilities against us, our directors or members of senior management.
- Provisions in our articles of association are intended to have anti-takeover effects that could discourage an acquisition of us by others and may prevent attempts by shareholders to replace or remove our current management.
- Pre-emption rights for U.S. and other non-U.K. holders of shares may be unavailable.
- Transfers of our shares may be subject to stamp duty or stamp duty reserve tax in the U.K., which would increase the cost of dealing in our shares.

Risks Related to COVID-19 and the Economy

The COVID-19 pandemic and related economic repercussions have created significant disruptions to the global economy and have adversely affected our business. The duration of the pandemic and its ultimate impacts on the global economy and our business remain unknown and we may not be able to effectively mitigate such impacts, any of which could have a material adverse effect on our results of operations, financial condition and liquidity.

As a result of the COVID-19 pandemic, governmental authorities have implemented and are continuing to implement numerous and constantly evolving measures to try to contain the virus, such as travel bans and restrictions, limits on gatherings, quarantines, shelter-in-place orders and business shutdowns. We have manufacturing and other operations that are important to our company in areas significantly affected by the outbreak and have implemented these measures, particularly in Europe, which is our largest market and in which we have important manufacturing facilities. Measures providing for business shutdowns generally exclude certain essential services, and those essential services commonly include critical infrastructure and the businesses that support that critical infrastructure. To date during the COVID-19 pandemic, our manufacturing facilities generally have been considered essential services, and while all of our facilities remain operational, these measures have impacted and may further impact our workforce and operations, as well as those of our customers, partners and suppliers.

There remains considerable uncertainty regarding the duration of the measures currently in place and potential future measures, including with respect to additional periods of increases or spikes in the number of COVID-19 cases. While COVID-19 vaccines have become available, the rollout of the vaccines will take time and there can be no assurance that the vaccines will be effective against any current or future variants of COVID-19. Existing or future restrictions on our manufacturing, operations or employees, or similar limitations for our customers, partners and suppliers, could negatively impact demand for our products or could limit our ability to meet customer demand, which could have a material adverse effect on our results of operations and financial condition. Furthermore, restrictions or disruptions of transportation, such as reduced availability of air transport, port closures and increased border controls or closures, could make our products less competitive or cause our customers to seek alternative suppliers. In addition, restrictions in certain countries could result in delays in obtaining needed approvals by governmental and regulatory authorities, including approvals for applications, renewals or extensions of waste disposal permits at our sulfate manufacturing sites.

We are actively managing our business through the pandemic. In response to the pandemic, we enacted rigorous safety measures across our organization, including stopping non-essential business travel, increasing the personal protective equipment requirements at our manufacturing sites, removing non-essential contractors from our sites, increasing cleaning and sanitizing measures, implementing social distancing protocols, requiring work-from-home arrangements as appropriate, and reducing the amount of employees working at a site at any given time. Many of these measures remain in place and we continue to evaluate the appropriate measures to have in place to safeguard our employees and our business. We may take further actions as government authorities require or recommend, or as we determine to be in the best interest of our employees, customers, partners and suppliers. While we are following the requirements of governmental authorities and taking additional preventative and protective measures to ensure the safety of our workforce, we cannot be certain that these measures will be successful in ensuring the health of our workforce. For example, if an employee at one of our sites were to contract COVID-19, this could result in temporary closures, reduced production hours, and increased cleaning and logistical costs. Workforce disruptions of this nature could significantly impact our ability to maintain our operations and adversely affect our financial results. In addition, as a result of the pandemic and the related increase in remote working by our personnel and personnel of other companies, the risk of cyber-attacks, data breaches or similar events, whether through our systems or those of third parties on which we rely, has increased. Further risks associated with the increase in remote working by our personnel may include a diminished ability to deter and detect any unlawful activity by our personnel, such as noncompliance with the U.S. Foreign Corrupt Practices Act (the "FCPA") or the U.K. Bribery Act.

We have not yet experienced significant impacts or interruptions to our supply chain as a result of the COVID-19 pandemic. However, at times during the pandemic, certain of our suppliers have faced difficulties maintaining operations due to government-ordered restrictions and shelter-in-place mandates. While we have been able to identify alternative sourcing arrangements without disrupting our supply chain, financial hardship on our suppliers caused by the COVID-19 pandemic could cause material disruptions in our raw material supply. While we are proactively managing our supplier network by maintaining close contact and seeking alternative arrangements in case our primary suppliers are impacted by the COVID-19 pandemic, some of our suppliers are sole-source suppliers for which we may have no alternative source of supply. Further, if we, our suppliers or customers are unable to perform our contractual obligations due to the COVID-19 pandemic, a force majeure event may be declared, rendering us, our suppliers or our customers unable to deliver all, or a portion of, any impacted orders or other contractual arrangements. If this were to occur, we may be forced to limit production and our customers could choose to discontinue or decrease the purchase of our products as a result of these measures. Such force majeure events could have significant negative impacts on our business.

We cannot be certain that the measures we have taken to mitigate the economic impact of COVID-19 will be effective nor that these measures will not have unintended consequences. For example, in response to the financial impact of COVID-19, we reduced our capital expenditures. Part of our capital expenditures are used on facility upgrades and maintenance, and the reduction in capital expenditures could result in a decrease in reliability at our manufacturing sites. While we continue to fund capital expenditures, including for essential maintenance and safety matters, the reduction in capital expenditures at our facilities could result in an increased likelihood of process safety incidents or other hazards. In addition, in response to COVID-19, we have made workforce reductions and have in the past reduced working hours for many positions across the Company. It is possible that these actions could result in decreased effectiveness in our internal controls, which could result in significant deficiencies or material weaknesses. As the COVID-19 pandemic continues, we may experience additional adverse impacts on our results of operations, including our ability to access capital on favorable terms.

A prolonged period of generating lower financial results and cash flows from operations as a result of the economic impacts from the COVID-19 pandemic and related measures could adversely affect our ability to maintain compliance with our financial covenants, to draw under the ABL Facility, and could also adversely affect our financial condition, including with respect to satisfying both required and voluntary pension funding requirements, and could otherwise negatively affect our ability to achieve our strategic objectives. Our debt instruments contain covenants that are usual and customary, including events of default and financial, affirmative and negative covenants. Our availability to borrow under the ABL Facility is subject to a borrowing base calculation comprising both accounts receivable and inventory in the U.S., Canada, the U.K. and Germany and accounts receivable in France and Spain. Thus, the base calculation may fluctuate from time to time and may be further impacted by the lenders' discretionary ability to impose reserves and availability blocks that might otherwise incrementally decrease borrowing availability. In addition, the ABL Facility contains a springing financial covenant that requires the Company and its restricted subsidiaries to maintain a consolidated fixed charge coverage ratio of at least 1:1 for certain periods of time, if borrowing availability is less than a specified threshold.

Our industry is affected by global economic factors, including risks associated with volatile economic conditions. Declines in worldwide economic conditions as a result of the COVID-19 pandemic have caused demand for our products to decrease and have adversely affected our business and we may continue to experience lower demand.

Our financial results are substantially dependent on overall economic conditions globally, and particularly those in the U.S., Europe and Asia. Declining economic conditions globally or in any of these locations—or negative perceptions about economic conditions—could result in a substantial decrease in demand for our products and could adversely affect our business. The COVID-19 pandemic has caused a significant global economic slowdown, which has caused demand for our products to decline and has adversely affected our business. Sales volumes decreased by approximately 8% in 2020 compared to the prior year period. Our products are used in housing, construction and "quality of life" end-use applications for which demand historically has been linked to global, regional and local gross domestic product and discretionary spending, which can be negatively impacted by regional and world events or economic conditions such as the COVID-19 pandemic.

We are unable to predict the duration or severity of the current economic downturn. During downturns and periods of decreasing demand, such as the current downturn, our revenues are reduced, and we typically experience greater pricing pressure and shifts in product demand and mix. In particular, greater substitution of product imports from China can occur. Uncertain and volatile economic, political, public health or business conditions in any of the regions in which we operate can impact demand for our products. These conditions can cause material adverse changes in our results of operations and financial condition, including:

- a decline in demand for our products, which has an immediate impact on our revenues;
- lower utilization of our manufacturing facilities as a result of measures taken to respond to such conditions, which results in reduced fixed cost absorption;
- potential impairment charges relating to manufacturing equipment or other long-lived assets, to the extent that any downturn indicates that the carrying amount of the asset may not be recoverable;
- greater challenges in forecasting results of operations, making business decisions, and identifying and prioritizing business risks.; and
- higher financing costs which could impact our ability to invest in our business.

Further, during periods of economic disruption, more of our customers than normal may experience financial difficulties, including bankruptcies, restructurings and liquidations, which could affect our business by reducing sales,

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 39 of 203

increasing our risk in extending trade credit to customers and reducing our profitability. A significant adverse change in a customer relationship or in a customer's financial position could cause us to limit or discontinue business with that customer, require us to assume more credit risk relating to that customer's receivables or limit our ability to collect accounts receivable from that customer.

For the year ended December 31, 2020, we experienced a decline in orders across our business reflecting the economic downturn and the impact of government ordered restrictions. We cannot reasonably estimate with any degree of certainty the future adverse impacts the COVID-19 pandemic, including the severity or impacts of periods of increases or spikes in the number of COVID-19 cases globally or in areas in which we operate, may have on our results of operations, financial position or liquidity; however, the impacts have been and could continue to be material. Furthermore, as a result of the COVID-19 pandemic, we have reduced capital expenditures, made workforce reductions and taken other measures to conserve cash, which could limit our ability to respond to any increases in demand, and therefore negatively impact our profitability.

The market for many of our TiO₂ products is cyclical and volatile, and we may experience depressed market conditions for such products.

Historically, the market for large volume TiO₂ applications, including coatings, paper and plastics, has experienced alternating periods of tight supply, causing prices and margins to increase, followed by periods of lower capacity utilization resulting in declining prices and margins. The volatility this market experiences occurs as a result of significant changes in the demand for products as a consequence of global and regional economic activity and changes in customers' requirements. The supply-demand balance is also impacted by capacity additions or reductions, including unplanned outages, that result in changes of utilization rates. In addition, TiO₂ margins are impacted by significant changes in major input costs such as energy, titanium bearing ores and other feedstocks. Demand for TiO₂ depends in part on the housing and construction industries. These industries are cyclical in nature and have historically been impacted by economic downturns. Relative changes in the selling prices for our products are one of the main factors that affect the level of our profitability. In addition, pricing may affect customer inventory levels as customers may from time to time accelerate purchases of TiO₂ in advance of anticipated price increases or defer purchases of TiO₂ in advance of anticipated price decreases.

The cyclical and volatility of the TiO₂ industry results in significant fluctuations in profits and cash flow from period to period and over the business cycle. For example, after a period of increasing average selling prices for functional and differentiated TiO₂, which lasted until the first half of 2018, we experienced a decline in average selling prices from the second half of 2018 and throughout 2019. Our ability to successfully implement price increases depends on the current economic factors regionally and globally, including industry operating rates. A continued decline in selling prices, or the inability to successfully implement price increases in future periods could negatively impact our business, results of operations and/or financial condition.

In addition, the demand for TiO₂ and certain of our other products during a given year are subject to seasonal fluctuations. Because TiO₂ is widely used in paint and other coatings, demand is higher in the painting seasons of spring and summer in the Northern Hemisphere. We may be adversely affected by anticipated or unanticipated changes in regional weather conditions. For example, poor weather conditions in a region can lead to an abbreviated painting season, which can depress consumer sales of paint products that use TiO₂, which could have a negative effect on our cash position.

Risks Related to Competition

The industries in which we compete are highly competitive, and we may not be able to compete effectively with our competitors that have greater financial resources or those that are vertically integrated, which could have a material adverse effect on our business, results of operations and financial condition.

The industries in which we operate are highly competitive. Among our competitors are companies that are vertically-integrated (those that have their own raw material resources). Changes in the competitive landscape could make it difficult for us to retain our competitive position in various products and markets throughout the world. Our competitors with their own raw material resources may have a competitive advantage during periods of higher or rising raw material prices. In addition, some of the companies with whom we compete may be able to produce products more economically than we can. Furthermore, some of our competitors have greater financial resources, which may enable them to invest significant capital into their businesses, including expenditures for research and development, or debottlenecking or other capacity expansions.

The global TiO₂ market is highly competitive, with the top producers accounting for a significant portion of the world's production capacity. Competition is based on a number of factors, such as price, product quality and service. Some of our competitors may be able to drive down prices for our products if their costs are lower than our costs. In addition, our TiO₂

business competes with numerous regional producers, including producers in China, who have significantly expanded their sulfate production capacity during the past several years and more recently commenced the commercial production of TiO₂ via chloride technology. The risk of our customers substituting our products with those made by Chinese producers could increase as the Chinese producers improve their quality levels and increase production capacity. Further, consolidation of our competitors or customers may result in reduced demand for our products or make it more difficult for us to compete with our competitors. The occurrence of any of these events could result in reduced earnings or operating losses.

While we are engaged in a range of research and development programs to develop new products and processes, to improve and refine existing products and processes, and to develop new applications for existing products, the failure to develop new products, processes or applications could make us less competitive. Moreover, if any of our current or future competitors develops proprietary technology that enables them to produce products at a significantly lower cost, our technology could be rendered uneconomical or obsolete.

In addition, certain of our competitors in various countries in which we do business, including China, may be owned by or affiliated with members of local governments and political entities. These competitors may get special treatment with respect to regulatory compliance and product registration, while certain of our products, including those based on new technologies, may be delayed or even prevented from entering into the local market.

Certain of our businesses use technology that is widely available. Accordingly, barriers to entry, apart from capital availability, may be low in certain product segments of our business. The entrance of new competitors into the industry may reduce our ability to maintain margins or capture improving margins in circumstances where capacity utilization in the industry is increasing. Increased competition in any of our businesses could compel us to reduce the prices of our products, which could result in reduced margins and loss of market share and have a material adverse effect on our business, results of operations, financial condition and liquidity.

If we are unable to innovate and successfully introduce new products, or new technologies or processes, our profitability could be adversely affected.

Our industries and the end-use markets into which we sell our products experience periodic technological change and product improvement. Our future growth will depend on our ability to gauge the direction of commercial and technological progress in key end-use markets and on our ability to fund and successfully develop, manufacture and market products in such changing end-use markets. We must continue to identify, develop and market innovative products or enhance existing products on a timely basis to maintain our profit margins and our competitive position. We may be unable to develop new products or technology, either alone or with third parties, or license intellectual property rights from third parties on a commercially competitive basis. If we fail to keep pace with the evolving technological innovations in our end-use markets on a competitive basis, including with respect to innovation or the development of alternative uses for, or application of, our products, our financial condition and results of operations could be adversely affected. We cannot predict whether technological innovations will, in the future, result in a lower demand for our products or affect the competitiveness of our business. We may be required to invest significant resources to adapt to changing technologies, markets, competitive environments and laws and regulations. We cannot anticipate market acceptance of new products or future products. In addition, we may not achieve our expected benefits associated with new products developed to meet new laws or regulations if the implementation of such laws or regulations is delayed.

Our business is dependent on our intellectual property. If we are unable to enforce our intellectual property rights and prevent use of our intellectual property by third parties, our ability to compete may be adversely affected. Further, third parties may claim that we infringe on their intellectual property rights, and resulting litigation may be costly.

Protection of our proprietary processes, apparatuses and other technology is important to our business. We rely on patent protection, as well as a combination of copyright and trade secret laws to protect and prevent others from duplicating our proprietary processes, apparatuses and technology. While a presumption of validity exists with respect to patents issued to us in the U.S., there can be no assurance that any of our patents will not be challenged, invalidated, circumvented or rendered unenforceable. Such means may afford only limited protection of our intellectual property and may not; (i) prevent our competitors from duplicating our processes or technology; (ii) prevent our competitors from gaining access to our proprietary information and technology; or (iii) permit us to gain or maintain a competitive advantage. In addition, our competitors or other third parties may obtain patents that restrict or preclude our ability to lawfully produce or sell our products in a competitive manner, which could have a material adverse effect on our business, results of operations, financial condition and liquidity.

We rely upon trade secrets and other confidential and proprietary know-how and continuing technological innovation to develop and maintain our competitive position. While it is our policy to enter into agreements imposing nondisclosure and

confidentiality obligations upon our employees and third parties to protect our intellectual property, these confidentiality obligations may be breached, may not provide meaningful protection for our trade secrets or proprietary know-how, or adequate remedies may not be available in the event of an unauthorized access, use or disclosure of our trade secrets and know-how. In addition, others could obtain knowledge of our trade secrets through independent development or other access by legal means.

We may not be able to effectively protect our intellectual property rights from misappropriation or infringement in countries where effective patent, trademark, trade secret and other intellectual property laws and judicial systems may be unavailable, or may not protect our proprietary rights to the same extent as U.S. law. The lack of adequate legal protections of intellectual property or failure of legal remedies for related actions could have a material adverse effect on our business, results of operations, financial condition and liquidity.

As such, our commercial success will depend in part on not infringing, misappropriating or violating the intellectual property rights of others. From time to time, we may be subject to legal proceedings and claims, including claims of alleged infringement of trademarks, copyrights, patents and other intellectual property rights held by third parties. In the future, third parties may sue us for alleged infringement of their proprietary or intellectual property rights. We may not be aware of whether our products do or will infringe existing or future patents or the intellectual property rights of others. Any litigation in this regard, regardless of outcome or merit, could result in substantial costs and diversion of management and technical resources as well as harm to our brand, any of which could adversely affect our business, financial condition and results of operations. If the party claiming infringement were to prevail, we could be forced to discontinue the use of the related trademark, technology or design and/or pay significant damages unless we enter into royalty or licensing arrangements with the prevailing party or are able to redesign our products to avoid infringement. Any such license may not be available on reasonable terms, if at all, and there can be no assurance that we would be able to redesign our products in a way that would not infringe the intellectual property rights of others. We have already obtained licenses that give us rights to third-party intellectual property that is necessary or useful to our business. These license agreements covering our products impose various royalty and other obligations on us. One or more of our licensors may allege that we have breached our license agreement with them, and accordingly seek to terminate our license. In addition, any payments we are required to make and any injunction we are required to comply with as a result of such infringement could harm our reputation and financial results.

Risks Related to our Liquidity and Capital Resources

Our indebtedness is substantial and a significant portion of our indebtedness is subject to variable interest rates. Our indebtedness may make us more vulnerable to financial market volatility and economic downturns and may limit our ability to respond to market conditions, to obtain additional financing or to refinance our debt. We may also incur more debt in the future.

As of December 31, 2020, we had \$946 million in debt outstanding under our \$359 million Term Loan Facility due 2024, \$215 million of 9.5% Senior Secured Notes due 2025 which were issued on May 22, 2020, \$372 million of 5.75% Senior Unsecured Notes due 2025, and no borrowings under our ABL facility (with \$251 million of available borrowing capacity). Our debt level and the fact that a significant percentage of our cash flow is required to make payments to service our debt, could have important consequences for our business, including but not limited to the following:

- we may be more vulnerable to business, industry or economic downturns, making it more difficult to respond to market conditions;
- cash flow available for other purposes, including the growth of our business, may be reduced;
- our ability to refinance or obtain additional financing may be constrained, particularly during periods when the capital markets are unsettled;
- our competitors with lower debt levels may have a competitive advantage relative to us; and
- part of our debt is subject to variable interest rates, which makes us more vulnerable to increases in interest rates (for example, a 1% increase in interest rates on our floating rate debt as of December 31, 2020, without giving effect to interest rate hedges or other offsetting items, would increase our annual interest expense by approximately \$4 million).

Our ability to make scheduled payments on or refinance our debt obligations depends on our financial condition and operating performance, which are subject to prevailing economic and competitive conditions and to certain financial, business, legislative, regulatory and other factors beyond our control. We may be unable to maintain a level of cash flows from operating activities sufficient to permit us to pay the principal, premium, if any, and interest on our indebtedness. Our inability to generate

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 45 of 203

sufficient cash flows to satisfy our debt obligations, or to refinance our indebtedness on commercially reasonable terms or at all, would materially and adversely affect our financial position and results of operations.

In addition, the availability and cost of credit for our businesses may be significantly affected by credit ratings. The credit rating agencies periodically review our ratings, considering factors such as our capital structure, earnings profile, and the condition of our industry and the credit markets generally. Credit ratings are subject to revision or withdrawal at any time by the assigning rating organization. A drop in our credit ratings, such as that which occurred during the second quarter of 2020, could adversely impact our business, cash flows, results of operations, financial condition, liquidity and our ability to obtain additional financing or to refinance our debt.

Negative rating actions can adversely affect our ability to access capital at rates and on terms that are attractive. A negative rating action can also adversely impact our business relationships with suppliers and operating partners, who may be less willing to extend credit or offer us similarly favorable terms as secured in the past under such circumstances. The result of such impacts may be material and could adversely affect our cash flows, results of operations and financial condition.

We may need additional capital in the future and may not be able to obtain it on favorable terms.

Our TiO₂ business is capital intensive, and our success depends to a significant degree on our ability to develop and market innovative products and to maintain and update our facilities and process technology. We may require additional capital in the future to finance our growth and development, implement further marketing and sales activities, fund ongoing research and development activities, fund the ongoing closure of our Pori, Finland manufacturing facility and meet general working capital needs. Our capital requirements will depend on many factors, including acceptance of, and demand for, our products, the extent to which we invest in new technology and research and development projects, and the status and timing of these developments, as well as general availability of capital from debt and/or equity markets. Additional financing may not be available when needed on terms favorable to us, or at all. Further, the terms of our debt agreements limit our ability to incur additional indebtedness or issue additional equity. If we are unable to obtain adequate funds on acceptable terms, we may be unable to develop or enhance our products, take advantage of future opportunities or respond to competitive pressures, which could harm our business.

If we are unable to generate sufficient cash flow from our operations, our business, financial condition and results of operations may be materially and adversely affected.

We are responsible for obtaining and maintaining sufficient working capital, funding our capital expenditure requirements and servicing our own debt. We may not generate sufficient funds to service our debt and meet our business needs, such as funding working capital, pension obligations, capital expenditures, restructuring activities or the transfer of our existing manufacturing operations to other parts of our business. Our ability to generate cash is subject in part to general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control. If we are unable to generate sufficient cash or repay or refinance our debt as it becomes due, we may be forced to take disadvantageous actions, including reducing spending on marketing and new product innovation, reducing financing in the future for working capital, capital expenditures and general corporate purposes, selling assets or dedicating an unsustainable level of our cash flow from operations to the payment of principal and interest on our indebtedness. In addition, our ability to withstand competitive pressures and to react to changes in our industry could be impaired.

Our customers, prospective customers, suppliers or other companies with whom we conduct business may need assurances that our financial stability is sufficient to satisfy their requirements for doing or continuing to do business with them.

Some of our customers, prospective customers, suppliers or other companies with whom we conduct business may need assurances that our financial stability is sufficient to satisfy their requirements for doing or continuing to do business with them, and may require us to provide additional credit support, such as letters of credit or other financial guarantees. Any failure of parties to be satisfied with our financial stability could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Risks Related to our Manufacturing Operations and Suppliers

Our manufacturing operations involve risks that may increase our operating costs, which could reduce our profitability.

Although we take precautions to enhance the safety of our operations and minimize the risk of disruptions, our operations are subject to hazards inherent in the manufacturing and marketing of chemical and other products. These hazards include chemical spills, pipeline leaks and ruptures, storage tank leaks, discharges or releases of toxic or flammable substances.

Koppers Performance Chemicals, Inc.

or gases and other hazards incident to the manufacturing, processing, handling, transportation and storage of dangerous chemicals. We are also potentially subject to other hazards, including natural disasters and severe weather; explosions and fires; transportation problems, including interruptions, spills and leaks; mechanical failures; unscheduled downtimes; labor difficulties; remediation complications; and other risks. In addition, some equipment and operations at our facilities are owned or controlled by third parties who may not be fully integrated into our safety programs and over whom we are able to exercise only limited control. Many potential hazards can cause bodily injury and loss of life, severe damage to or destruction of property and equipment and environmental damage, and may result in suspension of operations and the imposition of civil or criminal penalties and liabilities. Furthermore, we are subject to present and future claims with respect to workplace exposure, exposure of contractors on our premises as well as other persons located nearby, workers' compensation and other matters.

As a result of and in response to the COVID-19 pandemic and the ensuing global economic impact, we have taken a number of cost saving measures, including reducing our capital expenditures. Capital expenditures are used on facility maintenance, including EHS maintenance, among other items. This reduction in capital expenditures could result in a decrease in reliability at our manufacturing sites. While we continue to fund capital expenditures for essential maintenance and safety matters, the reduction in capital expenditures at our facilities could result in an increased likelihood of process safety incidents or other hazards to our sites, associates and surrounding communities.

We maintain property, business interruption, products liability and casualty insurance policies that we believe are in accordance with customary industry practices, as well as insurance policies covering other types of risks, including pollution legal liability insurance, but we are not fully insured against all potential hazards and risks incident to our business. Each of these insurance policies is subject to customary exclusions, deductibles and coverage limits, in accordance with industry standards and practices. As a result of market conditions, our loss history and other factors, our premiums and deductibles for certain insurance policies can increase substantially and, in some instances, certain insurance may become unavailable or available to us only for reduced amounts of coverage. If an incident were to occur or we were to incur a significant liability for which we were not fully insured, it could have a material adverse effect on our business, results of operations, financial condition and liquidity. Please see "—Disruptions in production at our manufacturing facilities may have a material adverse impact on our business, results of operations and/or financial condition."

Disruptions in production at our manufacturing facilities may have a material adverse impact on our business, results of operations and/or financial condition.

Manufacturing facilities in our industry are subject to planned and unplanned production shutdowns, turnarounds, outages and other disruptions. Any serious disruption at any of our facilities could impair our ability to use our facilities and have a material adverse impact on our revenues and increase our costs and expenses. Alternative facilities with sufficient capacity may not be available, may cost substantially more or may take significant time to increase production or qualify with our customers, any of which could negatively impact our business, results of operations and/or financial condition. Long-term production disruptions may cause our customers to seek alternative supply which could further adversely affect our profitability. Unplanned production disruptions may occur for external reasons including natural disasters, weather, disease, strikes, power outages, telecommunication or utility failures, transportation interruption, government regulation, flood, political unrest, public crises, war or terrorism, or internal reasons, such as fire, unplanned maintenance or other manufacturing problems. Any such production disruption could have a material impact on our cash flows, results of operations and financial condition. We may also lose market share during a disruption in production due to customers who are forced to purchase products elsewhere and no longer purchase products from us after production is restored.

In addition, we rely on a number of vendors, suppliers and, in some cases, sole-source suppliers, service providers, toll manufacturers and collaborations with other industry participants to provide us with chemicals, feedstocks and other raw materials, along with energy sources and, in certain cases, facilities that we need to operate our business. If the business of these third parties is disrupted, some of these companies could be forced to reduce their output, shut down their operations or file for bankruptcy protection. If this were to occur, it could adversely affect their ability to provide us with the raw materials, energy sources or facilities that we need, which could materially disrupt our operations, including the production of certain of our products. Moreover, it could be difficult to find replacements for certain of our business partners without incurring significant delays or cost increases. All of these risks could have a material adverse effect on our business, results of operations, financial condition and liquidity.

While we maintain business recovery plans that are intended to allow us to recover from natural disasters or other events that could disrupt our business, we cannot provide assurances that our plans would fully protect us from the effects of all such disasters or from events that might increase in frequency or intensity due to climate change. In addition, insurance may not adequately compensate us for any losses incurred as a result of natural or other disasters. In areas prone to frequent natural or other disasters, insurance may become increasingly expensive or not available at all. Furthermore, some potential climate-

driven losses, particularly flooding due to sea-level rises, may pose long-term risks to our physical facilities such that operations cannot be restored in their current locations.

Significant price volatility or interruptions in supply of raw materials and energy may result in increased costs that we may be unable to pass on to our customers, which could reduce our profitability.

Our manufacturing processes consume significant amounts of raw materials and energy, the costs of which are subject to worldwide supply and demand as well as other factors beyond our control. Variations in the cost for raw materials and energy, which primarily reflects market prices for oil and natural gas, may significantly affect our operating results from period to period. We purchase a substantial portion of our raw materials from third-party suppliers and the cost of these raw materials represents a substantial portion of our costs of goods sold. The prices of the raw materials that we purchase from third parties are cyclical and volatile. Our supply agreements with our TiO₂ feedstock suppliers provide us limited protection against price volatility as they mostly provide for market-based pricing. Contracts tend to be multi-year volume based with negotiated or formula driven short interval pricing. To the extent we do not have fixed price contracts with respect to specific raw materials, we have no control over the costs of raw materials and such costs may fluctuate widely for a variety of reasons, including changes in availability, major capacity additions or reductions, or significant facility operating problems. While we attempt to match cost increases with corresponding product price increases, we are not always able to raise product prices immediately or at all. Moreover, the outcome of these efforts is largely determined by existing competitive and economic conditions. Timing differences between raw material prices, which may change daily, and contract product prices, which in many cases are negotiated only monthly or less often, also have had and may continue to have a negative effect on our cash flow. Any raw materials or energy cost increase that we are not able to pass on to our customers could have a material adverse effect on our business, results of operations, financial condition and liquidity.

There are several raw materials for which there are only a limited number of suppliers or a single supplier. For example, certain types of titanium-containing feedstocks suitable for use in our TiO₂ facilities are available from a limited number of suppliers around the world. To mitigate potential supply constraints, we enter into supply agreements with particular suppliers, evaluate alternative sources of supply and evaluate alternative technologies to avoid reliance on limited or sole-source suppliers. Where supply relationships are concentrated, particular attention is paid by the parties to ensure strategic intentions are aligned to facilitate long term planning. If certain of our suppliers are unable to meet their obligations under present supply agreements, we may be forced to pay higher prices to obtain the necessary raw materials from other sources and we may not be able to increase prices for our finished products to recoup the higher raw materials costs. Any interruption in the supply of raw materials could increase our costs or decrease our revenues, which could reduce our cash flow. We have not yet experienced significant impacts or interruptions to our supply chain as a result of the COVID-19 pandemic. However, certain of our suppliers have faced difficulties maintaining operations due to government-ordered restrictions and shelter-in-place mandates. While we have thus far been able to identify alternative sourcing arrangements without disrupting our supply chain, financial hardship on our suppliers caused by the COVID-19 pandemic could cause material disruptions in our raw material supply. The inability of a supplier to meet our raw material needs could have a material adverse effect on our financial statements and results of operations.

The number of sources for and availability of certain raw materials is also specific to the particular geographical region in which a facility is located. Political and economic instability in the countries from which we purchase our raw material supplies could adversely affect their availability. In addition, if raw materials become unavailable within a geographic area from which they are now sourced, then we may not be able to obtain suitable or cost-effective substitutes. We may also experience higher operating costs such as energy costs, which could affect our profitability. We may not always be able to increase our selling prices to offset the impact of any higher productions costs or reduced production levels, which could reduce our earnings and decrease our liquidity.

Differences in views with our joint venture participants may cause our joint ventures not to operate according to their business plans or be able to effectively compete with operations of our competitors, which may adversely affect our results of operations.

We currently participate in joint ventures in Lake Charles, Louisiana with Kronos and our Harrisburg, North Carolina joint venture with DuPont, and may enter into additional joint ventures in the future. The nature of a joint venture requires us to share control with unaffiliated third parties. Differences in views among joint venture participants may result in delayed decisions or failure to agree on major decisions. If these differences cause the joint ventures to deviate from their business plans or to fail to achieve their desired operating performance, we may not be able to effectively compete with operations of our competitors and our results of operations could be adversely affected.

Risks Related to Environmental, Health and Safety Matters

The classification of TiO₂ as a Category 2 Carcinogen in the EU, or any increased regulatory scrutiny, could decrease demand for our products and subject us to manufacturing and waste disposal regulations that could significantly increase our costs.

On May 31, 2016, the French Agency for Food, Environmental and Occupational Health and Safety submitted a proposal to ECHA that would classify TiO₂ as a Category 1B Carcinogen presumed to have carcinogenic potential for humans by inhalation. On September 14, 2017 the RAC published their final opinion, which proposed that TiO₂ be classified as a Category 2 carcinogen by inhalation. On October 4, 2019, the European Commission published a Delegated Regulation, which applies to some forms of TiO₂ (in a powder form containing 1% or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$). The regulation was adopted in February 2020 and will apply as of October 1, 2021. Member states, however, may choose to apply the regulation at any time after publication. On May 13, 2020, we and a number of other applicants filed a legal challenge seeking the annulment of the TiO₂ classification in the General Court of the EU. If successful the delegated act will be annulled, however, a decision by the Court is unlikely to be received before mid-2022.

Following the U.K.'s withdrawal from the EU, the Health and Safety Executive in the U.K. has now published the U.K.'s mandatory classification and labelling list, which includes the classification of TiO₂ as a suspected carcinogen (in a powder form containing 1% or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$). The classification will become mandatory in the U.K. in October 2021. We are currently evaluating our products to determine which will be subject to classification in the EU and U.K. under the regulation.

On April 25, 2019, the French Arrêté of April 17, 2019 suspending the placing on the market of foodstuffs containing additive E171 (TiO₂) was published in the French Official Journal. The suspension was effective in France for one year from January 1, 2020. On December 23, 2020, France extended the national suspension until January 1, 2022 extending the restriction on the sale of TiO₂ in foodstuffs in France.

Adoption of the Category 2 Carcinogen classification may require that some end-use products manufactured with TiO₂ are classified and labeled in the EU and U.K. as containing a potentially carcinogenic component, which could negatively impact public perception, market demand and prices of products containing TiO₂. The classification may also impact our manufacturing operations leading to increased costs. The classification may have additional effects under other EU laws e.g. those affecting medical and pharmaceutical applications, cosmetics, food packaging and food additives. The classification of TiO₂ in the EU could trigger enhanced regulatory scrutiny in other jurisdictions outside the EU, of products containing TiO₂ or products from our Performance Additives segment, which may increase our compliance obligations, impact consumer sentiment and decrease market demand.

The classification could also require that waste containing TiO₂ meeting the specifications in the classification be classified as hazardous waste, as separately determined by each member state, which could result in significant impacts on our customers' products, wastes from our operations and the implementation of Circular Economy efforts within the EU. It is also possible that heightened regulatory scrutiny could lead to claims by employees or consumers of such products alleging adverse health impacts. Finally, the classification of TiO₂ as a Category 2 carcinogen could lead the ECHA to evaluate other products with similar particle characteristics (such as iron oxides or functional additives) for human carcinogenic potential by inhalation, which may ultimately have similar negative impacts on other products within our portfolio.

Sales of TiO₂ in the EU represented 41% of our TiO₂ revenues for the year ended December 31, 2020.

Restrictions on disposal of waste from our manufacturing processes could result in higher costs and negatively impact our ability to operate our manufacturing facilities.

A variety of materials are generated by our manufacturing processes, some of which are saleable as products or byproducts and others of which are not and must be reused or disposed of as waste. Storage, transportation, reuse and disposal of waste are generally regulated by governmental authorities in the jurisdictions in which we operate. If existing arrangements for reuse or disposal of waste cease to be available to us, as a result of new rules, regulations or interpretations thereof, exhaustion of reclamation activities, landfill closures, or otherwise, we will need to find new arrangements for reuse or disposal, which could result in increased costs to us and negatively impact our consolidated financial statements. For example, gypsum is generated by our TiO₂ manufacturing facilities that use the sulfate process, such as those at Scarlino, Italy and Teluk Kalong, Malaysia. The gypsum from our Scarlino facility is currently used in the reclamation of a nearby former quarry and our existing permit allows continued use of the quarry for approximately a further 15 months. We are currently pursuing replacement options for sale, reuse and/or disposal of gypsum produced at the Scarlino facility. Such options generally require governmental approval and there can be no assurance that such approvals will be received in a timely manner or at all. Any classification of

waste material produced at our facilities as hazardous is likely to have an adverse impact on obtaining such approvals. Failure to find viable new disposal arrangements for these materials, including those originating at our Scarlino, Italy site, could significantly impact our manufacturing operations, up to and including the temporary or permanent closure of related manufacturing facilities.

In addition, in connection with the classification in the EU and the U.K. of TiO₂ as a Category 2 Carcinogen, Member States could require that all wastes in a powder form meeting the specifications in the classification are classified as hazardous waste. This could result in significant changes to how wastes from our operations in the EU (including at our Scarlino, Italy site and elsewhere) are handled, including additional or more stringent manufacturing regulations, labelling requirements, transportation logistics, and other requirements regarding the ability to reuse or sell wastes and byproducts, or otherwise dispose of such materials. Any such regulations could have a significant impact on our manufacturing operations and results of operations.

We are subject to many environmental, health and safety laws and regulations that may result in unanticipated costs or liabilities, which could reduce our profitability.

Our properties and operations, including our global manufacturing facilities, are subject to a broad array of EHS requirements, including extensive federal, state, local, foreign and international laws, regulations, rules and ordinances relating to pollution, protection of the environment and human health and safety, and the generation, storage, handling, transportation, treatment, disposal and remediation of hazardous substances and waste materials. There has been a global upward trend in the number and complexity of current and proposed EHS laws and regulations, including those relating to the chemicals used and generated in our operations and included in our products. The costs to comply with these EHS laws and regulations, as well as internal voluntary programs and goals, are significant and will continue to be significant in the foreseeable future. Our facilities are dependent on environmental permits to operate. These operating permits are subject to modification, renewal and revocation, which could have a material adverse effect on our operations and our financial condition. In addition, third parties may contest our ability to receive or renew certain permits that we need to operate, which can lengthen the application process or even prevent us from obtaining necessary permits. Moreover, actual or alleged violations of permit requirements could result in restrictions or prohibitions on our operations and facilities. In the EU, a review of the Industrial Emissions Directive is underway as part of the Green Deal and this may result in changes to the operating permits at a number of plants operating in the EU.

In addition, we expect to incur significant capital expenditures and operating costs in order to comply with existing and future EHS laws and regulations. Capital expenditures and operating costs relating to EHS matters are subject to evolving requirements, and the timing and amount of such expenditures and costs will depend on the timing of the promulgation of the requirements as well as the enforcement of specific standards.

We are also liable for the costs of investigating and remediation of environmental contamination on or from our currently-owned and operated properties. We also may be liable for environmental contamination on or from our formerly-owned and operated properties, and on or from third-party sites to which we sent hazardous substances or waste materials for disposal. In many circumstances, EHS laws and regulations impose joint, several, and/or strict liability for contamination, and therefore we may be held liable for cleaning up contamination at currently owned properties even if the contamination was caused by former owners, or at third-party sites even if our original disposal activities were in accordance with all then existing regulatory requirements. Moreover, certain of our facilities are in close proximity to other industrial manufacturing sites. In these locations, the source of contamination resulting from discharges into the environment may not be clear. We could potentially be held responsible for such liabilities even if the contamination did not originate from our sites, and we may have to incur significant costs to respond to any remedies imposed, or to defend any actions initiated, by environmental agencies.

Changes in EHS laws and regulations, violations of EHS law or regulations that result in civil or criminal sanctions, the revocation or modification of EHS permits, the bringing of investigations or enforcement proceedings against us by governmental agencies, the bringing of private claims alleging environmental damages against us, the discovery of contamination on our current or former properties or at third-party disposal sites, could reduce our profitability or have a material adverse effect on our operations and financial condition.

Our products, raw materials and operations are subject to chemical control laws in countries in which they are manufactured, transported or sold.

We are subject to a wide array of laws governing chemicals, including the regulation of chemical substances and inventories under TSCA in the U.S. and REACH and the CLP regulations in Europe and the U.K.. Analogous regimes exist in

other parts of the world, including China, South Korea, and Taiwan. In addition, a number of countries where we operate, including the U.K., have adopted rules to conform chemical labeling in accordance with the GHS. Many of these foreign regulatory regimes are in the process of a multi-year implementation period for these rules.

Additional new laws and regulations may be enacted or adopted by various regulatory agencies globally. For example, in the U.S., the EPA finalized revisions to its Risk Management Program in January 2017. The revisions include new requirements for certain facilities to perform hazard analyses, third-party auditing, incident investigations and root cause analyses, emergency response exercises, and to publicly share chemical and process information. The EPA proposed to delay the effective date of the rule to February 2019; however, a ruling by the U.S. Court of Appeals for the D.C. Circuit on September 21, 2018 made the Risk Management Program rule amendment effective immediately. The U.S. Occupational Safety and Health Administration had previously announced that it was considering changes to its Process Safety Management standards that parallel EPA's Risk Management Program; but additional action appears unlikely at this time. In addition, TSCA reform legislation was enacted in June 2016, and the EPA has begun the process of issuing new chemical control regulations. EPA issued several final rules in 2017 under the revised TSCA related to existing chemicals, including the following: (i) a rule to establish EPA's process and criteria for identifying chemicals for risk evaluation; (ii) a rule to establish EPA's process for evaluating high priority chemicals and their uses to determine whether or not they present an unreasonable risk to health or the environment; and (iii) a rule to require industry reporting of chemicals manufactured or processed in the U.S. over the past 10 years. The EPA has also released its framework for approving new chemicals and new uses of existing chemicals. Under the framework, a new chemical or use presents an unreasonable risk if it exceeds set standards. Such a finding could result in either the issuance of rules restricting the use of the chemical being evaluated or in the need for additional testing. The costs of compliance with any new laws or regulations cannot be estimated until the manner in which they will be implemented has been more precisely defined.

Furthermore, governmental, regulatory and societal demands for increasing levels of product safety and environmental protection could result in increased pressure for more stringent regulatory control with respect to the chemical industry. In addition, these concerns could influence public perceptions regarding our products, raw materials and operations, the viability of certain products or raw materials, our reputation, the cost to comply with regulations, and the ability to attract and retain employees. Moreover, changes in product safety and environmental protection regulations could inhibit or interrupt our operations, or require us to modify our facilities or operations. Accordingly, product safety and environmental matters may cause us to incur significant unanticipated losses, costs or liabilities, which could reduce our profitability.

We use a variety of substances from third parties in the manufacture, processing and handling of our products, and it is possible that a substance could be classified as harmful, which could negatively impact our ability to sell or market our products. For example, pursuant to the CLP, chemical substances and mixtures cannot be placed on the EU market unless they comply with the CLP's requirements regarding classification, labelling and packaging. In 2019, new scientific data became available on Trimethylolpropane ("TMP"), and in December 2019 an EU supplier of this substance informed us that the REACH consortium responsible for TMP had self-classified TMP to be a suspected reproductive toxicant (Category 2). We manufacture and sell numerous types of TiO₂ pigments and other products worldwide, some of which are treated with and/or contain TMP. We continue to assess the impact that this classification will have on our business in Europe and other regions.

We could incur significant expenditures in order to comply with existing or future EHS laws. Capital expenditures and costs relating to EHS matters will be subject to evolving regulatory requirements and will depend on the timing of the promulgation and enforcement of specific standards which impose requirements on our operations. Capital expenditures and costs beyond those currently anticipated may therefore be required under existing or future EHS laws.

Our operations are increasingly subject to climate change regulations that seek to reduce emissions of greenhouse gases.

We are currently managing and reporting GHG emissions, to varying degrees, at our sites worldwide. These locations are subject to a number of existing GHG-related laws and regulations. Potential consequences of such restrictions include capital requirements to modify assets to meet GHG emission restrictions and/or increases in energy costs above the level of general inflation, as well as direct compliance costs. Currently, however, it is not possible to estimate the likely financial impact of potential future regulation on any of our sites.

Recent developments in climate change-related policy and regulations include the Green Deal in the EU, mandatory TCFD disclosures in the U.K., the U.K. commitment to becoming carbon neutral by 2050, and similar policy changes and commitments in other nations worldwide including the announcement that the U.S. is rejoining the Paris climate agreement. These changes could affect us in a number of ways including potential requirements to decarbonize manufacturing processes and increased costs of GHG allowances. As with other jurisdictions, our operations in the U.S. may become subject to

increasing climate change regulations and we are currently monitoring these developments closely whilst investigating appropriate climate change strategies to enable us to comply with the new regulations and conform to new disclosure requirements such as TCFD.

Increasing concentrations of GHGs in the earth's atmosphere may produce climate changes that have significant physical effects, such as increased frequency and severity of storms, droughts, floods and other extreme climatic events. The severity of the changes varies in accordance with the RPC used to predict the changes, however, they could have adverse effects on our assets and operations. For example, we have a number of operations in low lying areas that may be at increased risk due to flooding, rising sea levels or disruption of operations from more frequent and severe weather events. These potential effects are also included in our investigation into appropriate climate change strategies.

Risks Related to Restructuring and Business Improvements

If we are unable to successfully implement business improvements, we may not realize the benefits we anticipate from such programs or may incur additional and/or unexpected costs in order to realize them.

We commenced our 2020 Business Improvement Program in the third quarter of 2020. This cost and operational improvement program is designed to generate additional EBITDA benefits through an improvement in manufacturing costs and lower selling, general and administrative expenses. The 2020 Business Improvement Program includes measures that we have taken in response to the COVID-19 pandemic and our plan to align capacity at one of our German manufacturing facilities to the customers it serves. We intend to complete all the actions necessary to deliver on our target by the end of 2022.

Cost savings expectations are inherently difficult to predict and are necessarily speculative in nature, and we cannot provide assurance that we will achieve expected cost savings. A variety of factors could cause us not to realize some of the expected cost savings, including, among others, delays in the anticipated timing of activities related to our cost savings programs, lack of sustainability in cost savings over time, unexpected costs associated with operating our business, our ability to reduce headcount and our ability to achieve the efficiencies contemplated by the cost savings initiative. We may be unable to realize all of these cost savings within the expected timeframe and we may incur additional or unexpected costs in order to realize them. These cost savings are based upon a number of assumptions and estimates that are in turn based on our analysis of the various factors which currently, and could in the future, impact our business. These assumptions and estimates are inherently uncertain and subject to significant business, operational, economic and competitive uncertainties and contingencies. Certain of the assumptions relate to business decisions that are subject to change, including, among others, our anticipated business strategies, our marketing strategies, our product development strategies and our ability to anticipate and react to business trends. Other assumptions relate to risks and uncertainties beyond our control, including, among others, the economic environment in which we operate, environmental regulation and other developments in our industry as well as capital markets conditions from time to time. The actual results of implementing the various cost savings initiatives may differ materially from the estimates set out in this report if any of these assumptions prove incorrect. Moreover, our continued efforts to implement these cost savings may divert management attention from the rest of our business and may preclude us from seeking attractive new product opportunities, any of which may materially and adversely affect our business.

We may be unsuccessful in our announced intentions to close the Pori, Finland site and transfer specialty and differentiated production to other sites within our manufacturing network within the anticipated timeframe and costs and we may not experience the full anticipated benefits of our transfer program.

On January 30, 2017, our TiO₂ manufacturing facility in Pori, Finland, experienced fire damage. The Pori facility had a nameplate capacity of 130,000 metric tons per year, which represented approximately 17% of our total TiO₂ nameplate capacity and approximately 2% of total global TiO₂ demand. Prior to the fire, 60% of the site capacity produced specialty products which, on average, contributed greater than 75% of the site EBITDA from January 1, 2015 through January 30, 2017.

On September 12, 2018, following our review of the Pori facility and options within our manufacturing network, and as a result of unanticipated cost escalation and extended timeline associated with reconstruction, we announced that we intend to close our Pori, Finland, TiO₂ manufacturing facility and transfer the specialty and differentiated product grades to other sites. We expect to continue to wind down the limited operations at the Pori facility through the transition period. We intend to optimize the remaining transfer of our business from Pori, but the timing of this transfer will be elongated, due in part to the COVID-19 pandemic, and may result in a lower total expected capital outlay and a lower associated adjusted EBITDA benefit than originally estimated.

Restoring at sites elsewhere in our network the production of certain products formerly produced at Pori is important to our competitive position and business strategy. A variety of factors could cause us not to realize some or all of the anticipated benefits of transferring our specialty and differentiated production from our site in Pori to other sites within our manufacturing network, including, among others, delays in anticipated timing and unexpected costs in the wind-down and closing of the Pori, Finland facility, delays in transferring the production of select product grades to other manufacturing facilities or the inability of the transferred products to meet required product specifications. In addition, we may be unable to realize the anticipated benefits within our expected timeframe, or at all. Certain risks and uncertainties may be beyond our control, including, among others, the economic environment in which we operate, changing regulations and other developments in our industry. Even if we are able to transition production on the anticipated schedule, we may lose customers that have in the meantime found alternative suppliers elsewhere. If any of these factors occur, they could have an adverse effect on our market position and operating results.

Costs from current and future restructurings and site closures may exceed our estimates and adversely affect our financial condition, results of operations, cash flows or business reputation.

We have implemented various restructuring initiatives to improve our operating efficiency, which have included in some instances the planned or completed closure of sites within our manufacturing network, including manufacturing sites in Pori, Finland, Calais, France and a partial closure in Duisburg, Germany. We may announce additional restructuring programs and site closures in the future. Restructurings and site closures are complex and involve multiple aspects including environmental, government, regulatory, contractual and workforce matters. We can provide no assurance that costs and timeframes associated with restructurings or site closures will be in line with our estimates or that we will achieve targeted costs savings. In certain circumstances, costs and timeframes could materially exceed our estimates. Any material increase in restructuring or plant closure costs or timeframes could have a material impact on our consolidated financial statements.

Risks Related to our Employees and Pensions

Our pension and postretirement benefit plan obligations are currently underfunded, and under certain circumstances we may have to significantly increase the level of cash funding to some or all of these plans, which would reduce the cash available for our business.

We have unfunded obligations under our pension and postretirement benefit plans. The funded status of our pension plans is dependent upon many factors, including returns on invested assets, the level of certain market interest rates and the discount rate used to determine pension obligations. Unfavorable returns on plan assets or unfavorable changes in applicable laws or regulations, or in the application of laws or regulations to us by pension regulators or trustees, could materially change the timing and amount of required plan funding, which would reduce the cash available for our business. Also, a decrease in the discount rate used to determine pension obligations could result in an increase in the valuation of pension obligations, which could affect the reported funding status of our pension plans and future contributions, as well as the periodic pension cost in subsequent fiscal years. In addition, we have undertaken restructuring initiatives and site closures at locations within our manufacturing network that could impact our funding obligations as a result of funding rules specific to the jurisdiction in which the restructuring initiative or site closure occurs. As of December 31, 2020, our unfunded deficit under our defined benefit plans was \$148 million, the majority of which related to funding obligations for our pension plans in Finland and Germany. If current or future restructuring initiatives or site closures were to cause or require an acceleration of our funding obligations under our pension and post-retirement benefit plans, it could have an adverse impact on our business, financial condition, results of operations and cash flows.

With respect to our pension and postretirement benefit plans, the effects of underfunding depend on the country in which the pension and postretirement benefit plan is established. In the U.K. and Germany, semi-public pension protection programs have the authority, in certain circumstances, to assume responsibility for underfunded pension schemes, including the right to recover the amount of the underfunding from us. If the pension scheme is underfunded in Finland, the Finnish Financial Supervisory Authority has the authority to cause us to assign the underfunded pension scheme to a third-party insurance company, which would maintain the member benefits at the Company's cost. In the US, the Pension Benefit Guaranty Corporation ("PBGC") has the authority to terminate an underfunded tax-qualified pension plan under limited circumstances in accordance with the Employee Retirement Income Security Act of 1974, as amended. In the event our tax-qualified pension plans are terminated by the PBGC, we could be liable to the PBGC for the entire amount of the underfunding.

Our flexibility in managing our labor force may be adversely affected by existing or new labor and employment laws and policies in the jurisdictions in which we operate, many of which are more onerous than those of the U.S.; and some of our labor force has substantial workers' council or trade union participation, which creates a risk of disruption from labor disputes.

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 61 of 203

The global nature of our business presents difficulties in hiring and maintaining a workforce in certain countries. The majority of our employees are located outside the U.S. In many of these countries, including the U.K., Italy, Germany, France, Spain, Finland and Malaysia, labor and employment laws may be more onerous than in the U.S. and, in many cases, grant significant job protection to employees, including rights on termination of employment.

We are required to consult with, and seek the consent or advice of, various employee groups or works councils that represent our employees for any changes to our activities or employee benefits. This requirement could have a significant impact on our flexibility in managing costs and responding to market changes.

Risks Related to our International Operations, Regulations and Foreign Currency

Economic conditions and regulatory changes as a result of the U.K.'s exit from the EU could adversely impact our operations, operating results and financial condition.

On January 31, 2020, the U.K. withdrew from the EU. As a result, the U.K. was in a transition period through December 31, 2020, during which time EU rules and regulations applicable to U.K. businesses continued to remain in force. In December 2020, the U.K. and the EU announced they had entered into a post-Brexit agreement on certain aspects of trade and other strategic and political issues, potentially avoiding some of the anticipated disruption of a no-deal, hard Brexit. The full effects of Brexit remain unknown as not all details of the required new U.K. legislation is available. In addition, we do not know if the U.K. and the EU will succeed in negotiating certain terms not addressed in the December 2020 Brexit agreement.

The consequences of Brexit, together with the continuing uncertainty regarding the terms on which the U.K. will interact with the EU after the transition period, could introduce significant volatility into global financial markets and adversely impact the markets in which we and our customers operate. Brexit could also create uncertainty with respect to the legal and regulatory requirements to which we and our customers in the U.K. are subject and lead to divergent national laws and regulations as the U.K. determines which EU laws to replace or replicate, including U.K. competition law. Following the trade deal reached between the U.K. and the end of the transition period, we have experienced or expect to experience impacts on our operations from the following:

- border delays both within and outside of the U.K as a result of new treaties and customs operations being implemented;
- more stringent rules of origin on goods traded between the U.K. and the EU;
- additional procedures related to goods traded between the EU and non-EU countries;
- limited transportation availability for a period, as a result of delays at borders between the U.K. and EU; and
- new product registration requirements applicable including to avoid any new tariffs or quotas, or as a result of REACH and the new U.K. REACH regime.

While we believe that some of these adverse impacts will be resolved in the coming months as the U.K. becomes accustomed to operating independent of the EU, we may in the future experience further adverse consequences such as increased costs of conducting business in the U.K., deterioration in economic conditions in the U.K., volatility in currency exchange rates or adverse changes in regulation, any of which could have a negative impact on our future operations, operating results and financial condition.

Our results of operations may be adversely affected by fluctuations in currency exchange rates and tax rates and changes in tax laws in the jurisdictions in which we operate.

We conduct a majority of our business operations outside the U.S. Sales to customers outside the U.S. contributed 75% of our revenue in 2020. Our operations are subject to international business risks, including the need to convert currencies received for our products into currencies in which we purchase raw materials or pay for services, which could result in a gain or loss depending on fluctuations in exchange rates. We transact business in many foreign currencies, including the euro, the British pound sterling, the Malaysian ringgit and the Chinese renminbi. We translate our local currency financial results into U.S. dollars based on average exchange rates prevailing during the reporting period or the exchange rate at the end of that period. During times of a strengthening U.S. dollar, our reported international sales and earnings may be reduced because the local currency may translate into fewer U.S. dollars. Because of our global operations, we are exposed to fluctuations in global currency rates which may result in gains or losses on our financial statements.

We are subject to income taxation in the U.S. (federal and state) and numerous foreign jurisdictions. Tax laws, regulations, and administrative practices in various jurisdictions may be subject to significant change, with or without notice, due to economic, political, and other conditions, and significant judgment is required in evaluating and estimating our provision

and accruals for these taxes. There are many transactions that occur during the ordinary course of business for which the ultimate tax determination is uncertain. In addition, our effective tax rates could be affected by numerous factors, such as intercompany transactions, the relative amount of our foreign earnings, including earnings being lower than anticipated in jurisdictions where we are subject to lower statutory rates and higher than anticipated in jurisdictions where we are subject to higher statutory rates, the applicability of special tax regimes, losses incurred in jurisdictions in which we are not able to realize the related tax benefit, changes in foreign currency exchange rates, entry into new businesses and geographies, changes to our existing businesses and operations, acquisitions (including integrations) and investments and how they are financed, changes in our stock price, changes in our deferred tax assets and liabilities and their valuation, and changes in the relevant tax, accounting, and other laws, regulations, administrative practices, principles, and interpretations.

We are also currently subject to audit in various jurisdictions, and these jurisdictions may assess additional income tax liabilities against us. Developments in an audit, litigation, or the relevant laws, regulations, administrative practices, principles, and interpretations could have a material effect on our operating results or cash flows in the period or periods for which that development occurs, as well as for prior and subsequent periods.

In addition, we have recorded valuation allowances, which result from our analysis of positive and negative evidence supporting the realization of tax benefits. Negative evidence includes a cumulative history of pre-tax operating losses in specific tax jurisdictions. Changes in valuation allowances have resulted in material fluctuations in our effective tax rate. Economic conditions may dictate the continued imposition of current valuation allowances and, potentially, the establishment of new valuation allowances and releases of existing valuation allowances. While significant valuation allowances remain, our effective tax rate will likely continue to experience significant fluctuations.

The impact of differing and evolving international laws and regulations on trade or the manner of interpretation or enforcement of existing laws or regulations could adversely impact our financial performance and restrict our ability to operate our business or execute our strategies.

Compliance with international laws and regulations on trade is complicated by our substantial global footprint, which requires significant resources to ensure compliance with applicable laws and regulations in the various countries where we conduct business. Our global operations expose us to trade and economic sanctions and other restrictions imposed by the U.S., the EU and other governments and organizations. The U.S. Departments of Justice, Commerce, State and Treasury and other federal agencies and authorities have a broad range of civil and criminal penalties they may seek to impose against corporations and individuals for violations of economic sanctions laws, export control laws, the FCPA and other federal statutes and regulations, including those established by the Office of Foreign Assets Control ("OFAC"). Under these laws and regulations, as well as other anti-corruption laws, anti-money-laundering laws, export control laws, customs laws, sanctions laws and other laws governing our operations, various government agencies may require export licenses, may seek to impose modifications to business practices, including cessation of business activities in sanctioned countries or with sanctioned persons or entities and modifications to compliance programs, which may increase compliance costs, and may subject us to fines, penalties and other sanctions. A violation of these laws or regulations could adversely impact our business, results of operations and financial condition.

Although we have implemented policies and procedures in these areas, we cannot assure you that our policies and procedures are sufficient or that directors, officers, employees, representatives, manufacturers, supplier and agents have not engaged and will not engage in conduct for which we may be held responsible, nor can we assure you that our business partners have not engaged and will not engage in conduct that could materially affect their ability to perform their contractual obligations to us or even result in our being held liable for such conduct. Violations of the FCPA, OFAC restrictions or other export control, anti-corruption, anti-money-laundering and anti-terrorism laws or regulations may result in severe criminal or civil sanctions, and we may be subject to other liabilities, which could have a material adverse effect on our business, financial condition, cash flows and results of operations.

Significant developments in international trade policies could have a material adverse effect on our business.

We cannot predict future trade policy or the terms of any renegotiated trade agreements and their impacts on our business. The adoption and expansion of trade restrictions, the occurrence of a trade war, or other governmental action related to tariffs or trade agreements or policies has the potential to adversely impact demand for our products, our costs, our customers, our suppliers, and the global economy, which in turn could adversely impact our business, financial condition and results of operations.

Risks Related to Litigation and Privacy

Our operations, financial condition and liquidity could be adversely affected by legal claims against us.

We face risks arising from various legal actions, including matters relating to antitrust, product liability, third party liability, intellectual property, contract disputes, industrial illness, labor disputes and environmental claims. It is possible that judgments could be rendered against us in these cases or others for which we could be uninsured or not covered by indemnity, or which may be beyond the amounts that we currently have reserved or anticipate incurring for such matters. Over the past several years, antitrust claims have been made against TiO₂ companies, including us. In this type of litigation, the plaintiffs generally seek treble damages, which may be significant. Certain of our existing legal claims could result in significant judgments against us. An adverse outcome in any claim could be material and significantly impact our operations, financial condition and liquidity. For more information, see "Item 3. Legal Proceedings below."

Increasing regulatory focus on privacy issues and expanding laws could impact our business and expose us to increased liability.

As a global company, we are subject to global privacy and data security laws, regulations, and codes of conduct that apply to our various business units. These laws and regulations may be inconsistent across jurisdictions and are subject to evolving and differing (sometimes conflicting) interpretations. Government regulators, privacy advocates and class action attorneys are increasingly scrutinizing how companies collect, process, use, store, share and transmit personal data. This increased scrutiny may result in new interpretations of existing laws, thereby further impacting our business. Globally, new and emerging laws, such as the General Data Protection Regulation ("GDPR") in Europe, state laws in the U.S. on privacy, data and related technologies as well as industry self-regulatory codes create new compliance obligations and expand the scope of potential liability, either jointly or severally with our customers and suppliers. While we have invested in readiness to comply with applicable requirements, these new and emerging laws, regulations and codes may affect our ability to reach current and prospective customers, to respond to customer requests under the laws, and to implement our business effectively. Any perception of our practices, products or services as a violation of privacy rights may subject us to public criticism, reputational harm, or investigations or claims by regulators, industry groups or other third parties, all of which could disrupt our business and expose us to increased liability.

Transferring personal information across international borders is becoming increasingly complex. For example, European data transfers outside the European Economic Area are highly regulated. The mechanisms that we and many other companies rely upon for European data transfers (e.g. Privacy Shield and Model Clauses) are being contested in the European court system. We are closely monitoring developments related to requirements for transferring personal data outside the EU and other countries that have similar trans-border data flow requirements. These requirements may result in an increase in the obligations required to provide our services in the EU or in sanctions and fines for non-compliance. If the mechanisms for transferring personal information from certain countries or areas, including Europe to the U.S. should be found invalid or if other countries implement more restrictive regulations for cross-border data transfers (or not permit data to leave the country of origin), such developments could harm our business, financial condition and results of operations.

General Risk Factors

We are subject to risks relating to our information technology systems, and any failure to adequately protect our critical information technology systems could materially affect our operations.

We rely on information technology systems across our operations, including for management, supply chain and financial information and various other processes and transactions. Our ability to effectively manage our business depends on the security, reliability and capacity of these systems. Information technology system failures, network disruptions or breaches of security could disrupt our operations, cause delays or cancellations of customer orders or impede the manufacture or shipment of products, processing of transactions or reporting of financial results. Our information technology systems, and those of our business partners, are subject to the risk of cyberattacks, including attacks resulting from phishing emails and ransomware infections. We are the subject of cyberattacks that may be intended to capture business information, access our customers' information or harm our reputation as a company. We expect that there will continue to be cyberattacks and the measures we have taken to prevent or mitigate such attacks may not be effective, particularly as we continue remote working arrangements as part of our COVID-19 response. The processes used by attackers are evolving in sophistication and increasing in frequency. Cyberattacks or other problems with our systems may result in the disclosure of proprietary information about our business or confidential information concerning our customers or employees, which could result in significant damage to our business and our reputation.

We have put in place security measures designed to protect against the misappropriation or corruption of our systems, intentional or unintentional disclosure of confidential information, or disruption of our operations. Current employees have, and

former employees may have, access to a significant amount of information regarding our operations which could be disclosed to our competitors or otherwise used to harm us. Moreover, our operations in certain locations, such as China, may be particularly vulnerable to security attacks or other problems. Any breach of our security measures could result in unauthorized access to and misappropriation of our information, corruption of data or disruption of operations or transactions, any of which could have a material adverse effect on our business.

In addition, we could be required to expend significant additional amounts to respond to information technology issues or to protect against threatened or actual security breaches. We may not be able to implement measures that will protect against the significant risks to our information technology systems.

Failure to maintain effective internal controls could adversely affect our ability to meet our reporting requirements.

The Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act") requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. One key aspect of the Sarbanes-Oxley Act is that we must perform system and process evaluation and testing of our internal control over financial reporting to allow management and our independent registered public accounting firm to report on the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act, with auditor attestation of the effectiveness of our internal controls, beginning with our annual report on Form 10-K for the fiscal year ending December 31, 2018. If we or our independent registered public accounting firm identify deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, the market price of our ordinary shares could decline and we could be subject to regulatory penalties or investigations by the New York Stock Exchange ("NYSE"), the SEC or other regulatory authorities, which would require additional financial and management resources.

Effective internal controls are necessary for us to provide reasonable assurance with respect to our financial reports and to effectively prevent fraud. Internal controls over financial reporting may not prevent or detect misstatements because of inherent limitations, including the possibility of human error, the circumvention or overriding of controls, or fraud. Therefore, even effective internal controls can provide only reasonable assurance with respect to the preparation and fair presentation of financial statements. If we cannot provide reasonable assurance with respect to our financial reports and effectively prevent fraud, our operating results could be misreported. In addition, projections of any evaluation of effectiveness of internal control over financial reporting to future periods are subject to the risk that the control may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. If we fail to maintain the effectiveness of our internal controls, including any failure to implement required new or improved controls, or if we experience difficulties in their implementation, our business and operating results could be harmed, we could fail to meet our reporting obligations, and there could be a material adverse effect on our share price.

Conflicts, military actions, terrorist attacks, public health crises, including the occurrence of a contagious disease or illness, such as the COVID-19 coronavirus, cyber-attacks and general instability, particularly in certain energy-producing nations, along with increased security regulations related to our industry, could adversely affect our business.

We are vulnerable to the effects of conflicts, military actions, terrorist attacks and public health crises. As has been the case with COVID-19, such effects have precipitated economic instability and turmoil in financial markets. Instability and turmoil, particularly in energy-producing nations, may result in raw material cost increases. The uncertainty and economic disruption resulting from hostilities, military action, acts of terrorism, public health crises or cyber-attacks may impact any or all of our facilities and operations or those of our suppliers or customers. Accordingly, any conflict, military action, terrorist attack, public health crises or cyber-attack that impacts us or any of our suppliers or customers, could have a material adverse effect on our business, results of operations, financial condition and liquidity.

In addition, a number of governments have instituted regulations attempting to increase the security of chemical plants and the transportation of hazardous chemicals, which could result in higher operating costs and could have a material adverse effect on our financial condition and liquidity.

Risks Related to Our Relationship with SK Capital

SK Capital owns just under 40% of our ordinary shares, with an option to acquire an additional 9%, and its interests may conflict with yours.

On December 23, 2020, we announced that funds advised by SK Capital closed on the previously announced agreement to purchase approximately 42.4 million shares, representing just under 40% of our outstanding shares, from **Koppers Performance Chemicals, Inc.**

Huntsman for a purchase price of approximately \$100 million. The agreement includes a 30-month option for the purchase of Huntsman's remaining approximate 9.7 million shares it holds. We are not a party to this agreement. On January 4, 2021, we announced the election of three directors associated with SK Capital and the resignation of two members of our Board. As a result of these events, SK Capital may exert significant influence over our business objectives and policies, including whether to continue as a publicly listed company, the composition of our board of directors and any action requiring the approval of our shareholders, such as the adoption of amendments to our articles of association, and the approval of mergers or a sale of substantially all of our assets. This concentration of ownership may also make some transactions, including mergers or other changes in control, more difficult or impossible without the support of SK Capital and could discourage others from making tender offers, which could prevent shareholders from receiving a premium for their shares. SK Capital's interests may conflict with your interests as a shareholder.

Certain members of our board of directors may have actual or potential conflicts of interest because of their association with SK Capital.

Certain members of our board of directors are associated with SK Capital, which could create, or appear to create, potential conflicts of interest when our directors are faced with decisions that could have different implications for SK Capital and us. The three members associated with SK Capital are Barry B. Siadat, Aaron C. Davenport and Heike van de Kerkhof.

So long as SK Capital beneficially owns ordinary shares representing a significant percentage of the votes entitled to be cast by the holders of our outstanding ordinary shares, SK Capital can exert significant influence over our board of directors.

Risks Related to Our Relationship with Huntsman

We have agreed to indemnify Huntsman for certain liabilities, including those related to the operation of our business while it was still owned by Huntsman, and while Huntsman will indemnify us for certain liabilities, such indemnities may not be adequate.

Pursuant to the separation agreement and other agreements with Huntsman, we agreed to indemnify Huntsman for certain liabilities, including those related to the operation of our business while it was still owned by Huntsman, in each case for uncapped amounts. Indemnity payments that we may be required to provide Huntsman may be significant and could negatively impact our business. Third parties could also seek to hold us responsible for liabilities that Huntsman has agreed to retain. Further, there can be no assurance that the indemnity from Huntsman for its retained liabilities will be sufficient to protect us against the full amount of such liabilities, or that Huntsman will be able to fully satisfy its indemnification obligations to us. Moreover, even if we ultimately succeed in recovering from Huntsman any amounts for which we are held liable, we may be temporarily required to bear these losses ourselves.

We could have significant tax liabilities for periods during which Huntsman operated our business.

For any tax periods (or portions thereof) prior to the separation and our IPO, we or one or more of our subsidiaries will be included in consolidated, combined, unitary or similar tax reporting groups with Huntsman (including Huntsman's consolidated group for U.S. federal income tax purposes). Applicable laws (including U.S. federal income tax laws) often provide that each member of such a tax reporting group is liable for the group's entire tax obligation. Thus, to the extent Huntsman or other members of a tax reporting group of which we or one of our subsidiaries was a member fails to make any tax payments required by law, we could be liable for the shortfall. Huntsman will indemnify us for any taxes attributable to Huntsman and the internal reorganization and separation transactions that we or one of our subsidiaries are required to pay as a result of our (or one of our subsidiaries') membership in such a tax reporting group with Huntsman. We will also be responsible for any increase in Huntsman's tax liability for any period in which we or any of our subsidiaries are combined or consolidated with Huntsman to the extent attributable to our business (including any increase resulting from audit adjustments). Furthermore, with respect to periods prior to the separation in which one or more of Huntsman's subsidiaries are included in a consolidated, combined, unitary or similar tax reporting group with us, and if one or more of Huntsman's subsidiaries receives an adjustment that increases taxable income, such adjustment may result in the utilization of Venator tax attributes. The use of such Venator attributes would be free of charge to Huntsman and would result in the reduction of our deferred tax assets along with an increase in deferred tax expense in cases where no valuation allowance has been recognized against such deferred tax assets.

In addition, we will also be responsible for any taxes due with respect to tax returns that include only us and/or our subsidiaries for tax periods (or portions thereof) prior to the separation and our IPO.

Further, by virtue of the tax matters agreement, Huntsman effectively controls certain of our tax decisions in connection with any tax reporting group tax returns in which we (or any of our subsidiaries) are included. The tax matters

agreement provides that Huntsman has sole authority to respond to and conduct all tax proceedings (including tax audits) and to prepare and file all such reporting group tax returns in which we or one of our subsidiaries are included on our behalf (including the making of any tax elections). This arrangement may result in conflicts of interest between Huntsman and us. See "Part III. Item 13. Certain Relationships and Related Party Transactions, and Director Independence."

In addition, for U.S. federal income tax purposes Huntsman recognized a gain as a result of the internal restructuring and IPO to the extent the fair market value of the assets associated with our U.S. businesses exceeded the basis of such assets for U.S. federal income tax purposes at the time of the separation. As a result of such gain recognized, the basis of the assets associated with our U.S. businesses increased. Pursuant to the tax matters agreement entered into at the time of the separation, we are required to make a future payment to Huntsman for any actual U.S. federal income tax savings we recognize as a result of any such basis increase for tax years through December 31, 2028. For the year ended December 31, 2019 we estimated that the aggregate future payments required by this provision were expected to be approximately \$30 million and we recognized a noncurrent liability for this amount as of December 31, 2019. Due to a decrease in the expectation of future payments as a result of the Internal Revenue Code Section 382 limitation, resulting from SK Capital's acquisition of Venator shares, we reduced the liability to \$20 million at December 31, 2020. Any subsequent adjustment asserted by U.S. taxing authorities could change the amount of gain recognized with a corresponding basis and liability adjustment for us under the tax matters agreement.

See "Part II. Item 8. Financial Statements and Supplementary Data—Note 19. Income Taxes" of this report for the amount of our known contingent tax liabilities. We currently have no reason to believe that we have any unrecorded outstanding tax liabilities from prior years; however, due to the inherent complexity of tax law, the many countries in which we operate, and the unpredictable nature of tax authorities, we believe there is inherent uncertainty.

The amount of tax for which we are liable for taxable periods preceding the separation may be impacted by elections Huntsman makes on our behalf.

Under the tax matters agreement, Huntsman has the right to make all elections for taxable periods preceding the separation and our IPO. As a result, the amount of tax for which we are liable for taxable periods preceding the separation and our IPO may be impacted by elections Huntsman makes on our behalf.

We may be classified as a passive foreign investment company for U.S. federal income tax purposes, which could result in adverse U.S. federal income tax consequences to U.S. Holders of our ordinary shares.

A foreign corporation will be treated as a "passive foreign investment company," or "PFIC," for U.S. federal income tax purposes if either (1) at least 75% of its gross income for any taxable year consists of certain types of "passive income" or (2) at least 50% of the average value of the corporation's assets for any taxable year produce or are held for the production of those types of "passive income." For purposes of these tests, "passive income" includes dividends, interest and gains from the sale or exchange of investment property and rents and royalties other than certain rents and royalties which are received from unrelated parties in connection with the active conduct of a trade or business, but does not include income derived from the performance of services. U.S. shareholders of a PFIC are subject to a disadvantageous U.S. federal income tax regime with respect to the income derived by the PFIC, the distributions they receive from the PFIC, and the gain, if any, they derive from the sale or other disposition of their interests in the PFIC.

Based on the composition of our assets, income and a review of our activities we do not believe that we currently are a PFIC, and we do not expect to become a PFIC in future taxable years. However, our status as a PFIC in any taxable year will depend on our assets, income and activities in each year, and because this is a factual determination made annually after the end of each taxable year, there can be no assurance that we will not be considered a PFIC for the current taxable year or any future taxable years, and it is possible that the IRS would not agree with our conclusion, or the U.S. tax laws could change significantly.

The IRS may not agree that we are a foreign corporation for U.S. federal tax purposes.

For U.S. federal tax purposes, a corporation is generally considered to be a tax resident of the jurisdiction of its organization or incorporation. Because we are incorporated under the laws of the U.K., we would be classified as a foreign corporation under these rules. Section 7874 of the U.S. Internal Revenue Code of 1986, as amended (the "Code") provides an exception to this general rule under which a foreign incorporated entity may, in certain circumstances, be classified as a U.S. corporation for U.S. federal income tax purposes.

As part of the internal reorganization, we acquired assets, including Koppers Performance Chemicals, Inc., from U.S. corporations, from affiliates of Huntsman. Under Section 7874, we could be treated as a U.S. corporation for U.S.

federal income tax purposes if Huntsman International is treated as receiving at least 80% (by either vote or value) of our shares by reason of holding shares in any U.S. subsidiary acquired by us or with respect to our acquisition of substantially all of the assets of any U.S. subsidiary, in each case, in the internal reorganization.

It is currently not expected that Section 7874 will cause us or any of our affiliates to be treated as a U.S. corporation for U.S. tax purposes. However, the law and Treasury Regulations promulgated under Section 7874 are relatively new, complex and somewhat unclear, and there is limited guidance regarding the application of Section 7874. Moreover, the rules for applying Section 7874 are dependent upon the subjective valuation of certain of our U.S. assets and non-U.S. assets.

Accordingly, there can be no assurance that the IRS will not challenge our status or the status of any of our foreign affiliates as a foreign corporation under Section 7874 or that such challenge would not be sustained by a court. If the IRS were to successfully challenge such status under Section 7874, we and our affiliates could be subject to substantial additional U.S. federal income tax liability. In addition, we and certain of our foreign affiliates are expected, regardless of any application of Section 7874, to be treated as tax residents of countries other than the U.S. Consequently, if we or any such affiliate is treated as a U.S. corporation for U.S. federal income tax purposes under Section 7874, we or such affiliate could be liable for both U.S. and non-U.S. taxes.

Risks Related to Our Ordinary Shares

A number of our shares are eligible for future sale, which may cause the market price of our ordinary shares to decline.

Any sales of substantial amounts of our ordinary shares in the public market or the perception that such sales might occur may cause the market price of our ordinary shares to decline and impede our ability to raise capital through the issuance of equity securities. We may issue additional ordinary shares, including any securities that are convertible into or exchangeable for, or that represent the right to receive, ordinary shares or any substantially similar securities.

In connection with the IPO and the separation, we and Huntsman entered into a Registration Rights Agreement, pursuant to which we agreed, upon the request of Huntsman, to use our best efforts to effect the registration under applicable securities laws of the disposition of our ordinary shares retained by Huntsman. In connection with its sale of just under 40% of our outstanding shares to SK Capital in December 2020, Huntsman partially assigned the Registration Rights Agreement to SK Capital. Subject to prevailing market and other conditions, any future monetization may be effected in additional follow-on capital markets transactions or block transactions that permit an orderly distribution of SK Capital's or Huntsman's ordinary shares.

The rights of our shareholders may differ from the rights typically offered to shareholders of a U.S. corporation organized in Delaware and these differences may make our ordinary shares less attractive to investors.

We are incorporated under the laws of England and Wales. The rights of holders of our ordinary shares are governed by English law, including the provisions of the Companies Act 2006, and by our articles of association. These rights differ in certain respects from the rights of shareholders in typical U.S. corporations organized in Delaware, including with respect to preemptive rights, distribution of dividends, limitation on derivative suits, and certain heightened shareholder approval requirements.

U.S. investors may have difficulty enforcing civil liabilities against us, our directors or members of senior management.

We are incorporated under the laws of England and Wales. The U.S. and the U.K. do not currently have a treaty providing for the recognition and enforcement of judgments, other than arbitration awards, in civil and commercial matters. The enforceability of any judgment of a U.S. federal or state court in the U.K. will depend on the laws and any treaties in effect at the time, including conflicts of laws principles (such as those bearing on the question of whether a U.K. court would recognize the basis on which a U.S. court had purported to exercise jurisdiction over a defendant). In this context, there is doubt as to the enforceability in the U.K. of civil liabilities based solely on the federal securities laws of the U.S. In addition, awards for punitive damages in actions brought in the U.S. or elsewhere may be unenforceable in the U.K. An award for monetary damages under the U.S. securities laws would likely be considered punitive if it did not seek to compensate the claimant for loss or damage suffered and was intended to punish the defendant.

Provisions in our articles of association are intended to have anti-takeover effects that could discourage an acquisition of us by others and may prevent attempts by shareholders to replace or remove our current management.

Certain provisions in our articles of association are intended to have the effect of delaying or preventing a change in control or changes in our management. For example, our articles of association include provisions that establish an advance notice procedure for shareholder resolutions to be brought before an annual meeting of our shareholders, including proposed nominations of persons for election to our board of directors. U.K. law also prohibits the passing of written shareholder resolutions by public companies. In addition, our articles of association provide that we may not engage in a business combination with an interested shareholder for a period of three years after the time of the transaction in which the person became an interested shareholder unless our board of directors, prior to the time of the transaction in which the person became an interested shareholder, approves the business combination or the transaction in which the shareholder becomes an interested shareholder, or under other specified limited circumstances. These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management, even if these events would be beneficial for our shareholders.

Pre-emption rights for U.S. and other non-U.K. holders of shares may be unavailable.

In the case of certain increases in our issued share capital, under English law, existing holders of shares are entitled to pre-emption rights to subscribe for such shares, unless shareholders dis-apply such rights by a special resolution at a shareholders' meeting. These pre-emption rights have been dis-applied for a period of five years by our shareholders in connection with our IPO and we intend to propose equivalent resolutions in the future once the initial period of dis-application has expired. We cannot assure prospective U.S. investors that any exemption from the registration requirements of the Securities Act or applicable non-U.S. securities laws would be available to enable U.S. or other non-U.K. holders to exercise such pre-emption rights or, if available, that we will utilize any such exemption.

Transfers of our shares may be subject to stamp duty or stamp duty reserve tax in the U.K., which would increase the cost of dealing in our shares.

Stamp duty or stamp duty reserve tax ("SDRT"), are imposed in the U.K. on certain transfers of chargeable securities (which include shares in companies incorporated in the U.K.) at a rate of 0.5% of the consideration paid for the transfer. Certain issues or transfers of shares to depositories or into clearance systems may be charged at a higher rate of 1.5%.

Our shareholders are strongly encouraged to hold shares in book entry form through the facilities of The Depository Trust Company ("DTC"). Transfers of shares held in book entry form through DTC do not currently attract a charge to stamp duty or SDRT in the U.K. A transfer of title in the shares from within the DTC system out of DTC and any subsequent transfers that occur entirely outside the DTC system, will attract a charge to stamp duty at a rate of 0.5% of any consideration, which is payable by the transferee of the shares. Any such duty must be paid (and the relevant transfer document, if any, stamped by HM Revenue & Customs ("HMRC")) before the transfer can be registered in the books of Venator. However, if those shares are redeposited into DTC, the redeposit will attract stamp duty or SDRT at the rate of 1.5% to be paid by the transferor.

We have put in place arrangements to require that shares held in certificated form cannot be transferred into the DTC system until the transferor of the shares has first delivered the shares to a depository specified by us so that SDRT may be collected in connection with the initial delivery to the depository. Any such shares will be evidenced by a receipt issued by the depository. Before the transfer can be registered in our books, the transferor will also be required to put the depository in funds to settle the resultant liability to SDRT, which will be charged at a rate of 1.5% of the value of the shares.

As a result of changes in law because of Brexit, we are no longer able to deliver shares directly to the DTC for deposit and clearing within the DTC facilities. Instead, an arrangement is in place whereby the shares are indirectly issued to the DTC through the issuance of shares to a third party depository nominee, subsequent issuance and cancellation of depository receipts and transfer of the shares from the depository nominee to DTC's nominee Cede & Co. for further delivery into the DTC system, a process which is exempt from stamp duty under existing U.K. law. If this arrangement were to be disallowed under U.K. law, then transactions in our securities may be disrupted.

The facilities of DTC are a widely-used mechanism that allow for rapid electronic transfers of securities between the participants in the DTC system, which include many large banks and brokerage firms. Our ordinary shares are currently eligible via the method described above for deposit and clearing within the DTC system. We have entered into arrangements with DTC whereby we agreed to indemnify DTC for any SDRT that may be assessed upon it as a result of its service as a depository and clearing agency for our shares. However, DTC generally has discretion to cease to act as a depository and clearing agency for the shares. While we would pursue alternative arrangements to preserve our listing and maintain trading, any such disruption could have a material adverse effect on the market price of our ordinary shares.

ITEM 1B. UNRESOLVED STAFF COMMENTS

40

None.

ITEM 2. PROPERTIES

We own or lease chemical manufacturing and research facilities in the locations indicated in the list below which we believe are adequate for our short-term and anticipated long-term needs. We own or lease office space and storage facilities throughout the world. Our headquarters and principal executive offices are located at the Wynyard location, with the address of Titanium House, Hanzard Drive, Wynyard Park, Stockton-On-Tees, TS22 5FD, United Kingdom.

The following is a list of our principal owned or leased properties where manufacturing, research and main office facilities are located.

Location ⁽²⁾	Business Segment ⁽⁴⁾	Description of Facility
Duisburg, Germany	Various	TiO ₂ , Functional Additives, Water Treatment Manufacturing and Research Facility and Administrative Offices
Greatham, U.K.	TiO ₂	TiO ₂ Manufacturing Facility
Huelva, Spain	TiO ₂	TiO ₂ Manufacturing Facility
Lake Charles, Louisiana ⁽³⁾	TiO ₂	TiO ₂ Manufacturing Facility
Pori, Finland ⁽⁵⁾	TiO ₂	TiO ₂ Manufacturing Facility
Scarlino, Italy	TiO ₂	TiO ₂ Manufacturing Facility
Teluk Kalung, Malaysia ⁽¹⁾	TiO ₂	TiO ₂ Manufacturing Facility
Uerdingen, Germany ⁽¹⁾	TiO ₂	TiO ₂ Manufacturing Facility
Augusta, Georgia	Additives	Color Pigments Manufacturing Facility
Birtley, U.K.	Additives	Color Pigments Manufacturing Facility
Comines, France	Additives	Color Pigments Manufacturing Facility
Dandenong, Australia ⁽¹⁾	Additives	Color Pigments Manufacturing Facility
Freeport, Texas	Additives	Timber Treatments Manufacturing Facility
Harrisburg, North Carolina	Additives	Timber Treatments Manufacturing Facility
Ibbenbueren, Germany ⁽¹⁾	Additives	Water Treatment Manufacturing Facility
Kidsgrove, U.K.	Additives	Color Pigments Manufacturing Facility
Los Angeles, California	Additives	Color Pigments Manufacturing Facility
Schwarzeide, Germany ⁽¹⁾	Additives	Water Treatment Manufacturing Facility
Sudbury, U.K.	Additives	Color Pigments Manufacturing Facility
Taichang, China	Additives	Color Pigments Manufacturing Facility
Turin, Italy	Additives	Color Pigments Manufacturing Facility
Walluf, Germany ⁽¹⁾	Additives	Color Pigments Manufacturing Facility
Everberg, Belgium ⁽¹⁾	Various	Shared Services Center and Administrative Offices
Kuala Lumpur, Malaysia ⁽¹⁾	Various	Shared Services Center and Administrative Offices
The Woodlands, Texas ⁽¹⁾	Various	Administrative Offices
Wynyard, U.K. ⁽¹⁾	Various	Headquarters & Administrative Offices, Research Facility and Shared Services Center

(1) Leased land and/or building.

(2) Excludes plant in Calais, France which was closed in 2017.

(3) Owned by LPC, our unconsolidated manufacturing joint venture which is owned 50% by us and 50% by Kronos.

(4) Solely for the purposes of this column, "TiO₂" and "Additives" represent the Titanium Dioxide and Performance Additives segments, respectively.

(5) The Pori, Finland plant closure was announced in the third quarter of 2018 and is ongoing.

ITEM 3. LEGAL PROCEEDINGS

Shareholder Litigation

On February 8, 2019 we, certain of our executive officers, Huntsman and certain banks who acted as underwriters in connection with our IPO and secondary offering were named as defendants in a proposed class action civil suit filed in the District Court for the State of Texas, Dallas County (the "Dallas District Court"), by an alleged purchaser of our ordinary shares in connection with our IPO on August 3, 2017 and our secondary offering on November 30, 2017. The plaintiff, Macomb County Employees' Retirement System, alleges that inaccurate and misleading statements were made regarding the impact to our operations, and prospects for restoration thereof, resulting from the fire that occurred at our Pori, Finland manufacturing facility, among other allegations. Additional complaints making substantially the same allegations were filed in the Dallas District Court by the Firemen's Retirement System of St. Louis on March 4, 2019 and by Oscar Gonzalez on March 13, 2019, with the third case naming two of our directors as additional defendants. A fourth case was filed in the U.S. District Court for the Southern District of New York by the City of Miami General Employees' & Sanitation Employees' Retirement Trust on July 31, 2019, making substantially the same allegations, adding claims under sections 10(b) and 20(a) of the U.S. Exchange Act, and naming all of our directors as additional defendants. A fifth case, filed by Bonnie Yoon Bishop in the U.S. District Court for the Southern District of New York, was voluntarily dismissed without prejudice on October 7, 2019. A sixth case was filed in the U.S. District Court for the Southern District of Texas by the Cambria County Employees Retirement System on September 13, 2019, making substantially the same allegations as those made by the plaintiff in the case pending in the Southern District of New York.

The plaintiffs in these cases seek to determine that the proceedings should be certified as class actions and to obtain alleged compensatory damages, costs, rescission and equitable relief.

The cases filed in the Dallas District Court have been consolidated into a single action, *In re Venator Materials PLC Securities Litigation*. On October 29, 2019, the U.S. District Court for the Southern District of New York entered an order transferring the case brought by the city of Miami General Employees' & Sanitation Employees' Retirement Trust to the U.S. District Court for the Southern District of Texas, where it was consolidated into a single action with the case brought by the Cambria County Employees' Retirement Trust and is now known as *In re: Venator Materials PLC Securities Litigation*. On January 17, 2020, plaintiffs in the consolidated action filed a consolidated class action complaint.

On May 8, 2019, we filed a "special appearance" in the Dallas District Court action contesting the court's jurisdiction over the Company and a motion to transfer venue to Montgomery County, Texas and on June 7, 2019 we and certain defendants filed motions to dismiss. On July 9, 2019, a hearing was held on certain of these motions, which were subsequently denied. On October 3, 2019, a hearing was held on our motion to dismiss under the Texas Citizens Participation Act, which was subsequently denied. On October 22, 2019, we and other defendants filed a Petition for Writ of Mandamus in the Court of Appeals for the Fifth District of Texas seeking relief from the Dallas District Court's denial of defendants' Rule 91a motions to dismiss. On November 22, 2019, we also filed a notice of appeal regarding the denial of our motion to dismiss under the Texas Citizens Participation Act. On January 21, 2020, the Court of Appeals for the Fifth District of Texas reversed the Dallas District Court's order that denied the special appearances of Venator and certain other defendants, and rendered judgment dismissing the claims against Venator and those other defendants for lack of jurisdiction. The Court of Appeals also remanded the case for the Dallas District Court to enter an order transferring the claims against Huntsman to the Montgomery County District Court.

We may be required to indemnify our executive officers and directors, Huntsman, and the banks who acted as underwriters in our IPO and secondary offerings, for losses incurred by them in connection with these matters pursuant to our agreements with such parties. Because of the early stage of this litigation and because the parties have yet to engage in significant discovery, we are unable to reasonably estimate any possible loss or range of loss and we have not accrued for a loss contingency with regard to these matters.

Tronox Litigation

On April 26, 2019, we acquired intangible assets related to the European paper laminates business from Tronox. A separate agreement with Tronox entered into on July 14, 2018 requires that Tronox promptly pay us a "break fee" of \$75 million upon the consummation of Tronox's merger with The National Titanium Dioxide Company Limited ("Cristal") once the sale of the European paper laminates business to us was consummated, if the sale of Cristal's Ashtabula manufacturing complex to us was not completed. The deadline for such payment was May 13, 2019. On April 26, 2019, Tronox publicly stated that it believes it is not obligated to pay the break fee.

On May 14, 2019, we commenced a lawsuit in the Delaware Superior Court against Tronox arising from Tronox's breach of its obligation to pay the break fee. We are seeking a judgment for \$75 million, plus pre- and post-judgment interest, and reasonable attorneys' fees and costs. On June 17, 2019, Tronox filed an answer denying that it is obligated to pay the break fee and asserting affirmative defenses and counterclaims of approximately \$400 million, alleging that we failed to negotiate the purchase of the Ashtabula complex in good faith. On February 4, 2021, the parties participated in mediation as required by Delaware courts, during which no settlement was reached. While we believe we will prevail on adjudication of these matters, we are unable at the current stage of this litigation to determine the likelihood of an unfavorable outcome and are unable to reasonably estimate any possible loss or range of loss and we have not made any accrual with regard to this matter.

Huelva, Spain EHS Matters

On June 20, 2019, a release of nitrous oxide gas occurred at our Huelva facility in Spain. The gas cloud quickly dissipated but temporarily created an off-site visual impact. We are fully cooperating with the regulatory authorities investigating this matter. Due to the range of potential sanctions that may be imposed, we are unable to reasonably estimate any sanction that may be imposed by Junta de Andalucia, though we believe that such sanctions could exceed \$300,000.

Other Proceedings

See "Part II. Item 8. Financial Statements and Supplementary Data—Note 22. Commitments and Contingencies" of this report.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED SHAREHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information and Holders

Our ordinary shares, \$0.001 par value per share, are listed on the NYSE under the symbol "VNTR." As of February 22, 2021, there were four shareholders of record and the closing price of our ordinary shares on the New York Stock Exchange was \$4.42 per share.

Dividend Policy

For the foreseeable future, we do not expect to pay dividends. However, we anticipate that our board of directors will consider the payment of dividends from time to time to return a portion of our profits to our shareholders when we experience adequate levels of profitability and associated reduced debt leverage. If our board of directors determines to pay any dividend in the future, there can be no assurance that we will continue to pay such dividends or the amount of such dividends.

Securities Authorized for Issuance Under Equity Compensation Plans

See "Part III. Item 11. Executive Compensation" of this report for information relating to our equity compensation plans.

ITEM 6. SELECTED FINANCIAL DATA

The Selected Financial Data should be read in conjunction with "Part II. Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Part II. Item 8. Financial Statements and Supplementary Data" of this report.

(in millions, except per share amounts)

	2020	2019	2018	2017	2016
Statements of Operations Data:					
Revenues	\$ 1,938	\$ 2,130	\$ 2,265	\$ 2,209	\$ 2,139
(Loss) income from continuing operations	(105)	(170)	(157)	136	(85)
(Loss) income per share from continuing operations attributable to Venator ordinary shareholders	\$ (1.05)	\$ (1.64)	\$ (1.53)	\$ 1.19	\$ (0.89)
Balance Sheet Data (at year end):					
Total assets	\$ 2,357	\$ 2,265	\$ 2,485	\$ 2,847	\$ 2,661
Total long-term liabilities	1,338	1,104	1,087	1,083	1,309
Total assets from continuing operations ⁽¹⁾	2,357	2,265	2,485	2,847	2,535
Total long-term liabilities from continuing operations ⁽²⁾	1,338	1,104	1,087	1,083	1,231

(1) Defined as total assets less current assets of discontinued operations and noncurrent assets of discontinued operations.

(2) Defined as total long-term liabilities less noncurrent liabilities of discontinued operations.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of financial condition and results of operations (MD&A) should be read in conjunction with the information under the headings "Note Regarding Forward-Looking Statements," "Part I. Item 1A. Risk Factors," "Part II. Item 6. Selected Financial Data" and "Part I. Item 1. Business," as well as the audited consolidated financial statements and the related notes thereto. The following MD&A gives effect to the recast as described in "Part II. Item 8. Financial Statements" of this report.

COVID-19

The COVID-19 pandemic has created significant disruptions to the global economy and has had an adverse effect on our business and the markets in which we operate. As a result of the COVID-19 pandemic, governmental authorities have implemented and are continuing to implement numerous and constantly evolving measures to try to contain the virus, such as travel bans and restrictions, limits on gatherings, quarantines, shelter-in-place orders and business shutdowns. As a result of restrictions and other impacts of the COVID-19 pandemic, demand for many of our products has declined as sales volumes have decreased 8% in 2020 compared to the prior year period.

We have manufacturing and other operations that are important to our company in areas significantly affected by the outbreak and have implemented measures to respond to the impacts of the pandemic, particularly in Europe, which is our largest market and in which we have important manufacturing facilities. We are actively managing our business through the pandemic and have enacted rigorous safety measures across our organization in response to the pandemic, including stopping non-essential business travel, increasing personal protective equipment requirements at our manufacturing sites, removing non-essential contractors from our sites, increasing cleaning and sanitizing measures, implementing social distancing protocols, requiring work-from-home arrangements as appropriate and reducing the amount of employees working at a site at any given time. We continue to evaluate the appropriate measures to have in place to safeguard our employees and our business and we may take further actions as government authorities require or recommend, or as we determine to be in the best interest of our employees, customers, partners and suppliers.

We have not experienced significant impacts or interruptions to our supply chain as a result of the COVID-19 pandemic. However, at times during the pandemic, certain of our suppliers have faced difficulties maintaining operations due to government-ordered restrictions and shelter-in-place mandates. While we have been able to identify alternative sourcing arrangements without disrupting our supply chain, financial hardship on our suppliers caused by the COVID-19 pandemic could cause disruptions in our raw material supply. We are proactively managing our supplier network by maintaining close contact and seeking alternative arrangements in case our primary suppliers are impacted by the COVID-19 pandemic.

We are actively managing the business to improve cash flow and ensure adequate liquidity, which we believe will help us emerge from this environment a stronger and more resilient company. Such measures include our COVID-19 response program, our 2020 Business Improvement Program, managing our production network to align with customer demand, managing our inventories and reducing planned capital expenditures. In addition, various governments in the countries and localities in which we operate have established economic relief and stimulus programs to support their economies during the COVID-19 pandemic. We are participating in certain smaller-value programs and we continue to assess the potential for the impact that other programs may have on our liquidity as they become available. We may also seek to take advantage of opportunities to raise or refinance capital through debt financing, and may, from time to time, discuss such opportunities with potential lenders or investors.

We cannot currently predict the duration and severity of impacts to our business from the global economic slowdown caused by the COVID-19 pandemic. Because of this, we cannot reasonably estimate with any degree of certainty the future adverse impact the COVID-19 pandemic may have on our results of operations, financial position, or liquidity. See "Part I. Item 1A. Risk Factors" for further details of the risks that the COVID-19 pandemic may present to our business.

Recent Developments

German Restructuring

In the fourth quarter of 2020, our Board of Directors approved a plan to implement a restructuring program at our manufacturing facilities in Duisburg, Germany as part of our 2020 Business Improvement Program. As a result of this program, we recognized restructuring expense of approximately \$30 million in the fourth quarter of 2020 of which \$10 million was related to cash costs primarily consisting of employee benefits, and approximately \$20 million of non-cash costs which are primarily related to accelerated depreciation. We expect to incur additional future costs through 2022 of approximately \$23 million which we expect to be cash costs consisting of \$19 million of employee benefit costs and \$4 million of plant shutdown costs.

SK Capital Share Acquisition

On December 23, 2020, funds advised by SK Capital Partners, L.P. (“SK Capital”) purchased approximately 42.4 million shares, representing just under 40% of Venator’s outstanding shares, from Huntsman, including a 30-month option for the purchase of the remaining approximately 9.7 million Venator shares Huntsman holds.

Recent Trends and Outlook

The COVID-19 pandemic introduced a period of decline in demand for our products across our business beginning in the second quarter of 2020. We began to see signs of economic recovery from the COVID-19 pandemic during the third and fourth quarters across our business. We anticipate continued recovery throughout 2021 as COVID-19 vaccinations progress globally and governments begin to roll back restrictions and protective measures that influence the markets in which we operate. The speed of recovery will depend, however, on industry-specific factors as further outlined below.

We expect the following in our Titanium Dioxide segment: (i) a two-speed recovery in volumes as our specialty products experience a longer recovery than demand for our functional products as our specialty business continues to be more sensitive to the impacts of COVID-19; (ii) TiO₂ pricing to reflect regional supply and demand balances, increased competition in certain regions for certain of our products and our customer-tailored approach; (iii) rising cost of ore feedstocks and energy; and (iv) benefit from our 2020 Business Improvement Program which includes our program to restructure our German manufacturing facilities.

We expect the following in our Performance Additives segment: (i) Sequential increase in volumes across the segment due to normal seasonal demand trends and continued recovery from COVID-19; (ii) Product portfolio optimization actions; and (iii) benefit from our 2020 Business Improvement Program which includes our program to restructure our German manufacturing facilities.

During 2020, in response to the adverse impact of the COVID-19 pandemic, we implemented our COVID-19 response program to reduce our costs, including non-recurring personnel cost reductions and operational cost savings at our manufacturing facilities. Personnel cost management actions included a temporary reduction in salaries, changes and reductions to bonus schemes and employee furloughs, as well as reduced spending on other discretionary items. We realized approximately \$27 million of non-recurring savings from our COVID-19 response program in 2020 which will be replaced by savings from our 2020 Business Improvement Program.

In the fourth quarter of 2018, we commenced our \$40 million, 2019 Business Improvement Program and we delivered \$20 million through December 31, 2019. We ended 2020 at the full \$40 million run-rate level.

During the third quarter of 2020, we announced our 2020 Business Improvement Program that will save approximately \$55 million compared to 2019. This program is in addition to our 2019 Business Improvement Program and replaces our non-recurring COVID-19 cost savings initiatives delivered in 2020. We expect that this program will be fully implemented by the end of 2022. We realized approximately \$16 million of savings during 2020.

In 2021, we expect total capital expenditures to be approximately \$75 million to \$85 million. This includes maintenance capital expenditures and the cost of implementing business improvement projects.

We expect our corporate and other costs will be approximately \$45 million in 2021.

Koppers Performance Chemicals, Inc.

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Page 87 of 203

Results of Operations

The following table sets forth our consolidated results of operations for the years ended December 31, 2020, 2019 and 2018. For a discussion of the 2018 results of operations, see "Part II. Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations" in the 2018 Form 10-K.

	Year Ended December 31,			Percent Change Year Ended	
	2020	2019	2018	2020 vs. 2019	2019 vs. 2018
<i>(Dollars in millions)</i>					
Revenues	\$ 1,938	\$ 2,130	\$ 2,265	(9)%	(6)%
Cost of goods sold	1,778	1,892	1,550	(6) %	22 %
Operating expenses ⁽⁴⁾	170	192	218	(11) %	(12) %
Restructuring, impairment and plant closing and transition costs	58	33	628	76 %	(95) %
Operating (loss) income	(68)	13	(131)	NM	NM
Interest expense, net	(52)	(41)	(40)	27 %	3 %
Other income	27	8	6	238 %	33 %
Loss before income taxes	(93)	(20)	(165)	365 %	(88)%
Income tax (expense) benefit	(12)	(150)	8	(92) %	NM
Net loss	(105)	(170)	(157)	(38)%	8 %
Reconciliation of net loss to adjusted EBITDA:					
Interest expense, net	52	41	40	27 %	3 %
Income tax expense (benefit)	12	150	(8)	(92) %	NM
Depreciation and amortization	114	110	132	4 %	(17) %
Net income attributable to noncontrolling interests	(7)	(5)	(6)	40 %	(17) %
Other adjustments:					
Business acquisition and integration expense (credits)	1	(1)	20		
Separation (gain) expense, net	(10)	(3)	2		
(Gain) loss on disposition of businesses/assets	(5)	1	2		
Certain legal expenses/settlements	6	4	—		
Amortization of pension and postretirement actuarial losses	13	14	15		
Net plant incident costs (credits)	7	20	(232)		
Restructuring, impairment and plant closing and transition costs	58	33	628		
Adjusted EBITDA⁽¹⁾	\$ 136	\$ 194	\$ 436	(30)%	(56)%
Net cash provided by operating activities	34	33	282	3 %	(88) %
Net cash used in investing activities	(64)	(150)	(321)	(57) %	(53) %
Net cash provided by (used in) financing activities	192	7	(18)	2,643 %	NM
Capital expenditures	(69)	(152)	(326)	(55) %	(53) %

(Dollars in millions)

Reconciliation of net loss to adjusted net (loss) attributable to Venator Materials PLC ordinary shareholders:

	Year Ended December 31, 2020	Year Ended December 31, 2019	Year Ended December 31, 2018
Net loss	\$ (105)	\$ (170)	\$ (157)
Net income attributable to noncontrolling interests	(7)	(5)	(6)
Other adjustments:			
Business acquisition and integration expense (credits)	1	(1)	20
Separation (gain) expense, net	(10)	(3)	2
(Gain) loss on disposition of businesses/assets	(5)	1	2
Certain legal expenses/settlements	6	4	—
Amortization of pension and postretirement actuarial losses	13	14	15
Net plant incident costs (credits), net	7	20	(232)
Restructuring, impairment and plant closing and transition costs	58	33	628
Income tax adjustments ⁽³⁾	20	133	(37)
Adjusted net (loss) income attributable to Venator Materials PLC ordinary shareholders⁽²⁾	\$ (22)	\$ 26	\$ 235
Weighted-average shares-basic	106.7	106.5	106.4
Weighted-average shares-diluted	106.7	106.5	106.7
Net loss attributable to Venator Materials PLC ordinary shareholders per share:			
Basic	\$ (1.05)	\$ (1.64)	\$ (1.53)
Diluted	\$ (1.05)	\$ (1.64)	\$ (1.53)
Other non-GAAP measures:			
Adjusted net (loss) income per share:⁽²⁾			
Basic	\$ (0.21)	\$ 0.24	\$ 2.21
Diluted	\$ (0.21)	\$ 0.24	\$ 2.20

NM—Not meaningful

- (1) Our management uses adjusted EBITDA to assess financial performance. Adjusted EBITDA is defined as net income/loss before interest income/expense, net, income tax expense/benefit, depreciation and amortization, and net income attributable to noncontrolling interests, as well as eliminating the following adjustments: (a) business acquisition and integration expense/credits; (b) separation gain/expense; (c) loss/gain on disposition of businesses/assets; (d) certain legal expenses/settlements; (e) amortization of pension and postretirement actuarial losses/gains; (f) net plant incident costs/credits; and (g) restructuring, impairment, and plant closing and transition costs/credits. We believe that net income is the performance measure calculated and presented in accordance with generally accepted accounting principles in the United States ("U.S. GAAP" or "GAAP") that is most directly comparable to adjusted EBITDA.

We believe adjusted EBITDA is useful to investors in assessing our ongoing financial performance and provides improved comparability between periods through the exclusion of certain items that management believes are not indicative of our operational profitability and that may obscure underlying business results and trends. However, this measure should not be considered in isolation or viewed as a substitute for net income or other measures of performance determined in accordance with U.S. GAAP. Moreover, adjusted EBITDA as used herein is not necessarily comparable to other similarly titled measures of other companies due to potential inconsistencies in the methods of calculation. Our management believes this measure is useful to compare general operating performance from period to period and to make certain related management decisions. Adjusted EBITDA is also used by securities analysts, lenders and others in their evaluation of different companies because it excludes certain items that can vary widely across different industries or among companies within the same industry. For example, interest expense can be highly dependent on a company's capital structure, debt levels and credit ratings. Therefore, the impact of interest expense on earnings can vary significantly among companies. In addition, the tax positions of companies can vary because of their differing abilities to take advantage of tax benefits and because of the tax policies of the various jurisdictions in which they operate. As a result, effective tax rates and tax expense can vary

considerably among companies. Finally, companies employ productive assets of different ages and utilize different methods of acquiring and depreciating such assets. This can result in considerable variability in the relative costs of productive assets and the depreciation and amortization expense among companies.

Nevertheless, our management recognizes that there are limitations associated with the use of adjusted EBITDA in the evaluation of us as compared to net income. Our management compensates for the limitations of using adjusted EBITDA by using this measure to supplement U.S. GAAP results to provide a more complete understanding of the factors and trends affecting the business rather than U.S. GAAP results alone.

In addition to the limitations noted above, adjusted EBITDA excludes items that may be recurring in nature and should not be disregarded in the evaluation of performance. However, we believe it is useful to exclude such items to provide a supplemental analysis of current results and trends compared to other periods because certain excluded items can vary significantly depending on specific underlying transactions or events, and the variability of such items may not relate specifically to ongoing operating results or trends and certain excluded items, while potentially recurring in future periods, may not be indicative of future results.

- (2) Adjusted net income/loss attributable to Venator Materials PLC ordinary shareholders is computed by eliminating the after-tax amounts related to the following from net income/loss attributable to Venator Materials PLC ordinary shareholders: (a) business acquisition and integration expenses/credits; (b) separation gain/expense; (c) loss/gain on disposition of businesses/assets; (d) certain legal expenses/settlements; (e) amortization of pension and postretirement actuarial losses/gains; (f) net plant incident costs/credits; and (g) restructuring, impairment, and plant closing and transition costs/credits. Basic adjusted net income per share excludes dilution and is computed by dividing adjusted net income by the weighted average number of shares outstanding during the period. Adjusted diluted net income per share reflects all potential dilutive ordinary shares outstanding during the period increased by the number of additional shares that would have been outstanding as dilutive securities.

Adjusted net income/loss and adjusted net income/loss per share amounts are presented solely as supplemental information. These measures exclude similar noncash items as Adjusted EBITDA in order to assist our investors in comparing our performance from period to period and as such, bear similar risks as Adjusted EBITDA as documented in footnote (1) above. For that reason, adjusted net income/loss and the related per share amounts, should not be considered in isolation and should be considered only to supplement analysis of U.S. GAAP results.

- (3) Prior to the second quarter of 2019, the income tax impacts, if any, of each adjusting item represented a ratable allocation of the total difference between the unadjusted tax expense and the total adjusted tax expense, computed without consideration of any adjusting items using a with and without approach.

Beginning in the three and six-month periods ended June 30, 2019, income tax expense is adjusted by the amount of additional tax expense or benefit that we would accrue if we used non-GAAP results instead of GAAP results in the calculation of our tax liability, taking into consideration our tax structure. We use a normalized effective tax rate of 35%, which reflects the weighted average tax rate applicable under the various jurisdictions in which we operate. This non-GAAP tax rate eliminates the effects of non-recurring and period specific items which are often attributable to restructuring and acquisition decisions and can vary in size and frequency. This rate is subject to change over time for various reasons, including changes in the geographic business mix, valuation allowances, and changes in statutory tax rates.

We eliminate the effect of significant changes to income tax valuation allowances from our presentation of adjusted net income to allow investors to better compare our ongoing financial performance from period to period. We do not adjust for insignificant changes in tax valuation allowances because we do not believe it provides more meaningful information than is provided under GAAP. We believe that our revised approach enables a clearer understanding of the long-term impact of our tax structure on post tax earnings.

- (4) As presented within Item 7, operating expenses include selling, general and administrative expenses and other operating expense/income.

Year Ended December 31, 2020 Compared to the Year Ended December 31, 2019

For the year ended December 31, 2020, net loss was \$105 million on revenues of \$1,938 million, compared with a net loss of \$170 million on revenues of \$2,130 million for the same period in 2019. The decrease of \$65 million in net loss was the result of the following items:

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 92 of 203

- Revenues for the year ended December 31, 2020 decreased by \$192 million, or 9%, as compared with the same period in 2019. The decrease was due to a \$183 million, or 11%, decrease in revenue in our Titanium Dioxide segment and a \$9 million, or 2%, decrease in revenue in our Performance Additives segment. See "—Segment Analysis" below.
- Our operating expenses for the year ended December 31, 2020 decreased by \$22 million, or 11%, as compared to the same period in 2019, primarily due to \$21 million of savings from selling, general administrative expense due to cost savings from our COVID-19 response program and a \$6 million gain from the sale of our property in Umbogintwini, South Africa during the third quarter of 2020, partially offset by approximately \$7 million of legal expenses related to certain litigation.
- Restructuring, impairment and plant closing and transition costs for the year ended December 31, 2020 increased to \$58 million from \$33 million for the same period in 2019. For more information concerning restructuring activities, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 13. Restructuring, Impairment and Plant Closing and Transition Costs" of this report.
- Other income for the year ended December 31, 2020 increased by \$19 million primarily as a result of the change in the related party payable to Huntsman pursuant to the tax matters agreement entered into as part of our separation and a reduction in pension expenses as compared to 2019. For further information concerning the payable to Huntsman under the tax matters agreement, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 19. Income Taxes" of this report.
- Income tax expense for the year ended December 31, 2020 was \$12 million compared to \$150 million for the same period in 2019. Our income tax expense is significantly affected by the mix of income and losses in the tax jurisdictions in which we operate, as impacted by the presence of valuation allowances in certain tax jurisdictions. In 2019, we recorded a full valuation allowance against certain net deferred tax assets of \$162 million. For further information concerning taxes, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 19. Income Taxes" of this report.

Segment Analysis

(in millions)	Year Ended December 31,		Percent Change Favorable (Unfavorable)
	2020	2019	
Revenues			
Titanium Dioxide	\$ 1,431	\$ 1,614	(11) %
Performance Additives	507	516	(2) %
Total	\$ 1,938	\$ 2,130	(9)%
Adjusted EBITDA			
Titanium Dioxide	\$ 127	\$ 197	(36) %
Performance Additives	55	47	17 %
	182	244	(25) %
Corporate and other	(46)	(50)	8 %
Total	\$ 136	\$ 194	(30)%

Year Ended December 31, 2020 vs. 2019

	Average Selling Price ⁽¹⁾			
	Local Currency	Foreign Currency Translation Impact	Mix & Other	Sales Volumes ⁽²⁾
Period-Over-Period Increase (Decrease)				
Titanium Dioxide	(2)%	— %	— %	(9)%
Performance Additives	3 %	— %	— %	(5)%

(1) Excludes revenues from tolling arrangements, by-products and raw materials.

(2) Excludes sales volumes of by-products and raw materials.

Titanium Dioxide

The Titanium Dioxide segment generated revenues of \$1,431 million in the twelve months ended December 31, 2020, a decrease of \$183 million, or 11%, compared to the same period in 2019. The decrease was primarily due to a 9% decrease in sales volumes, and a 2% decline in the average TiO₂ selling price. The decline in the average TiO₂ volumes was primarily a result of the impact of the COVID-19 pandemic on demand beginning in the second quarter of 2020 and as a result of the impact of hurricanes in the Gulf of Mexico during the third and fourth quarters of 2020.

Adjusted EBITDA for the Titanium Dioxide segment was \$127 million, a decline of \$70 million, or 36%, in the twelve months ended December 31, 2020 compared to the same period in 2019. This decrease is primarily a result of lower revenue, lower plant utilization resulting in higher production costs of approximately \$14 million compared to 2019, higher ore costs, a noncash benefit due to recognition of changes in pension obligation and the impact of a benefit in 2019 due to a change in plant utilization rates. These unfavorable impacts on our adjusted EBITDA were partially offset by benefits from our Business Improvement Programs of approximately \$20 million, approximately \$19 million of savings from our COVID-19 response program and the impact of lower energy prices in 2020 compared to the prior year period.

Performance Additives

The Performance Additives segment generated revenues of \$507 million in the twelve months ended December 31, 2020, a decline of \$9 million, or 2% compared to the same period in 2019. This decrease was a result of a 5% decline in volumes partially offset by a 3% improvement in average selling price. The decline in sales volumes was primarily a result of lower demand for color pigments and functional additives products due to the impact of COVID-19 on demand for construction, coatings and automotive end-use applications, partially offset by fourth quarter recoveries in color pigments and functional additives. Volumes in our timber treatment business improved compared to 2019. The average selling price increased primarily as a result of favorable mix within our color pigments and timber treatment businesses.

Adjusted EBITDA in the Performance Additives segment was \$55 million, an increase of \$8 million, or 17%, for the twelve months ended December 31, 2020 compared to the same period in 2019. The increase in adjusted EBITDA is primarily related to a \$10 million benefit from our Business Improvement Programs, a \$2 million benefit from our COVID-19 response program, and improved EBITDA in our timber treatment business resulting from volume growth, partially offset by decrease in revenue year over year as a result of the impact of COVID-19 and lower plant utilization resulting in higher production costs in our functional additives business of approximately \$4 million compared to the prior year.

Corporate and other

Corporate and other represents expenses which are not allocated to our segments. Losses from Corporate and other were \$46 million, or \$4 million lower for the twelve months ended December 31, 2020 than the same period in 2019 due to savings from our Business Improvement Programs and savings from our COVID-19 response program, partially offset by other increases in corporate selling, general and administrative costs compared to 2019.

Year Ended December 31, 2019 Compared to the Year Ended December 31, 2018

For the year ended December 31, 2019, net loss was \$170 million on revenues of \$2,130 million, compared with a net loss of \$157 million on revenues of \$2,265 million for the same period in 2018. The increase of \$13 million in net loss was the result of the following items:

- Revenues for the year ended December 31, 2019 decreased by \$135 million, or 6%, as compared with the same period in 2018. The decrease was due to a \$52 million, or 3%, decrease in revenue in our Titanium Dioxide segment and an \$83 million, or 14%, decrease in revenue in our Performance Additives segment. See "—Segment Analysis" below.
- Our operating expenses for the year ended December 31, 2019 decreased by \$26 million, or 12%, as compared to the same period in 2018, primarily as a result lower overhead costs, lower depreciation expense, and a decrease in Pori related expenses, partially offset by the impact of \$14 million of carbon credit sales in 2018 and the negative impact of foreign exchange.
- Restructuring, impairment and plant closing and transition costs for the year ended December 31, 2019 decreased to \$33 million from \$628 million for the same period in 2018. For more information concerning restructuring activities, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 13. Restructuring, Impairment and Plant Closing and Transition Costs" of this report.
- Other income for the year ended December 31, 2019 increased by \$2 million primarily as a result of the recognition of \$4 million related to the change in the expected future payment to Huntsman pursuant to the tax matters agreement entered into as part of our separation partially offset by a net decrease in pension related expense.

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 96 of 203

- Income tax expense for the year ended December 31, 2019 was \$150 million compared to \$8 million of income tax benefit for the same period in 2018. Our income tax expense is significantly affected by the mix of income and losses

in the tax jurisdictions in which we operate, as impacted by the presence of valuation allowances in certain tax jurisdictions. In 2019, we recorded a full valuation allowance against certain net deferred tax assets of \$162 million. For further information concerning taxes, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 19. Income Taxes" of this report.

Segment Analysis

(in millions)	Year Ended December 31,		Percent Change Favorable (Unfavorable)
	2019	2018	
Revenues			
Titanium Dioxide	\$ 1,614	\$ 1,666	(3) %
Performance Additives	516	599	(14) %
Total	\$ 2,130	\$ 2,265	(6) %
Segment adjusted EBITDA			
Titanium Dioxide	\$ 197	\$ 417	(53) %
Performance Additives	47	62	(24) %
	244	479	(49) %
Corporate and other	(50)	(43)	(16) %
Total	\$ 194	\$ 436	(56) %

Year Ended December 31, 2019 vs. 2018				
	Average Selling Price ⁽¹⁾		Sales Volumes ⁽²⁾	
	Local Currency	Foreign Currency Translation Impact		
Period-Over-Period Increase (Decrease)				
Titanium Dioxide	(7)%	(3)%	7 %	
Performance Additives	— %	(2)%	(12)%	

(1) Excludes revenues from tolling arrangements, by-products and raw materials.

(2) Excludes sales volumes of by-products and raw materials.

Titanium Dioxide

The Titanium Dioxide segment generated revenues of \$1,614 million in the twelve months ended December 31, 2019, a decrease of \$52 million, or 3%, compared to the same period in 2018. The decrease was primarily due to a 7% decline in the average TiO₂ selling price and a 3% unfavorable impact of foreign currency translation, partially offset by a 7% increase in sales volumes. The decline in the average TiO₂ selling price was primarily a result of lower functional TiO₂ prices in Europe and Asia and more stable prices in North America. The average specialty TiO₂ price was stable compared to the prior year. Sales volumes increased due to sales of new products, increased product availability and improved demand for our products.

Adjusted EBITDA for the Titanium Dioxide segment was \$197 million, a decline of \$220 million in the twelve months ended December 31, 2019 compared to the same period in 2018. This decrease is primarily a result of lower TiO₂ margins due to a lower average TiO₂ selling price, reduced contribution from specialty TiO₂, higher raw material costs, \$14 million of carbon credits sold in the twelve months ended December 31, 2018 and \$41 million of lost earnings attributable to our Pori, Finland TiO₂ manufacturing facility, which were reimbursed through insurance proceeds in the comparable period of 2018. This decrease was partially offset by higher sales volumes, a \$13 million benefit from our 2019 Business Improvement Program and a \$9 million benefit due to a change in plant utilization rates, which increased our overhead absorption and corresponding inventory valuation at certain facilities.

Performance Additives

The Performance Additives segment generated revenues of \$516 million in the twelve months ended December 31, 2019, a decline of \$83 million, or 14%, compared to the same period in 2018. This decrease was a result of a 12% decline in volumes and a 2% unfavorable impact of foreign currency translation. The average selling price was stable compared to the prior year. The decline in volumes was primarily attributable to soft demand in automotive coatings, plastics and electronics applications, lower sales into construction-related applications, including the effect of portfolio optimization and a discontinuation of sales of a product to a timber treatment customer.

Adjusted EBITDA in the Performance Additives segment was \$47 million, a decrease of \$15 million, or 24%, for the twelve months ended December 31, 2019 compared to the same period in 2018. This decrease was primarily a result of lower sales volumes and product mix, partially offset by lower raw material and selling, general and administrative costs, a \$5 million benefit from our 2019 Business Improvement Program and a \$2 million benefit due to a change in plant utilization which increased our overhead absorption rates at certain facilities.

Corporate and other

Corporate and other represents expenses which are not allocated to our segments. Losses from Corporate and other were \$50 million, or \$7 million higher for the twelve months ended December 31, 2019 than the same period in 2018 due to a \$9 million unfavorable impact of foreign currency exchange rates partially offset by a \$2 million benefit from our 2019 Business Improvement Program.

Liquidity and Capital Resources

We had cash and cash equivalents of \$220 million and \$55 million as of December 31, 2020 and 2019, respectively. We expect to have adequate liquidity to meet our obligations over the next 12 months. We believe our future obligations, including needs for capital expenditures will be met by available cash generated from operations and cash on hand.

Our financing arrangements include borrowings of \$375 million under the Term Loan Facility, \$225 million of Senior Secured Notes, and \$375 million of Senior Unsecured Notes, issued by our subsidiaries Venator Finance S.à r.l. and Venator Materials LLC (the "Issuers"). We have a related-party note payable to Huntsman for a liability pursuant to the tax matters agreement entered into at the time of the separation of which \$17 million has been presented as Noncurrent payable to affiliate and \$3 million is included within accounts payable to affiliates on our consolidated balance sheets.

In addition to the Term Loan Facility, Senior Secured Notes and Senior Unsecured Notes, we have an ABL Facility. Availability to borrow under the ABL Facility is subject to a borrowing base calculation comprising both accounts receivable and inventory in the U.S., Canada, the U.K. and Germany and accounts receivable in France and Spain. Thus, the base calculation may fluctuate from time to time and may be further impacted by the lenders' discretionary ability to impose reserves and availability blocks that might otherwise incrementally increase borrowing availability. The borrowing base calculation as of December 31, 2020 is approximately \$281 million, of which \$251 million is available to be drawn, as a result of \$30 million of letters of credit issued and outstanding at December 31, 2020.

Items Impacting Short-Term and Long-Term Liquidity

Our liquidity can be significantly impacted by various factors. The following matters had, or are expected to have, a significant impact on our liquidity:

- Cash inflows from our accounts receivable and inventory, net of accounts payable, as reflected in our consolidated statements of cash flows increased by \$25 million for the year ended December 31, 2020 as compared to the same period in the prior year. We expect our working capital to be a use of liquidity in 2021.
- In 2021, we expect total capital expenditures to be approximately \$75 million to \$85 million. This includes maintenance capital expenditures and the cost of implementing business improvement projects
- During the year ended December 31, 2020, we made contributions to our pension and postretirement benefit plans of \$38 million. During the first quarter of 2021, we expect to contribute an additional amount of approximately \$10 million to these plans.

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 100 of 203

- We are involved in a number of cost reduction programs for which we have established restructuring accruals including the program at our Duisburg Germany manufacturing facility which was approved in the fourth quarter of

2020. As of December 31, 2020, we had a total of \$19 million of accrued restructuring costs of which \$10 million is classified as current. We expect to pay approximately \$34 million for restructuring and plant closing costs during 2021. For further discussion of these plans and the costs involved, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 13. Restructuring, Impairment and Plant Closing and Transition Costs" of this report.

- During 2020, in response to the adverse impact of the COVID-19 pandemic, we implemented our COVID-19 response program to reduce our costs, including non-recurring personnel cost reductions and operational cost savings at our manufacturing facilities. Personnel cost management actions included a temporary reduction in salaries, changes and reductions to bonus schemes and employee furloughs, as well as reduced spending on other discretionary items. We realized approximately \$27 million of non-recurring savings from our COVID-19 response program in 2020 which will be replaced by savings from our 2020 Business Improvement Program.
- During the third quarter of 2020, we announced our 2020 Business Improvement Program that will save approximately \$55 million compared to 2019. This program is in addition to our 2019 Business Improvement Program and replaces our non-recurring COVID-19 cost savings initiatives delivered in 2020. We expect that this program will be fully implemented by the end of 2022. We achieved \$16 million of savings attributable to the 2020 Business Improvement Program and \$14 million from the 2019 Business Improvement Program for the year ended December 31, 2020.
- On January 30, 2017, our TiO₂ manufacturing facility in Pori, Finland, experienced fire damage. We are in the process of closing our Pori, Finland, TiO₂ manufacturing facility and transferring our specialty and differentiated business to other sites in our manufacturing network. We intend to operate the Pori facility at reduced production rates through the transition period, subject to economic and other factors. We do not expect any material capital expenditures relating to the transfer during 2021. We intend to optimize the remaining transfer of our specialty and differentiated business from our Pori, Finland manufacturing site to other sites in our manufacturing network, but the timing of this transfer will be elongated, due in part to the COVID-19 pandemic, and may result in a lower total expected capital outlay and a lower associated adjusted EBITDA benefit than originally estimated.
- We have \$946 million in debt outstanding under our \$359 million Term Loan Facility, \$215 million of 9.5% Senior Secured Notes due 2025 and \$372 million of 5.75% of Senior Unsecured Notes due 2025. Through December 31, 2020, we are in compliance with all applicable financial covenants included in the terms of our Senior Credit Facility, Senior Secured Notes and Senior Unsecured Notes. In July 2017, the U.K.'s Financial Conduct Authority, which regulates LIBOR, announced that it intends to phase out LIBOR by the end of 2021. We are currently evaluating the potential effect of the eventual replacement of LIBOR on our financial statements. Accounting guidance has been recently issued to ease the transition to alternative reference rates from a financial reporting perspective. See "Note 2. Recently Issued Accounting Pronouncements" of the notes to consolidated financial statements. See further discussion under "Financing Arrangements."

As of December 31, 2020 and 2019, we had \$7 million and \$13 million, respectively, classified as current portion of debt.

As of December 31, 2020 and 2019, we had \$15 million and \$16 million, respectively, of cash and cash equivalents held outside of the U.S. and Europe, including our variable interest entities. As of December 31, 2020, our non-U.K. subsidiaries have no plan to distribute funds in a manner that would cause them to be subject to U.K., U.S., or other local country taxation. For the year ended December 31, 2020, our non-U.K. subsidiaries made no distribution of earnings that caused them to be subject to material U.K., U.S., or other local country taxation. In the first quarter of 2019, a non-U.K. subsidiary distributed \$12 million to a U.K. subsidiary subject to a 5% withholding tax.

Cash Flows for the Year Ended December 31, 2020 Compared to the Year Ended December 31, 2019

Net cash provided by operating activities was \$34 million for the twelve months ended December 31, 2020, compared to net cash provided by operating activities of \$33 million for the twelve months ended December 31, 2019. The increase in net cash provided by operating activities for the twelve months ended December 31, 2020 compared with the same period of 2019 was primarily attributable to an increase in cash flows due to changes in assets and liabilities of approximately \$53 million, partially offset by a \$52 million decrease in cash inflows from net income. The decrease in cash flows from net income is as a result of a \$65 million decrease in net loss, as described in "—Results of Operations" above, partially offset by changes in non-cash elements of net income comprised primarily of a \$141 million decrease in deferred income taxes, primarily as the result of the recognition of a full valuation allowance against the net deferred tax assets held at our German businesses during 2019 reduced by the impact of a \$27 million increase in noncash restructuring and impairment charges.

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 102 of 203

Net cash used in investing activities was \$64 million for the twelve months ended December 31, 2020, compared to net cash used in investing activities of \$150 million for the twelve months ended December 31, 2019. The decrease in net cash used in investing activities was primarily attributable to a \$83 million decrease in capital expenditures as we took measures to preserve cash in response to the impact of the COVID-19 pandemic.

Net cash provided by financing activities was \$192 million for the twelve months ended December 31, 2020, compared to net cash provided by financing activities of \$7 million for the twelve months ended December 31, 2019. The increase in net cash provided by financing activities for the twelve months ended December 31, 2020 compared with the same period of 2019 was primarily attributable to \$221 million proceeds from the issuance of long-term debt during the second quarter of 2020 partially offset by the impacts of \$15 million in proceeds from the termination of cross-currency swap contracts in 2019 and \$14 million unfavorable variance in net borrowings/repayments on notes payable.

Cash Flows for the Year Ended December 31, 2019 Compared to the Year Ended December 31, 2018

Net cash provided by operating activities was \$33 million for the twelve months ended December 31, 2019, compared to net cash provided by operating activities of \$282 million for the twelve months ended December 31, 2018. The decrease in net cash provided by operating activities for the twelve months ended December 31, 2019 compared with the same period of 2018 was primarily attributable to changes in net income. The \$13 million increase in net loss, as described in "—Results of Operations" above, was offset by changes in non-cash elements of net income comprised primarily of a \$583 million decrease in non-cash restructuring and impairment charges and a \$158 million increase in income tax expense primarily as the result of the recognition of a full valuation allowance against the deferred tax assets held at our German businesses. The increase in net loss, after giving effect to the non-cash restructuring and impairment charges and the increase in income tax expense, was partially offset by an increase in cash flows due to changes in assets and liabilities of approximately \$205 million.

Net cash used in investing activities was \$150 million for the twelve months ended December 31, 2019, compared to net cash used in investing activities of \$321 million for the twelve months ended December 31, 2018. The decrease in net cash used in investing activities for the twelve months ended December 31, 2019 compared with the same period of 2018 was primarily attributable to a \$174 million decrease in capital expenditures as a result of the unreimbursed Pori capital expenditures in 2018.

Net cash provided by financing activities was \$7 million for the twelve months ended December 31, 2019, compared to net cash used in financing activities of \$18 million for the twelve months ended December 31, 2018. The increase in net cash provided by financing activities for the twelve months ended December 31, 2019 compared with the same period of 2018 was primarily attributable to \$15 million in proceeds from the termination of cross-currency swap contracts in 2019 and \$13 million favorable variance in net borrowings/repayments on notes payable.

Changes in Financial Condition

The following information summarizes our working capital as of December 31, 2020 and 2019:

<i>(Dollars in millions)</i>	December 31, 2020	December 31, 2019	Increase (Decrease)	Percent Change
Cash and cash equivalents	\$ 220	\$ 55	\$ 165	300 %
Accounts and notes receivable, net	324	321	3	1 %
Inventories	440	513	(73)	(14) %
Prepaid expenses	24	21	3	14 %
Other current assets	49	67	(18)	(27) %
Total current assets	1,057	977	80	8 %
Accounts payable	240	334	(94)	(28) %
Accounts payable to affiliates	22	17	5	29 %
Accrued liabilities	118	116	2	2 %
Current operating lease liability	8	8	—	— %
Current portion of debt	7	13	(6)	(46) %
Total current liabilities	395	488	(93)	(19)%
Working capital	\$ 662	\$ 489	\$ 173	35 %

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 104 of 203

Our working capital increased by \$173 million as a result of the net impact of the following significant changes:

- Cash and cash equivalents increased by \$165 million primarily due to cash inflows of \$192 million from financing activities and, inflows of \$34 million from operating activities and partially offset by outflows of \$64 million from investing activities.
- Inventories decreased by \$73 million primarily due to lower levels of raw materials and finished goods at December 31, 2020 as compared to the prior year as a result of efforts to manage our inventory levels to respond to reductions in customer demand during the COVID-19 pandemic.
- Accounts payable decreased by \$94 million as a result of a reduction in capital accruals and reductions in inventory during 2020.

The following information summarizes our working capital as of December 31, 2019 and 2018:

<i>(Dollars in millions)</i>	December 31, 2019	December 31, 2018	Increase (Decrease)	Percent Change
Cash and cash equivalents	\$ 55	\$ 165	\$ (110)	(67) %
Accounts and notes receivable, net	321	351	(30)	(9) %
Inventories	513	538	(25)	(5) %
Prepaid expenses	21	20	1	5 %
Other current assets	67	51	16	31 %
Total current assets from continuing operations	977	1,125	(148)	(13)%
Accounts payable	334	382	(48)	(13) %
Accounts payable to affiliates	17	18	(1)	(6) %
Accrued liabilities	116	135	(19)	(14) %
Current operating lease liability	8	—	8	NM
Current portion of debt	13	8	5	63 %
Total current liabilities from continuing operations	488	543	(55)	(10)%
Working capital	\$ 489	\$ 582	\$ (93)	(16)%

Our working capital decreased by \$93 million as a result of the net impact of the following significant changes:

- Cash and cash equivalents decreased by \$110 million primarily due to cash outflows of \$150 million from investing activities, partially offset by cash inflows of \$33 million from operating activities and \$7 million from financing activities.
- Accounts receivable decreased by \$30 million primarily due to lower sales year over year.
- Inventories decreased by \$25 million primarily due to lower levels of finished goods at December 31, 2019 as compared to the prior year as a result of seasonality and efforts across the organization to manage inventory levels partially offset by an \$11 million increase in inventory due to a change in plant utilization rates which increased our overhead absorption and corresponding inventory valuation at certain facilities in 2019.
- Accrued liabilities decreased by \$19 million primarily due to a reduction of \$9 million of accrued restructuring costs and \$7 million of current portion of ARO costs.

Financing Arrangements

For a discussion of financing arrangements, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 16. Debt" of this report.

Cross-Currency Swap

For a discussion of cross-currency swaps, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 17. Derivative Instruments and Hedging Activities" of this report.

Contractual Obligations and Commercial Commitments

Our obligations under long-term debt (including the current portion), lease agreements and other contractual commitments as of December 31, 2020 are summarized below:

<i>(Dollars in millions)</i>	2021	2022-2023	2024-2025	After 2025	Total
Long-term debt, including current portion ⁽¹⁾	\$ 6	\$ 8	\$ 951	\$ —	\$ 965
Interest ⁽²⁾	56	104	91	—	251
Finance leases	2	3	2	5	12
Operating leases	11	14	9	37	71
Purchase commitments ⁽³⁾	124	145	36	13	318
Total⁽⁴⁾⁽⁵⁾	\$ 199	\$ 274	\$ 1,089	\$ 55	\$ 1,617

(1) For more information, see "—Financing Arrangements."

(2) Interest calculated using actual and forecasted interest rates as of December 31, 2020 and contractual maturity dates.

(3) We have various purchase commitments extending through 2029 for materials, supplies and services entered into in the ordinary course of business. Included in the purchase commitments table above are contracts which require minimum volume purchases that extend beyond one year or are renewable annually and have been renewed for 2020. Certain contracts allow for changes in minimum required purchase volumes in the event of a temporary or permanent shutdown of a facility. To the extent the contract requires a minimum notice period, such notice period has been included in the above table. The contractual purchase price for substantially all of these contracts is variable based upon market prices, subject to annual negotiations. We have estimated our contractual obligations by using the terms of our current pricing for each contract. We also have a limited number of contracts which require a minimum payment even if no volume is purchased. We believe that all of our purchase obligations will be utilized in our normal operations. For each of the years ended December 31, 2020, 2019 and 2018, we made minimum payments of nil, \$1 million and nil, respectively, under such take or pay contracts without taking the product.

(4) Totals do not include commitments pertaining to our pension and other postretirement obligations. Our estimated future contributions to our pension and postretirement plans are as follows:

<i>(Dollars in millions)</i>	2021	2022-2023	2024-2025	Annual Average of Next 5 Years
Pension plans	\$ 56	\$ 90	\$ 92	\$ 48
Other postretirement obligations	—	—	—	—

(5) The above table does not reflect expected tax payments and unrecognized tax benefits due to the inability to make reasonably reliable estimates of the timing and amount of payments. For additional discussion on unrecognized tax benefits, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 19. Income Taxes" of this report.

Off-Balance-Sheet Arrangements

We are required to provide standby letters of credit primarily to collateralize our obligation to third parties for pension liabilities and commercial obligations in the ordinary course of business. Although the letters of credit are off-balance sheet, the obligations to which they relate are reflected as liabilities on the consolidated balance sheets. For a discussion of letters of credit, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 16. Debt" of this report.

Restructuring, Impairment and Plant Closing and Transition Costs

For further discussion of these and other restructuring plans and the costs involved, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 13. Restructuring, Impairment and Plant Closing and Transition Costs" of this report.

Legal Proceedings

For a discussion of legal proceedings, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 22. Commitments and Contingencies—Legal Matters" of this report.

Environmental, Health and Safety Matters

As noted in "Part I. Item 1. Business—Environmental, Health and Safety Matters" and "Part I. Item 1A. Risk Factors" of this report, we are subject to extensive environmental regulations, which may impose significant additional costs on our operations in the future. While we do not expect any of these enactments or proposals to have a material adverse effect on us in the near term, we cannot predict the longer-term effect of any of these regulations or proposals on our future financial condition. For a discussion of EHS matters, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 23. Environmental, Health and Safety Matters" of this report.

Recently Issued Accounting Pronouncements

For a discussion of recently issued accounting pronouncements, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 2. Recently Issued Accounting Pronouncements" of this report.

Critical Accounting Estimates

The preparation of financial statements and related disclosures in conformity with U.S. GAAP requires management to make judgments, estimates and assumptions that affect the reported amounts in our consolidated financial statements. Our significant accounting policies are summarized in "Part II. Item 8. Financial Statements and Supplementary Data—Note 1. Description Of Business, Recent Developments and Summary Of Significant Accounting Policies" of this report. Summarized below are our critical accounting policies:

Employee Benefit Programs

We sponsor several contributory and non-contributory defined benefit plans, covering employees primarily in the U.S., the U.K., Germany and Finland, but also covering employees in a number of other countries. We fund the material plans through trust arrangements (or local equivalents) where the assets are held separately from us. We also sponsor unfunded postretirement plans which provide medical and, in some cases, life insurance benefits covering certain employees in the U.S. and Canada. Amounts recorded in our consolidated financial statements are recorded based upon actuarial valuations performed by various third-party actuaries. Inherent in these valuations are numerous assumptions regarding expected long-term rates of return on plan assets, discount rates, compensation increases, mortality rates and health care cost trends. We evaluate these assumptions at least annually.

The discount rate is used to determine the present value of future benefit payments at the end of the year. For our U.S. and non-U.S. plans, the discount rates were based on the results of matching expected plan benefit payments with cash flows from a hypothetical yield curve constructed with high-quality corporate bond yields.

The following weighted-average discount rate assumptions were used for the defined benefit and other postretirement plans for the year:

	December 31, 2020	December 31, 2019	December 31, 2018
Defined benefit plans			
Projected benefit obligation	1.09 %	1.60 %	2.38 %
Net periodic pension cost	1.60 %	2.38 %	2.21 %
Other postretirement benefit plans			
Projected benefit obligation	2.46 %	3.27 %	3.50 %
Net periodic pension cost	3.27 %	3.51 %	3.30 %

The expected return on plan assets is determined based on asset allocations, historical portfolio results, historical asset correlations and management's expected long-term return for each asset class. The expected rate of return on U.S. plan assets was 7.75% in 2020 and 2019, each, and the expected rate of return on non-U.S. plans was 4.99% and 5.18% for 2020 and 2019, respectively.

The expected increase in the compensation levels assumption reflects our long-term actual experience and future expectations.

Management, with the advice of actuaries, uses judgment to make assumptions on which our employee pension and postretirement benefit plan obligations and expenses are based. The effect of a 1% change in three key assumptions is summarized as follows (dollars in millions):

Assumptions	Statement of Operations ⁽¹⁾	Balance Sheet Impact ⁽²⁾
Discount rate		
1% increase	\$ (8)	\$ (177)
1% decrease	20	220
Expected long-term rates of return on plan assets		
1% increase	(9)	—
1% decrease	9	—
Rate of compensation increase		
1% increase	2	9
1% decrease	(1)	(7)

(1) Estimated (decrease) increase on 2020 net periodic benefit cost

(2) Estimated (decrease) increase on December 31, 2020 pension and postretirement liabilities and accumulated other comprehensive loss

Income Taxes

We use the asset and liability method of accounting for income taxes. Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial and tax reporting purposes. We evaluate deferred tax assets to determine whether it is more likely than not that they will be realized. Valuation allowances are reviewed on a tax jurisdiction basis to analyze whether there is sufficient positive or negative evidence to support a change in judgment about the realizability of the related deferred tax assets for each jurisdiction. These conclusions require significant judgment. In evaluating the objective evidence that historical results provide, we consider the cyclical nature of businesses and cumulative income or losses during the applicable period. Cumulative losses incurred over the period limit our ability to consider other subjective evidence such as our projections for the future. Changes in expected future income in applicable jurisdictions could affect the realization of deferred tax assets in those jurisdictions. As of December 31, 2020, we had total valuation allowances of \$708 million. See "Part II. Item 8. Financial Statements and Supplementary Data—Note 19. Income Taxes" of this report for more information regarding our valuation allowances.

As of December 31, 2020, our non-U.K. subsidiaries have no plan to distribute earnings in a manner that would cause them to be subject to U.K., U.S., or other local country taxation.

Accounting for uncertainty in income taxes prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The application of income tax law is inherently complex. We are required to determine if an income tax position meets the criteria of more-likely-than-not to be realized based on the merits of the position under tax law, in order to recognize an income tax benefit. This requires us to make significant judgments regarding the merits of income tax positions and the application of income tax law. Additionally, if a tax position meets the recognition criteria of more-likely-than-not we are required to make judgments and apply assumptions in order to measure the amount of the tax benefits to recognize. These judgments are based on the probability of the amount of tax benefits that would be realized if the tax position was challenged by the taxing authorities. Interpretations and guidance surrounding income tax laws and regulations change over time. As a consequence, changes in assumptions and judgments can materially affect amounts recognized in our consolidated financial statements.

Long-Lived Assets

The useful lives of our property, plant and equipment are estimated based upon our historical experience, engineering estimates and industry information and are reviewed when economic events indicate that we may not be able to recover the carrying value of the assets. The estimated lives of our property range from 3 to 50 years and depreciation is recorded on the straight-line method. Inherent in our estimates of useful lives is the assumption that periodic maintenance and an appropriate level of annual capital

expenditures will be performed. Without on-going capital improvements and maintenance, the productivity and cost efficiency declines and the useful lives of our assets would be shorter.

Management uses judgment to estimate the useful lives of our long-lived assets. At December 31, 2020, if the estimated useful lives of our property, plant and equipment had either been one year greater or one year less than their recorded lives, then depreciation expense for 2020 would have been approximately \$11 million less or \$14 million greater, respectively.

We are required to evaluate the carrying value of our long-lived tangible and intangible assets whenever events indicate that such carrying value may not be recoverable in the future or when management's plans change regarding those assets, such as idling or closing a plant. We evaluate impairment by comparing undiscounted cash flows of the related asset groups that are largely independent of the cash flows of other asset groups to their carrying values. Key assumptions in determining the future cash flows include the useful life, technology, competitive pressures, raw material pricing and regulations. In connection with our asset evaluation policy, we reviewed all of our long-lived assets for indicators that the carrying value may not be recoverable.

Restructuring and Plant Closing and Transition Costs

We recorded restructuring charges in recent periods in connection with closing certain plant locations, workforce reductions and other cost savings programs in each of our business segments. These charges are recorded when management has committed to a plan and incurred a liability related to the plan. Estimates for plant closing costs include the write-off of the carrying value of the plant, any necessary environmental and/or regulatory costs, contract termination and demolition costs. Estimates for workforce reductions and other costs savings are recorded based upon estimates of the number of positions to be terminated, termination benefits to be provided and other information, as necessary. Management evaluates the estimates on a quarterly basis and will adjust the reserve when information indicates that the estimate is above or below the currently recorded estimate. For further discussion of our restructuring activities, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 13. Restructuring, Impairment and Plant Closing and Transition Costs" of this report.

Contingent Loss Accruals

Environmental remediation costs for our facilities are accrued when it is probable that a liability has been incurred and the amount can be reasonably estimated. Estimates of environmental liabilities require evaluating government regulation, available technology, site-specific information and remediation alternatives. We accrue an amount equal to our best estimate of the costs to remediate based upon the available information. The extent of environmental impacts may not be fully known and the processes and costs of remediation may change as new information is obtained or technology for remediation is improved. Our process for estimating the expected cost for remediation considers the information available, technology that can be utilized and estimates of the extent of environmental damage. Adjustments to our estimates are made periodically based upon additional information received as remediation progresses. As of December 31, 2020 and 2019, we had recognized a liability of \$8 million and \$9 million, respectively, related to these environmental matters. For further information, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 23. Environmental, Health and Safety Matters" of this report.

We are subject to legal proceedings and claims arising out of our business operations. We routinely assess the likelihood of any adverse outcomes to these matters, as well as ranges of probable losses. A determination of the amount of the reserves required, if any, for these contingencies is made after analysis of each known claim. We have an active risk management program consisting of numerous insurance policies secured from many carriers. These policies often provide coverage that is intended to minimize the financial impact, if any, of the legal proceedings. The required reserves may change in the future due to new developments in each matter. For further information, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 22. Commitments and Contingencies—Legal Proceedings" of this report.

Variable Interest Entities—Primary Beneficiary

We evaluate each of our variable interest entities on an on-going basis to determine whether we are the primary beneficiary. Management assesses, on an on-going basis, the nature of our relationship to the variable interest entity, including the amount of control that we exercise over the entity as well as the amount of risk that we bear and rewards we receive in regard to the entity, to determine if we are the primary beneficiary of that variable interest entity. Management judgment is required to assess whether these attributes are significant. The factors management considers when determining if we have the power to direct the activities that most significantly impact each of our variable interest entity's economic performance include supply arrangements, manufacturing arrangements, marketing arrangements and sales arrangements. We consolidate all variable interest entities for which we have concluded that we are the primary beneficiary. For the years ended December 31, 2020, 2019 and 2018, the percentage of revenues from our consolidated variable interest entities in relation to total revenues that will ultimately be attributable to Venator is 5.4%, 4.4% and 5.2%, respectively. For further information, see "Part II. Item 8. Financial Statements and Supplementary Data—Note 9. Variable Interest Entities" of this report.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risks, such as changes in interest rates, foreign exchange rates, and commodity prices. We manage these risks through normal operating and financing activities and, when appropriate, through the use of derivative instruments. We do not invest in derivative instruments for speculative purposes.

Interest Rate Risk

We are exposed to interest rate risk through the structure of our debt portfolio which includes a mix of fixed and floating rates. Actions taken to reduce interest rate risk include managing the mix and rate characteristics of various interest-bearing liabilities.

The carrying value of our floating rate debt is \$359 million at December 31, 2020. A hypothetical 1% increase in interest rates on our floating rate debt as of December 31, 2020 would increase our interest expense by approximately \$4 million on an annualized basis.

Foreign Exchange Rate Risk

We are exposed to market risks associated with foreign exchange. Our cash flows and earnings are subject to fluctuations due to exchange rate variation. Our revenues and expenses are denominated in various foreign currencies. We enter into foreign currency derivative instruments to minimize the short-term impact of movements in foreign currency rates. Where practicable, we generally net multicurrency cash balances among our subsidiaries to help reduce exposure to foreign currency exchange rates. Certain other exposures may be managed from time to time through financial market transactions, principally through the purchase of spot or forward foreign exchange contracts (generally with maturities of three months or less). We do not hedge our foreign currency exposures in a manner that would eliminate the effect of changes in exchange rates on our cash flows and earnings. At December 31, 2020 and 2019 we had \$77 million and \$75 million notional amount (in U.S. dollar equivalents) outstanding in foreign currency contracts with a term of approximately one month.

In August 2019 we entered into three new fixed to fixed cross-currency swaps which notionally exchanged \$200 million at a fixed rate of 5.75% for €181 million on which a weighted average rate of 3.73% is payable. The cross-currency swaps have been designated as cash flow hedges of a fixed rate U.S. Dollar intercompany loan and the economic effect is to eliminate uncertainty on the U.S. Dollar cash flows. The cross-currency swaps are set to mature July 2024, which is the best estimate of the repayment date on the intercompany loan.

During 2020, the changes in accumulated other comprehensive loss associated with these cash flow hedging activities was a loss of \$11 million.

During 2021, the amount of accumulated other comprehensive loss at December 31, 2020 related to hedging transactions that is expected to be reclassified to earnings is immaterial. The actual amount that will be reclassified to earnings over the next twelve months may vary from this amount due to changing market conditions.

Commodity Price Risk

A portion of our products and raw materials are commodities whose prices fluctuate as market supply and demand fundamentals change. Accordingly, product margins and the level of our profitability tend to fluctuate with the changes in the business cycle. We try to protect against such instability through various business strategies. These include provisions in sales contracts allowing us to pass on higher raw material costs through timely price increases and formula price contracts to transfer or share commodity price risk. We did not have any commodity derivative instruments in place as of December 31, 2020 and 2019.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

**VENATOR MATERIALS PLC AND SUBSIDIARIES
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

	<u>Page</u>
Audited Consolidated Financial Statements	
Reports of Independent Registered Public Accounting Firms	64
Consolidated Balance Sheets as of December 31, 2020 and 2019	68
Consolidated Statements of Operations for the Years Ended December 31, 2020, 2019 and 2018	69
Consolidated Statements of Comprehensive (Loss) Income for the Years Ended December 31, 2020, 2019 and 2018	70
Consolidated Statements of Equity for the Years Ended December 31, 2020, 2019 and 2018	71
Consolidated Statements of Cash Flows for the Years Ended December 31, 2020, 2019 and 2018	72
Notes to Consolidated Financial Statements	74

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Venator Materials PLC

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of Venator Materials PLC and subsidiaries (the "Company") as of December 31, 2020, the related consolidated statements of operations, comprehensive (loss) income, equity, and cash flows, for the year ended December 31, 2020, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020, and the results of its operations and its cash flows for the year ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 26, 2021, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our 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 the financial statements are free of material misstatement, whether due to error or fraud. Our audit 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 audit 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 audit provides a reasonable basis for our opinion.

Critical Audit Matters

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

Restructuring, impairment and plant closing and transition costs— Partial Closure of Duisburg, Germany Facility — Refer to Note 13 to the financial statements

Critical Audit Matter Description

The Company has initiated various restructuring programs in recent years, including the closure or partial closure of certain manufacturing plant locations and related workforce reductions. In December 2020, the Company implemented a plan to decommission certain existing equipment in a section of its Duisburg, Germany Titanium Dioxide manufacturing site which will result in a partial closure of the facility. As part of the program, the Company recorded restructuring expense of \$30 million for the year ended December 31, 2020, of which \$20 million relates to accelerated depreciation and \$10 million relates to employee benefits. The Company expects to incur additional charges of approximately \$19 million for employee benefits through 2022. For the year ended December 31, 2020, restructuring, impairment and plant closing and transition costs totaled \$58 million.

We identified management's estimates of restructuring charges associated with the partial closure of the Duisburg, Germany facility as a critical audit matter because of the significant judgments and assumptions management makes to estimate restructuring expenses recorded in 2020 and expected additional charges disclosed in relation to future years for (1) accelerated depreciation which is

impacted by the scope of facility assets identified for decommissioning and the timing of decommissioning and (2) employee benefits which are impacted by the scope and timing of employee terminations in relation to the assets decommissioned and by the complexity of termination benefits. Testing management's estimates required a high degree of auditor judgment and an increased extent of effort.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to management's estimates of restructuring charges associated with the partial closure of the Duisburg, Germany facility, including restructuring expenses recorded in 2020 and expected additional charges disclosed in relation to future years, included the following, among others:

- We tested the effectiveness of controls over management's estimates of restructuring charges, including those related to the Duisburg, Germany facility.
- We tested the mathematical accuracy of management's estimates of restructuring charges.
- We evaluated the reasonableness of management's estimates for and timing of accelerated depreciation by:
 - Comparing the scope and value of assets included in management's estimates to management's restructuring plan for decommissioning a portion of the facility and to asset registers.
 - Evaluating the reasonableness of the methodology used to allocate asset values of shared assets between the portion of the facility planned for decommissioning and the portion of the facility planned for continuing operations.
 - Performing corroborating inquiries with the Company's facility managers regarding assets and allocation of shared assets planned for decommissioning and their planned timing of decommissioning.
- We evaluated the reasonableness of management's estimates for and timing of employee benefits by:
 - Comparing the number of positions to be terminated and the timeline of terminations to management's restructuring plan, and by performing corroborating inquiries with the Company's facility managers and human resource managers.
 - Evaluating the reasonableness of the methodology used to calculate the value of benefits considering the Company's agreements with local workers unions, local regulatory rulings, and management's restructuring plan which outlines the scope, nature and timing of employee benefits to be provided.
 - Selecting a sample of employees to be terminated and comparing salary, bonus, length of service and other attributes included in management's estimates to information included in the Company's payroll records, agreements with local workers unions, local regulatory rulings, and management's restructuring plan.

Noncurrent payable to affiliates – Change of control pursuant to Section 382 of the U.S. Internal Revenue Code — Refer to Notes 16, 19 and 21 to the financial statements

Critical Audit Matter Description

The Company has a note payable to Huntsman Corporation pursuant to the tax matters agreement entered into at the time of the separation after the Company's initial public offering ("IPO"). As a result of the IPO and separation, Huntsman Corporation recognized a gain for U.S. federal income tax purposes, and the basis of the assets associated with the Company's U.S. businesses was increased. Under the tax matters agreement, the Company is required to make future payments to Huntsman Corporation for any U.S. federal income tax savings the Company recognizes as a result of the basis increase for tax years through December 31, 2028. Pursuant to Section 382 of the U.S. Internal Revenue Code, utilization of tax loss carryforwards may be subject to annual limitations due to certain ownership changes. SK Capital's acquisition of 42.5 million shares of the Company from Huntsman Corporation on December 23, 2020 resulted in a change of control pursuant to Section 382. As a result, the Company's expectation of future U.S. federal income tax savings for tax years through December 31, 2028 decreased, along with the expectation of future payments to Huntsman Corporation. The associated note payable to Huntsman Corporation was \$20 million as of December 31, 2020, of which \$17 million represents the noncurrent payable to affiliates and \$3 million is included within accounts payable to affiliates.

We identified management's estimate of future payments to Huntsman Corporation pursuant to the tax matters agreement as a critical audit matter because of the significant judgments management makes to estimate U.S. federal income tax savings for tax years through December 31, 2028, which are impacted by the complexity involved in the interpretation and application of U.S. Internal Revenue Code Section 382 to the selection of inputs used in the calculation of the annual limitation on the utilization of tax loss carryforwards, including the input associated with the fair value allocated to the Company's U.S. businesses. Testing management's estimate required a high degree of auditor judgment and an increased extent of effort, including the need to involve our tax specialists and our fair value specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to management's estimate of future payments to Huntsman Corporation pursuant to the tax matters agreement included the following, among others:

- We tested the mathematical accuracy of management's estimate of future payments to Huntsman Corporation.

- We evaluated the reasonableness of management's estimate of future payments to Huntsman Corporation by:

- Evaluating the appropriateness of management’s interpretation and application of U.S. Internal Revenue Code Section 382 to the selection of inputs used in the calculation of the annual limitation on the utilization of tax loss carryforwards and the reasonableness of the resulting calculation of U.S. federal income tax savings for tax years through December 31, 2028, with the assistance of our tax specialists.
- Evaluating the reasonableness of management’s methodology to allocate fair value to the Company’s U.S. businesses, an input to the calculation of the annual limitation on the utilization of tax loss carryforwards, with the assistance of our fair value specialists.

/s/ Deloitte & Touche LLP

Houston, Texas
February 26, 2021

We have served as the Company's auditor since 2020.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Venator Materials PLC.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of Venator Materials PLC and subsidiaries (the "Company") as of December 31, 2019, the related consolidated and combined statement of operations, comprehensive (loss) income, equity, and cash flows, for each of the two years in the period ended December 31, 2019, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

Change in Accounting Principle

As discussed in Note 2 to the financial statements, the Company changed its method of accounting for leases in 2019 due to adoption of FASB ASC Topic 842, *Leases*, using the modified retrospective approach.

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.

/s/ Deloitte LLP
Leeds, United Kingdom

March 12, 2020

We began serving as the Company's auditor in 2018. In 2020, we became the predecessor auditor.

VENATOR MATERIALS PLC AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(In millions, except par value)

	<u>December 31, 2020</u>	<u>December 31, 2019</u>
ASSETS		
Current assets:		
Cash and cash equivalents ^(a)	\$ 220	\$ 55
Accounts receivable (net of allowance for doubtful accounts of \$5 and \$4, respectively) ^(a)	324	321
Inventories ^(a)	440	513
Prepaid expenses	24	21
Other current assets	49	67
Total current assets	1,057	977
Property, plant and equipment, net ^(a)	947	989
Operating lease right-of-use assets ^(a)	38	43
Intangible assets, net ^(a)	17	21
Investment in unconsolidated affiliates	104	92
Deferred income taxes	33	33
Other noncurrent assets	161	110
Total assets	\$ 2,357	\$ 2,265
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable ^(a)	\$ 240	\$ 334
Accounts payable to affiliates	22	17
Accrued liabilities ^(a)	118	116
Current operating lease liability ^(a)	8	8
Current portion of debt ^(a)	7	13
Total current liabilities	395	488
Long-term debt	950	737
Operating lease liability ^(a)	33	37
Other noncurrent liabilities	338	300
Noncurrent payable to affiliates	17	30
Total liabilities	1,733	1,592
Commitments and contingencies (Notes 22 and 23)		
Equity		
Ordinary shares \$0.001 par value, 200 shares authorized, each, 107 and 107 issued and outstanding, respectively	—	—
Additional paid-in capital	1,330	1,322
Retained deficit	(383)	(271)
Accumulated other comprehensive loss	(329)	(385)
Total Venator Materials PLC shareholders' equity	618	666
Noncontrolling interest in subsidiaries	6	7
Total equity	624	673
Total liabilities and equity	\$ 2,357	\$ 2,265

^(a) At December 31, 2020 and 2019, the following amounts from consolidated variable interest entities are included in the respective balance sheet captions above: \$3 and \$2 of cash and cash equivalents; \$5 and \$4 of accounts receivable, net; \$2 each of inventories; \$4 and \$5 of property, plant and equipment, net; \$1 each of operating lease right-of-use assets; \$8 and \$11 of intangible assets, net; \$2 and \$1 each of accounts payable; \$4 and \$3 of accrued liabilities; nil and \$1 of operating lease liabilities; and \$2 and nil of current portion of debt. See "Note 9. Variable Interest Entities."

See notes to consolidated financial statements.

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 124 of 203

VENATOR MATERIALS PLC AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year ended December 31,		
	2020	2019	2018
<i>(Dollars in millions, except per share amounts)</i>			
Trade sales, services and fees, net	\$ 1,938	\$ 2,130	\$ 2,265
Cost of goods sold	1,778	1,892	1,550
Operating expenses:			
Selling, general and administrative	156	182	212
Restructuring, impairment and plant closing and transition costs	58	33	628
Other operating expense, net	14	10	6
Total operating expenses	228	225	846
Operating (loss) income	(68)	13	(131)
Interest expense	(64)	(53)	(53)
Interest income	12	12	13
Other income, net	27	8	6
Loss before income taxes	(93)	(20)	(165)
Income tax (expense) benefit	(12)	(150)	8
Net loss	(105)	(170)	(157)
Net income attributable to noncontrolling interests	(7)	(5)	(6)
Net loss attributable to Venator	\$ (112)	\$ (175)	\$ (163)
Per Share Data:			
Loss attributable to Venator Materials PLC ordinary shareholders, basic	\$ (1.05)	\$ (1.64)	\$ (1.53)
Loss attributable to Venator Materials PLC ordinary shareholders, diluted	\$ (1.05)	\$ (1.64)	\$ (1.53)

See notes to consolidated financial statements.

VENATOR MATERIALS PLC AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME

	Year ended December 31,		
	2020	2019	2018
<i>(Dollars in millions)</i>			
Net loss	\$ (105)	\$ (170)	\$ (157)
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustment	78	(1)	(90)
Pension and other postretirement benefits adjustments	(11)	(17)	(11)
Hedging instruments	(11)	6	11
Other comprehensive income (loss), net of tax	56	(12)	(90)
Comprehensive loss	(49)	(182)	(247)
Comprehensive income attributable to noncontrolling interest	(7)	(5)	(6)
Comprehensive loss attributable to Venator	\$ (56)	\$ (187)	\$ (253)

See notes to consolidated financial statements.

VENATOR MATERIALS PLC AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY

Total Venator Materials PLC Equity

	Ordinary Shares		Additional Paid-In Capital	Retained (Deficit) Earnings	Accumulated Other Comprehensive Loss	Noncontrolling Interest in Subsidiaries	Total
	Shares	Amount					
<i>(Dollars in millions)</i>							
Balance, January 1, 2018	106	\$ —	\$ 1,311	\$ 67	\$ (283)	\$ 10	\$ 1,105
Net (loss) income	—	—	—	(163)	—	6	(157)
Net changes in other comprehensive loss	—	—	—	—	(90)	—	(90)
Dividends paid to noncontrolling interests	—	—	—	—	—	(8)	(8)
Activity related to stock plans	—	—	5	—	—	—	5
Balance, December 31, 2018	106	\$ —	\$ 1,316	\$ (96)	\$ (373)	\$ 8	\$ 855
Net (loss) income	—	—	—	(175)	—	5	(170)
Net changes in other comprehensive loss	—	—	—	—	(12)	—	(12)
Dividends paid to noncontrolling interests	—	—	—	—	—	(6)	(6)
Activity related to stock plans	1	—	6	—	—	—	6
Balance, December 31, 2019	107	\$ —	\$ 1,322	\$ (271)	\$ (385)	\$ 7	\$ 673
Net (loss) income	—	—	—	(112)	—	7	(105)
Net changes in other comprehensive income	—	—	—	—	56	—	56
Dividends paid to noncontrolling interests	—	—	—	—	—	(8)	(8)
Activity related to stock plans	—	—	8	—	—	—	8
Balance, December 31, 2020	107	\$ —	\$ 1,330	\$ (383)	\$ (329)	\$ 6	\$ 624

See notes to consolidated financial statements.

VENATOR MATERIALS PLC AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year ended December 31,		
	2020	2019	2018
<i>(Dollars in millions)</i>			
Operating Activities:			
Net loss	\$ (105)	\$ (170)	\$ (157)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Depreciation and amortization	114	110	132
Deferred income taxes	2	143	(19)
Gain on disposal of assets	(5)	—	—
Noncash restructuring and impairment charges	35	8	591
Separation gain	(10)	(4)	—
Noncash interest	5	3	1
Noncash loss (gain) on foreign currency transactions	4	4	(6)
Other, net	8	6	9
Changes in assets and liabilities:			
Accounts receivable	14	22	25
Inventories	102	21	(103)
Prepaid expenses	(3)	(1)	(1)
Other current assets	11	(3)	(13)
Other noncurrent assets	(32)	(33)	(49)
Accounts payable	(77)	(29)	(27)
Accrued liabilities	(6)	(12)	(96)
Other noncurrent liabilities	(23)	(32)	(5)
Net cash provided by operating activities	34	33	282
Investing Activities:			
Capital expenditures	(69)	(152)	(326)
Proceeds from sale of businesses/assets	6	—	—
Cash received from unconsolidated affiliates	33	41	34
Investment in unconsolidated affiliates	(46)	(50)	(30)
Cash received from notes receivable	12	12	—
Other, net	—	(1)	1
Net cash used in investing activities	(64)	(150)	(321)
Financing Activities:			
Proceeds from (payments on) short-term debt	3	(2)	—
Net (repayments) borrowing on notes payable	(7)	7	(6)
Principal payments on long-term debt	(5)	(6)	(4)
Proceeds from issuance of long-term debt	221	—	—
Proceeds from the termination of cross-currency swap contracts	—	15	—
Dividends paid to noncontrolling interests	(8)	(6)	(8)
Debt issuance costs paid	(7)	(1)	—
Other	(5)	—	—
Net cash provided by (used in) financing activities	192	7	(18)
Effect of exchange rate changes on cash	3	—	(16)
Net change in cash and cash equivalents	165	(110)	(73)
Cash and cash equivalents at beginning of period	55	165	238
Cash and cash equivalents at end of period	\$ 220	\$ 55	\$ 165
Supplemental cash flow information:			
Cash paid for interest excluding hedging activity	\$ 39	\$ 41	\$ 46

Cash paid for income taxes	3	8	34
Supplemental disclosure of noncash activities:			
Capital expenditures included in accounts payable as of December 31, 2020, 2019, 2018, respectively	\$ 23	\$ 46	\$ 70

See notes to consolidated financial statements.

**VENATOR MATERIALS PLC AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

Note 1. Description Of Business, Recent Developments and Summary Of Significant Accounting Policies

Description of Business

For convenience in this report, the terms "our," "us," "we", the "Company", or "Venator" may be used to refer to Venator Materials PLC and, unless the context otherwise requires, its subsidiaries.

Venator became an independent publicly traded company following our IPO and separation from Huntsman Corporation ("Huntsman") in August 2017. Venator operates in two segments: Titanium Dioxide and Performance Additives. The Titanium Dioxide segment primarily manufactures and sells TiO₂, and operates seven TiO₂ manufacturing facilities across the globe, excluding our plant in Pori, Finland, ongoing closure of which was announced in the third quarter of 2018. The Performance Additives segment manufactures and sells functional additives, color pigments, timber treatment and water treatment chemicals. This segment operates 16 manufacturing and processing facilities globally.

Basis of Presentation

Venator's consolidated financial statements have been prepared in accordance with U.S. GAAP. The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

In the notes to consolidated financial statements, all dollar and share amounts in tabulations are in millions of dollars and shares, respectively, unless otherwise indicated.

COVID-19

The COVID-19 pandemic has caused a significant global economic slowdown which in turn has had a material impact on demand for our products during the year ended December 31, 2020. While we experienced demand recovery during the fourth quarter of 2020, we expect that the COVID-19 pandemic will continue to have a negative impact on our future results of operations, financial condition and liquidity. We cannot currently predict the duration and severity of impacts to our business from the global economic slowdown caused by the COVID-19 pandemic. Because of this, we cannot reasonably estimate with any degree of certainty the future adverse impact the COVID-19 pandemic may have on our results of operations, financial position, or liquidity.

Summary of Significant Accounting Policies

Asset Retirement Obligations

Venator accrues for asset retirement obligations, which consist primarily of asbestos abatement costs, demolition and removal costs, leasehold remediation costs and landfill closure costs, in the period in which the obligations are incurred. Asset retirement obligations are initially recorded at estimated fair value. When the related liability is initially recorded, Venator capitalizes the cost by increasing the carrying amount of the related long-lived asset. Over time, the liability is accreted to its estimated settlement value and the capitalized cost is depreciated over the useful life of the related asset. Upon settlement of the liability, Venator will recognize a gain or loss for any difference between the settlement amount and the liability recorded. See "Note 14. Asset Retirement Obligations."

Carrying Value of Long-Lived Assets

Venator reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. Recoverability is based upon current and anticipated undiscounted cash flows, and Venator recognizes an impairment when such estimated cash flows are less than the carrying value of the asset. Measurement of the amount of impairment, if any, is based upon the difference between carrying value and fair value. Fair value is generally estimated by discounting estimated future cash flows using a discount rate commensurate with the risks involved.

Cash and Cash Equivalents

Venator considers cash in bank accounts and short-term highly liquid investments with remaining maturities of three months or less at the date of purchase to be cash and cash equivalents.

Cost of Goods Sold

Venator classifies the costs of manufacturing and distributing its products as cost of goods sold. Manufacturing costs include variable costs, primarily raw materials and energy, and fixed expenses directly associated with production. Manufacturing costs include, among other things, plant site operating costs and overhead costs (including depreciation), production planning and logistics costs, repair and maintenance costs, plant site purchasing costs, and engineering and technical support costs. Distribution, freight, and warehousing costs are also included in cost of goods sold.

Derivative Transactions and Hedging Activities

All derivatives are recorded on Venator's consolidated balance sheets at fair value. Gains and losses on derivative instruments designated as cash flow hedges are recorded in accumulated other comprehensive income (loss) and recognized in income (expense) when the hedged item impacts earnings. See "Note 17. Derivative Instruments and Hedging Activities."

Environmental Expenditures

Environmental-related restoration and remediation costs are recorded as liabilities when site restoration and environmental remediation and cleanup obligations are either known or considered probable and the related costs can be reasonably estimated. Other environmental expenditures that are principally maintenance or preventative in nature are recorded when expended and incurred and are expensed or capitalized as appropriate. See "Note 23. Environmental, Health and Safety Matters."

Financial Instruments

The carrying amounts reported in the balance sheets for cash and cash equivalents, accounts receivable, amounts receivable from affiliates, accounts payable, current portion of amounts payable to affiliates, and accrued liabilities approximate their fair value because of the immediate or short-term maturity of these financial instruments. The fair value of non-qualified employee benefit plan investments is estimated using prevailing market prices. The estimated fair values of Venator's long-term debt are based on quoted market prices for the identical liability when traded as an asset in an active market.

Foreign Currency Translation

Venator is domiciled in the U.K. which uses the British pound sterling, however, we report in U.S. dollars. The accounts of Venator's operating subsidiaries outside of the U.S. consider the functional currency to be the currency of the economic environment in which they operate. Accordingly, assets and liabilities are translated at rates prevailing at the balance sheet date. Revenues, expenses, gains and losses are translated at a weighted average rate for the period. Cumulative translation adjustments are recorded to equity as a component of accumulated other comprehensive loss.

Foreign currency transaction gains and losses are recorded in other income, net in the consolidated statements of operations and were net foreign currency translation losses of \$4 million, net losses of \$4 million, and net gains of \$6 million for the years ended December 31, 2020, 2019 and 2018, respectively.

Income Taxes

Venator uses the asset and liability method of accounting for income taxes. Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial and tax reporting purposes. Venator evaluates deferred tax assets to determine whether it is more likely than not that they will be realized. Valuation allowances are reviewed on a tax jurisdiction basis to analyze whether there is sufficient positive or negative evidence to support a change in judgment about the realizability of the related deferred tax assets for each jurisdiction. These conclusions require significant judgment. In evaluating the objective evidence that historical results provide, Venator considers the cyclicity of Venator and cumulative income or losses during the applicable period. Cumulative losses incurred over the period limits Venator's ability to consider other subjective evidence such as Venator's projections for the future. Changes in expected future income in applicable tax jurisdictions could affect the realization of deferred tax assets in those jurisdictions.

Accounting for uncertainty in income taxes prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The application of income tax law is inherently complex. Venator is required to determine if an income tax position meets the criteria of more-likely-than-not to be realized based on the merits of the position under tax law, in order to recognize an income tax benefit. This requires Venator to make significant judgments regarding the merits of income tax positions and the application of income tax law. Additionally, if a tax position meets the recognition criteria of more-likely-than-not, Venator is required to make judgments and apply assumptions in order to measure the amount of the tax benefits to recognize. The judgments are based on the probability of the amount of tax benefits that would be realized if the tax position was challenged by the taxing authorities. Interpretations and guidance surrounding income tax laws and regulations change over time. As a consequence, changes in assumptions and judgments can materially affect amounts recognized in the consolidated financial statements. See "Note 19. Income Taxes."

Intangible Assets

Intangible assets are stated at cost (fair value at the time of acquisition) and are amortized using the straight-line method over the estimated useful lives or the life of the related agreement as follows:

Patents, trademarks and technology	5 - 30 years
Other intangibles	5 - 15 years

Inventories

Inventories are stated at the lower of cost or market, with cost determined using the first-in, first-out and average costs methods for different components of inventory.

Legal Costs

Venator expenses legal costs, including those legal costs incurred in connection with a loss contingency, as incurred.

Property, Plant and Equipment

Property, plant and equipment is stated at cost less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives or lease term as follows:

Buildings and leasehold improvements	5 - 50 years
Plant and equipment	3 - 30 years

Normal maintenance and repairs of plant and equipment are charged to expense as incurred. Renewals, betterments, and major repairs that significantly extend the useful life of the assets are capitalized and the assets replaced, if any, are retired.

Research and Development

Research and development costs are expensed as incurred and recorded in selling, general and administrative expense. Research and development costs charged to expense were \$13 million, \$15 million and \$17 million for the years ended December 31, 2020, 2019 and 2018, respectively.

Revenue Recognition

Venator generates substantially all of its revenues through sales of inventory in the open market and via long-term supply agreements. Revenue is recognized when the performance obligations under the terms of our contracts are satisfied, at which point the control of the goods transfers to the customer, there is a present right to payment and legal title, and the risks and rewards of ownership have transferred to the customer. Revenues is measured as the amount of consideration we expect to receive in exchange for transferred goods.

Share-based Compensation

We measure the cost of employee services received in exchange for an award of equity instruments based on the grant-date fair value of the award. That cost will be recognized over the period during which the employee is required to provide services in exchange for the award.

Loss Per Share

Basic loss per share excludes dilution and is computed by dividing net loss attributable to Venator Materials PLC ordinary shareholders by the weighted average number of shares outstanding during the period. Diluted loss per share reflects all potential dilutive ordinary shares outstanding during the period and is computed by dividing net loss attributable to Venator Materials PLC ordinary shareholders by the weighted average number of shares outstanding during the period increased by the number of additional shares that would have been outstanding as dilutive securities.

Note 2. Recently Issued Accounting Pronouncements

Accounting Pronouncements Adopted During the Period

Effective January 1, 2020, we adopted Accounting Standards Update ("ASU") No. 2016-13, *Financial Instruments - Credit Losses (Topic 326), Measurement of Credit Losses on Financial Instruments*. The amendments in this ASU replace the incurred loss impairment methodology with a methodology that reflects expected credit losses for financial assets, including trade receivables, held at the reporting date, based on historical experience, current conditions, and reasonable and supportable information. The adoption of this ASU did not have a material impact on our condensed consolidated financial statements.

Effective April 1, 2020, we adopted ASU No. 2019-12, *Income Taxes (Topic 740)*. The amendments in this ASU remove certain exceptions related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period, and the recognition of deferred tax liabilities for outside basis differences. The guidance also clarifies and simplifies other areas of ASC Topic 740. Certain adjustments in this update must be applied on a prospective basis, certain amendments must be applied on a retrospective basis and certain amendments must be applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings in the period of adoption. The adoption of this ASU did not have a material impact on our unaudited condensed consolidated financial statements or our consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-14, *Compensation—Retirement Benefits—Defined Benefit Plans—General (Subtopic 715-20)*. The amendments in this ASU add, remove, and clarify disclosure requirements related to defined benefit pension and other postretirement plans. This ASU eliminates the requirement to disclose the amounts in accumulated other comprehensive income expected to be recognized as part of net periodic benefit cost over the next year. The ASU also removes the disclosure requirements for the effects of a one-percentage-point change on the assumed health care costs and the effect of this change in rates on service cost, interest cost and the benefit obligation for postretirement health care benefits. This standard is effective for fiscal years ending after December 15, 2020, and must be applied on a retrospective basis. The adoption of this ASU did not have a material impact on our consolidated financial statements.

Accounting Pronouncements Pending Adoption in Future Periods

In March 2020, the FASB issued ASU No. 2020-04, *Reference Rate Reform (Topic 848)*. The amendments in this ASU temporarily simplify the accounting for contract modifications, including hedging relationships, due to the transition from London Interbank Offering Rate ("LIBOR") and other interbank offered rates to alternative reference interest rates. For example, entities can elect not to remeasure the contracts at the modification date or reassess a previous accounting determination if certain conditions are met. Additionally, entities can elect to continue applying hedge accounting for hedging relationships affected by reference rate reform if certain conditions are met. This standard was effective upon issuance and generally can be applied to applicable contract modifications through December 31, 2022. We are currently evaluating the impact of the transition from LIBOR to alternative reference interest rates on our financial statements.

Note 3. Leases

We have leases for warehouses, office space, land, office equipment, production equipment and automobiles. Right of Use ("ROU") assets and lease obligations are recognized at the lease commencement date based on the present value of lease payments over the lease term. We have elected to account for lease and associated non-lease components as a single lease component for all asset classes with the exception of buildings and we do not recognize ROU assets and related lease obligations with lease terms of 12 months or less from the commencement date. Operating lease ROU assets and liabilities are

included in operating lease right-of-use assets, current operating lease liabilities, and operating lease liabilities on our consolidated balance sheet. Finance leases ROU assets are included in property, plant and equipment, net, while finance lease liabilities are included in long-term debt. As the implicit rate is not readily determinable in most of our lease arrangements, we use our incremental borrowing rate based on information available at the commencement date in order to determine the net present value of lease payments. We give consideration to our recent debt issuances as well as publicly available data for instruments with similar characteristics when calculating our incremental borrowing rates. We have lease agreements that contain lease and non-lease components.

We determine if an arrangement is a lease or contains a lease at inception. Certain leases contain renewal options that can extend the term of the lease for one year or more. Our leases have remaining lease terms of up to 91 years, some of which include options to extend the lease term for up to 20 years. Options are recognized as part of our ROU assets and lease liabilities when it is reasonably certain that we will extend that option. Sublease arrangements and leases with residual value guarantees, sale leaseback terms or material restrictive covenants, are immaterial. Lease payments include fixed and variable lease components. Variable components are derived from usage or market-based indices, such as the consumer price index.

The components of lease expense were as follows:

	Year Ended December 31,	
	2020	2019
Lease Cost		
Operating lease cost	\$ 12	\$ 12
Finance lease cost:		
Amortization of right-of-use assets	2	1
Interest on lease liabilities	1	1
Short-term lease cost	1	1

Supplemental balance sheet information related to leases was as follows:

	As of December 31,	
	2020	2019
Leases		
Assets		
Operating Lease Right-of-Use Assets	\$ 38	\$ 43
Finance Lease Right-of-Use Assets, at cost	\$ 15	\$ 14
Accumulated Depreciation	(7)	(5)
Finance Lease Right-of-Use Assets, net	\$ 8	\$ 9
Liabilities		
Operating Lease Obligation		
Current	\$ 8	\$ 8
Non-Current	33	37
Total Operating Lease Liabilities	\$ 41	\$ 45
Finance Lease Obligation		
Current	\$ 1	\$ 2
Non-Current	9	8
Total Finance Lease Liabilities	\$ 10	\$ 10

Cash paid for amounts included in the present value of operating lease liabilities were as follows:

Cash Flow Information	Year Ended December 31,	
	2020	2019
Operating cash flows from operating leases	\$ 11	\$ 12
Operating cash flows from finance leases	1	1
Financing cash flows from finance leases	1	1

Lease Term and Discount Rate	As of December 31,	
	2020	2019
Weighted average remaining lease term (years)		
Operating leases	15.4	14.0
Finance leases	5.1	5.9
Weighted average discount rate		
Operating leases	7.2 %	7.2 %
Financing leases	5.2 %	5.2 %

Maturities of lease liabilities were as follows:

December 31,	Operating Leases	Finance Leases	Total
2021	\$ 11	\$ 2	\$ 13
2022	8	2	10
2023	6	1	7
2024	5	1	6
2025	4	1	5
After 2025	37	5	42
Total lease payments	\$ 71	\$ 12	\$ 83
Less: Interest	30	2	32
Present value of lease liabilities	\$ 41	\$ 10	\$ 51

Note 4. Revenue

We generate substantially all of our revenues through sales of inventory in the open market and via long-term supply agreements. At contract inception, we assess the goods promised in our contracts and identify a performance obligation for each promise to transfer to the customer a distinct good. In substantially all cases, a contract has a single performance obligation to deliver a promised good to the customer. Revenue is recognized when the performance obligations under the terms of our contracts are satisfied. Generally, this occurs at the time of shipping, at which point the control of the goods transfers to the customer. Further, in determining whether control has transferred, we consider if there is a present right to payment and legal title, along with risks and rewards of ownership having transferred to the customer. Revenue is measured as the amount of consideration we expect to receive in exchange for transferred goods. Sales, value added, and other taxes we collect concurrent with revenue-producing activities are excluded from revenue. Incidental items that are immaterial in the context of the contract are recognized as expense. We have elected to account for all shipping and handling activities as fulfillment costs. We recognize these costs for shipping and handling when control over products have transferred to the customer as an expense in cost of goods sold. We have also elected to expense commissions when incurred as the amortization period of the commission asset that we would have otherwise recognized is less than one year.

The following table disaggregates our revenue by major geographical region for the years ended December 31, 2020, 2019 and 2018:

	2020			2019			2018		
	Titanium Dioxide	Performance Additives	Total	Titanium Dioxide	Performance Additives	Total	Titanium Dioxide	Performance Additives	Total
Europe	\$ 728	\$ 182	\$ 910	\$ 786	\$ 182	\$ 968	\$ 828	\$ 206	\$ 1,034
North America	282	228	510	320	226	546	296	277	573
Asia	287	81	368	343	87	430	368	98	466
Other	134	16	150	165	21	186	174	18	192
Total Revenues	\$ 1,431	\$ 507	\$ 1,938	\$ 1,614	\$ 516	\$ 2,130	\$ 1,666	\$ 599	\$ 2,265

The following table disaggregates our revenue by major product line for the years ended December 31, 2020, 2019 and 2018:

	2020			2019			2018		
	Titanium Dioxide	Performance Additives	Total	Titanium Dioxide	Performance Additives	Total	Titanium Dioxide	Performance Additives	Total
TiO ₂	\$ 1,431	\$ —	\$ 1,431	\$ 1,614	\$ —	\$ 1,614	\$ 1,666	\$ —	\$ 1,666
Color Pigments	—	248	248	—	258	258	—	294	294
Functional Additives	—	111	111	—	118	118	—	140	140
Timber Treatment	—	127	127	—	118	118	—	142	142
Water Treatment	—	21	21	—	22	22	—	23	23
Total Revenues	\$ 1,431	\$ 507	\$ 1,938	\$ 1,614	\$ 516	\$ 2,130	\$ 1,666	\$ 599	\$ 2,265

The amount of consideration we receive and revenue we recognize is based upon the terms stated in the sales contract, which may contain variable consideration such as discounts or rebates. We also give our customers a limited right to return products that have been damaged, do not satisfy their specifications, or for other specific reasons. Payment terms on product sales to our customers typically range from 30 days to 90 days. Although certain exceptions exist where standard payment terms are exceeded, these instances are infrequent and do not exceed one year. Discounts are allowed for some customers for early payment or if certain volume commitments are met. As our standard payment terms are less than one year, we have elected to not assess whether a contract has a significant financing component. In order to estimate the applicable variable consideration at the time of revenue recognition, we use historical and current trend information to estimate the amount of discounts, rebates, or returns to which customers are likely to be entitled. Historically, actual discount or rebate adjustments relative to those estimated and accrued at the point of which revenue is recognized have not materially differed.

Note 5. Loss Per Share

Basic loss per share excludes dilution and is computed by dividing net loss attributable to Venator ordinary shareholders by the weighted average number of shares outstanding during the period. Diluted loss per share reflects all potential dilutive ordinary shares outstanding during the period and is computed by dividing net loss available to Venator ordinary shareholders by the weighted average number of shares outstanding during the period increased by the number of additional shares that would have been outstanding as dilutive securities.

Basic and diluted loss per share is determined using the following information:

	For the years ended December 31,		
	2020	2019	2018
Numerator:			
Net loss attributable to Venator Materials PLC ordinary shareholders	\$ (112)	\$ (175)	\$ (163)
Denominator:			
Weighted average shares outstanding	106.7	106.5	106.4
Dilutive share-based awards	—	—	0.3
Total weighted average shares outstanding, including dilutive shares	106.7	106.5	106.7

The number of anti-dilutive employee share-based awards excluded from the computation of diluted EPS was 4 million for the year ended December 31, 2020, 2 million for the year ended December 31, 2019, and 1 million for the year ended December 31, 2018.

Note 6. Inventories

Inventories are stated at the lower of cost or market, with cost determined using first-in, first-out and average cost methods for different components of inventory. Inventories at December 31, 2020 and December 31, 2019 consisted of the following:

	December 31,	
	2020	2019
Raw materials and supplies	\$ 137	\$ 166
Work in process	51	49
Finished goods	252	298
Total	\$ 440	\$ 513

Note 7. Property, Plant and Equipment

The cost and accumulated depreciation of property, plant and equipment at December 31, 2020 and December 31, 2019 were as follows:

	December 31,	
	2020	2019
Land and land improvements	\$ 102	\$ 97
Buildings	261	241
Plant and equipment	2,149	1,974
Construction in progress	117	180
Total	2,629	2,492
Less accumulated depreciation	(1,682)	(1,503)
Property, plant, and equipment—net	\$ 947	\$ 989

Depreciation expense for the years ended December 31, 2020, 2019 and 2018 was \$110 million, \$106 million and \$129 million, respectively.

Note 8. Investment In Unconsolidated Affiliates

Investments in companies in which we exercise significant influence, but do not control, are accounted for using the equity method.

Venator Investments Ltd., a wholly-owned subsidiary of Venator, has a 50% interest in LPC. Located in Lake Charles, Louisiana, LPC is a joint venture that produces TiO₂ for the exclusive benefit of each of the joint venture partners. In accordance with the joint venture agreement, this plant operates on a break-even basis. This investment is accounted for using the equity method and totaled \$104 million and \$92 million at December 31, 2020 and 2019, respectively.

Note 9. Variable Interest Entities

We evaluate our investments and transactions to identify variable interest entities for which we are the primary beneficiary. We hold a variable interest in the following joint ventures for which we are the primary beneficiary:

- Pacific Iron Products Sdn Bhd is our 50%-owned joint venture with Coogee Chemicals that manufactures products for Venator. It was determined that the activities that most significantly impact its economic performance are raw material supply, manufacturing and sales. In this joint venture we supply all the raw materials through a fixed cost supply contract, operate the manufacturing facility and market the products of the joint venture to customers. Through a fixed

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 144 of 203

price raw materials supply contract with the joint venture we are exposed to the risk related to the fluctuation of raw material pricing. As a result, we concluded that we are the primary beneficiary.

- Viance is our 50%-owned joint venture with DuPont de Nemours, Inc. Viance markets timber treatment products for Venator. We have determined that the activity that most significantly impacts Viance's economic performance is manufacturing. The joint venture sources all of its products through a contract manufacturing arrangement at our Harrisburg, North Carolina facility and we bear a disproportionate amount of working capital risk of loss due to the supply arrangement whereby we control manufacturing on Viance's behalf. As a result, we concluded that we are the primary beneficiary.

Creditors of these entities have no recourse to Venator's general credit. As the primary beneficiary of these variable interest entities at December 31, 2020, the joint ventures' assets, liabilities and results of operations are included in Venator's consolidated financial statements.

The revenues, income before income taxes and net cash provided by operating activities for our variable interest entities are as follows:

	Year ended December 31,		
	2020	2019	2018
Revenues	\$ 104	\$ 93	\$ 117
Income from continuing operations before income taxes	15	10	13
Net cash provided by operating activities	16	12	16

Note 10. Intangible Assets

The cost and accumulated amortization of intangible assets at December 31, 2020 and December 31, 2019 were as follows:

	December 31, 2020			December 31, 2019		
	Carrying Amount	Accumulated Amortization	Net	Carrying Amount	Accumulated Amortization	Net
Patents, trademarks and technology	\$ 27	\$ 11	\$ 16	\$ 27	\$ 10	\$ 17
Other intangibles	14	13	1	14	10	4
Total	\$ 41	\$ 24	\$ 17	\$ 41	\$ 20	\$ 21

Amortization expense was \$4 million, \$4 million and \$3 million for the years ended December 31, 2020, 2019 and 2018, respectively.

Our estimated future amortization expense for intangible assets over the next five years is as follows:

Year ending December 31,	Amount
2021	\$ 4
2022	4
2023	4
2024	1
2025	1

Note 11. Other Noncurrent Assets

Other noncurrent assets at December 31, 2020 and December 31, 2019 consisted of the following:

	December 31,	
	2020	2019
Pension assets	\$ 124	\$ 79
Spare parts inventory	35	27
Debt issuance costs	2	4
Total	\$ 161	\$ 110

Note 12. Accrued Liabilities

Accrued liabilities at December 31, 2020 and December 31, 2019 consisted of the following:

	December 31,	
	2020	2019
Payroll and benefits	\$ 35	\$ 49
Rebate accrual	18	19
Restructuring and plant closing costs	10	9
Asset retirement obligation	1	3
Pension liabilities	1	1
Other miscellaneous accruals	53	35
Total	\$ 118	\$ 116

Note 13. Restructuring, Impairment and Plant Closing and Transition Costs

Venator has initiated various restructuring programs in an effort to reduce operating costs and maximize operating efficiency.

Restructuring Activities

Company-wide Restructuring

In December 2020, we implemented a plan to decommission certain existing equipment in a section of our Duisburg, Germany Titanium Dioxide manufacturing site. As part of the program, we recorded restructuring expense of \$30 million for the year ended December 31, 2020, of which \$20 million is accelerated depreciation and \$10 million related to employee benefits. This restructuring expense consists of \$10 million of cash expense and noncash expense of \$20 million.

We expect to incur additional charges of approximately \$23 million through the end of 2022, of which \$4 million relates to plant shut down costs and \$19 million relates to other employee costs. Future charges consist of \$23 million of cash costs. \$21 million of these future costs relate to the Titanium Dioxide segment and \$2 million relate to the Performance Additives segment.

In January 2019, we implemented a plan to reduce costs and improve efficiency of certain company-wide functions. As part of the program, we recorded restructuring expense of nil and \$5 million for the years ended December 31, 2020 and 2019, respectively, all of which related to workforce reductions. We expect that additional costs related to this plan will be immaterial.

Titanium Dioxide Segment

In July 2016, we implemented a plan to close our Umbogintwini, South Africa Titanium Dioxide manufacturing facility. As part of the program, we recorded restructuring expense of \$1 million, \$1 million and \$3 million for the years ended December 31, 2020, 2019 and 2018, respectively, all of which related to plant shutdown costs. We expect further charges as part of this program to be immaterial. In connection with this plan, in August 2020 we sold the Umbogintwini facility. Accordingly, during the third quarter of 2020 we received proceeds of \$6 million related to this sale and recognized a corresponding gain on disposal of assets of \$6 million. This gain is recorded in the "Other operating expense, net" line item of our consolidated statements of operations.

In March 2017, we implemented a plan to close the white end finishing and packaging operation of our Titanium Dioxide manufacturing facility at our Calais, France site. The announced plan follows the 2015 closure of the black-end manufacturing operations and would result in the closure of the entire facility. As part of the program, we recorded restructuring expense of \$5 million, \$8 million and \$15 million for the years ended December 31, 2020, 2019 and 2018, respectively, all of which related to plant shutdown costs. We expect to incur additional plant shutdown costs of approximately \$14 million through 2023.

In September 2018, we implemented a plan to close our Pori, Finland Titanium Dioxide manufacturing facility. As part of the program, we recorded restructuring expense of \$19 million for the year ended December 31, 2020, of which \$12 million was related to accelerated depreciation, \$5 million related to plant shutdown costs, and \$2 million related to employee benefits. This restructuring expense consists of \$7 million of cash expense and a net noncash expense of \$12 million.

We recorded restructuring expense related to our Pori facility of \$17 million for the year ended December 31, 2019, of which \$20 million was related to accelerated depreciation, \$6 million was related to plant shutdown costs, and \$5 million was related to employee benefits, partially offset by a gain of \$14 million related to the early settlement of contractual obligations. This restructuring expense consisted of \$11 million of cash expense and a net noncash expense of \$6 million.

We recorded restructuring expense of \$465 million for the year ended December 31, 2018, of which \$417 million was related to accelerated depreciation, \$39 million was related to employee benefits, and \$9 million was related to the write-off of other assets. This restructuring expense consisted of \$39 million of cash and \$426 million related of noncash charges.

We expect to incur additional charges of approximately \$83 million at our Pori site through the end of 2024, of which \$6 million relates to accelerated depreciation, \$74 million relates to plant shut down costs, \$1 million relates to other employee costs and \$2 million related to the write off of other assets. Future charges consist of \$8 million of noncash costs and \$75 million of cash costs.

Performance Additives Segment

In September 2017, we implemented a plan to close our Performance Additives manufacturing facilities in St. Louis, Missouri and Easton, Pennsylvania. As part of the program, we recorded restructuring expense of nil, nil and \$16 million for the years ended December 31, 2020, 2019 and 2018, respectively. The charges in 2018 consisted primarily of \$14 million of accelerated depreciation. We do not expect to incur any additional charges as part of this program.

In May 2018, we implemented a plan to close portions of our Performance Additives manufacturing facility in Augusta, Georgia. As part of the program, we recorded restructuring expense of nil, nil and \$129 million for the years ended December 31, 2020, 2019 and 2018, respectively. The charges in 2018 consisted primarily of \$125 million of accelerated depreciation. We do not expect to incur any additional charges as part of this program.

In August 2018, we implemented a plan to close our Performance Additives manufacturing site in Beltsville, Maryland. As part of the program, we recorded restructuring expense of nil, \$2 million and nil for the years ended December 31, 2020, 2019, and 2018 respectively, all of which related to accelerated depreciation. We do not expect to incur any additional charges as part of this program.

Accrued Restructuring and Plant Closing and Transition Costs

As of December 31, 2020, December 31, 2019 and December 31, 2018, accrued restructuring and plant closing costs by type of cost and initiative consisted of the following:

	Workforce reductions ⁽¹⁾	Other restructuring costs	Total ⁽²⁾
Accrued liabilities as of January 1, 2018	\$ 34	\$ —	\$ 34
2018 charges for 2017 and prior initiatives	2	16	18
2018 charges for 2018 initiatives	17	2	19
2018 payments for 2017 and prior initiatives	(17)	(16)	(33)
2018 payments for 2018 initiatives	(2)	(2)	(4)
Foreign currency effect on liability balance	(2)	—	(2)
Accrued liabilities as of December 31, 2018	\$ 32	\$ —	\$ 32
2019 charges for 2018 and prior initiatives	7	13	20
2019 charges for 2019 initiatives	5	—	5
2019 payments for 2018 and prior initiatives	(24)	(12)	(36)
2019 payments for 2019 initiatives	(5)	—	(5)
Accrued liabilities as of December 31, 2019	\$ 15	\$ 1	\$ 16
2020 adjustments for 2019 and prior initiatives	(1)	(1)	(2)
2020 charges for 2019 and prior initiatives	5	10	15
2020 charges for 2020 initiatives	9	1	10
2020 payments for 2019 and prior initiatives	(11)	(9)	(20)
2020 payments for 2020 initiatives	—	(1)	(1)
Foreign currency effect on liability balance	1	—	1
Accrued liabilities as of December 31, 2020	\$ 18	\$ 1	\$ 19

(1) The total workforce reduction reserves of \$18 million at December 31, 2020 relate to the termination of 217 positions, of which nil positions had been terminated but not yet paid as of December 31, 2020.

(2) Accrued liabilities remaining at December 31, 2020, 2019 and 2018 by year of initiatives were as follows:

	December 31,		
	2020	2019	2018
2018 initiatives and prior	\$ 9	\$ 16	\$ 32
2019 initiatives	—	—	—
2020 initiatives	10	—	—
Total	\$ 19	\$ 16	\$ 32

Details with respect to our reserves for restructuring, impairment and plant closing and transition costs are provided below by segment and initiative:

	Titanium Dioxide	Performance Additives	Total
Accrued liabilities as of January 1, 2018	\$ 30	\$ 4	\$ 34
2018 charges for 2017 and prior initiatives	18	—	18
2018 charges for 2018 initiatives	15	4	19
2018 payments for 2017 and prior initiatives	(28)	(5)	(33)
2018 payments for 2018 initiatives	(1)	(3)	(4)
Foreign currency effect on liability balance	(2)	—	(2)
Accrued liabilities as of December 31, 2018	\$ 32	\$ —	\$ 32
2019 charges for 2018 and prior initiatives	20	—	20
2019 charges for 2019 initiatives	5	—	5
2019 payments for 2018 and prior initiatives	(36)	—	(36)
2019 payments for 2019 initiatives	(5)	—	(5)
Accrued liabilities as of December 31, 2019	\$ 16	\$ —	\$ 16
2020 adjustments for 2019 and prior initiatives	(2)	—	(2)
2020 charges for 2019 and prior initiatives	14	1	15
2020 charges for 2020 initiatives	9	1	10
2020 payments for 2019 and prior initiatives	(19)	(1)	(20)
2020 payments for 2020 initiatives	(1)	—	(1)
Foreign currency effect on liability balance	1	—	1
Accrued liabilities as of December 31, 2020	\$ 18	\$ 1	\$ 19
Current portion of restructuring reserves	\$ 9	\$ 1	\$ 10
Long-term portion of restructuring reserve	\$ 9	\$ —	\$ 9

Restructuring, Impairment and Plant Closing and Transition Costs

Details with respect to cash and noncash restructuring charges for the years ended December 31, 2020, December 31, 2019 and December 31, 2018 are provided below:

Cash charges	\$ 25
Accelerated depreciation	32
Impairment of assets	3
Adjustments to restructuring plans initiated prior to 2019	(2)
Total 2020 Restructuring, Impairment of Plant Closing and Transition Costs	\$ 58
Cash charges	\$ 25
Early Settlement of contractual obligations	(14)
Accelerated depreciation	22
Total 2019 Restructuring, Impairment of Plant Closing and Transition Costs	\$ 33
Cash charges	\$ 37
Pension-related charges	25
Accelerated depreciation	556
Other non-cash charges	10
Total 2018 Restructuring, Impairment and Plant Closing and Transition Costs	\$ 628

Note 14. Asset Retirement Obligations

Asset retirement obligations consist primarily of asbestos abatement costs, demolition and removal costs, leasehold remediation costs and landfill closure costs. Venator is legally required to perform capping and closure and post-closure care on the landfills and asbestos abatement on certain of its premises. For each asset retirement obligation, Venator recognized the estimated fair value of a liability and capitalized the cost as part of the cost basis of the related asset.

The following table describes changes to Venator's asset retirement obligation liabilities:

	December 31,	
	2020	2019
Asset retirement obligations at beginning of year	\$ 32	\$ 37
Accretion expense	2	1
Liabilities incurred	—	1
Change in estimate	(2)	—
Liabilities settled	—	(7)
Asset retirement obligations at end of year	\$ 32	\$ 32

Note 15. Other Noncurrent Liabilities

Other noncurrent liabilities at December 31, 2020 and December 31, 2019 consisted of the following:

	December 31,	
	2020	2019
Pension liabilities	\$ 271	\$ 244
Asset retirement obligations	31	29
Environmental liabilities	7	8
Restructuring and plant closing costs	9	7
Employee benefit accrual	3	3
Other postretirement benefits	3	3
Other	14	6
Total	\$ 338	\$ 300

Note 16. Debt

Outstanding debt, excluding finance leases and net of unamortized discount and issuance costs of \$25 million and \$14 million as of December 31, 2020 and December 31, 2019, respectively, consisted of the following:

	December 31,	
	2020	2019
Term Loan Facility due August 2024	\$ 359	\$ 361
Senior Secured Notes due July 2025	215	—
Senior Unsecured Notes due July 2025	372	371
Other	1	8
Total debt	\$ 947	\$ 740
Less: short-term debt and current portion of long-term debt	6	11
Total long-term debt	\$ 941	\$ 729

The estimated fair value of the Term Loan Facility was \$358 million and \$365 million as of December 31, 2020 and 2019, respectively. The estimated fair value of the Senior Secured Notes was \$247 million as of December 31, 2020. The estimated fair value of the Senior Unsecured Notes was \$354 million and \$346 million as of December 31, 2020 and 2019, respectively. The estimated fair values of the Term Loan Facility, Senior Secured Notes and Senior Unsecured Notes are based upon quoted market prices (Level 1).

The aggregate principal outstanding under our ABL Facility was nil as of December 31, 2020 and 2019, each.

The weighted average interest rate on our outstanding balances under the Term Loan Facility, Senior Secured Notes, Senior Unsecured Notes and cross-currency swaps as of December 31, 2020 is approximately 5%.

Senior Credit Facilities

Our Senior Credit Facilities provide for first lien senior secured financing of up to \$725 million, consisting of:

- the Term Loan Facility in an aggregate principal amount of \$375 million, with a maturity of seven years; and
- the ABL Facility in an aggregate principal amount of up to \$350 million, with a maturity of five years.

The Term Loan Facility amortizes in aggregate annual amounts equal to 1% of the original principal amount of the Term Loan Facility, and is paid quarterly.

Availability to borrow under the \$350 million of commitments under the ABL Facility is subject to a borrowing base calculation comprised of accounts receivable and inventory in U.S., Canada, the U.K., and Germany and accounts receivable in France and Spain, that fluctuate from time to time and may be further impacted by the lenders' discretionary ability to impose reserves and availability blocks that might incrementally decrease borrowing availability. As a result, the aggregate amount available for extensions of credit under the ABL Facility at any time is the lesser of \$350 million and the borrowing base calculated according to the formula described above minus the aggregate amount of extensions of credit outstanding under the ABL Facility at such time. The borrowing base calculation as of December 31, 2020 is in excess of \$281 million, of which \$251 million is available to be drawn, as a result of \$30 million of letters of credit issued and outstanding at December 31, 2020.

Borrowings under the Term Loan Facility bear interest at a rate equal to, at Venator's option, either (a) a LIBOR based rate determined by reference to the costs of funds for Eurodollar deposits for the interest period relevant to such borrowing, adjusted for certain additional costs subject to an interest rate floor to be agreed or (b) a base rate determined by reference to the highest of (i) the rate of interest per annum determined from time to time by JPMorgan Chase Bank, N.A. as its prime rate in effect at its principal office in New York City, (ii) the federal funds rate plus 0.50% per annum and (iii) the one-month adjusted LIBOR plus 1.00% per annum, in each case plus an applicable margin to be agreed upon. Borrowings under the ABL Facility bear interest at a variable rate equal to an applicable margin based on the applicable quarterly average excess availability under the ABL Facility plus either a LIBOR or a base rate. The applicable margin percentage is calculated and established once every three calendar months and varies from 150 to 200 basis points for LIBOR loans depending on the quarterly average excess availability under the ABL Facility for the immediately preceding three-month period. The Senior Credit Facilities contain covenants that are usual and customary for facilities of this type, including events of default and financial, affirmative and negative covenants. In addition, the ABL Facility contains a springing financial covenant that requires the Company and its restricted subsidiaries to maintain a consolidated fixed charge coverage ratio of at least 1:1 for certain periods of time, if borrowing availability is less than a specified threshold. The Senior Credit Facilities contain customary change of control provisions, the breach of which entitle the lenders to take various actions, including the acceleration of amounts due under the facility.

Senior Secured Notes

On May 22, 2020, we completed an offering of \$225 million in aggregate principal amount of senior secured notes (the "Senior Secured Notes") due on July 1, 2025 at 98% of their face value. The Senior Secured Notes are obligations of our wholly owned subsidiaries, Venator Finance S.à r.l. and Venator Materials LLC (the "Issuers") and bear interest of 9.5% per year payable semi-annually in arrears. The Senior Secured Notes are guaranteed on a senior secured basis by Venator and each of Venator's restricted subsidiaries (other than the Issuers and certain other excluded subsidiaries) that is a guarantor under Venator's Term Loan Facility and ABL Facility. The Senior Secured Notes are secured on a first-priority basis by liens on all of the assets that secure the Term Loan Facility on a first-priority basis and are secured on a second-priority basis in all inventory, accounts receivable, deposit accounts, securities accounts, certain related assets and other current assets that secure the ABL Facility on a first-priority basis and the Term Loan Facility on a second-priority basis, in each case, other than certain excluded assets. The Senior Secured Notes contain covenants that are usual and customary for facilities of this type, including events of default and financial, affirmative and negative covenants. Upon the occurrence of certain change of control events, holders of the Venator Senior Secured Notes will have the right to require that the Issuers purchase all or a portion of such holder's Senior Secured Notes in cash at a purchase price equal to 101% of the principal amount thereof plus accrued and unpaid interest, if any, to the date of repurchase.

Senior Unsecured Notes

Our Senior Unsecured Notes are general unsecured senior obligations of the Issuers and are guaranteed on a general unsecured senior basis by Venator and certain of Venator's subsidiaries. The indenture related to the Senior Unsecured Notes imposes certain limitations on the ability of Venator and certain of its subsidiaries to, among other things, incur additional indebtedness secured by any principal properties, incur indebtedness of non-guarantor subsidiaries, enter into sale and leaseback transactions with respect to any principal properties, consolidate or merge with or into any other person or lease, sell or transfer all or substantially all of its properties and assets. The Senior Unsecured Notes bear interest of 5.75% per year payable semi-annually and will mature on July 15, 2025. The Senior Unsecured Notes will be redeemable in whole or in part at any time at the redemption prices set forth in the indenture, plus accrued and unpaid interest, if any, up to, but not including, the redemption date. Upon the occurrence of certain change of control events (other than the separation), holders of the Venator Senior Unsecured Notes will have the right to require that the Issuers purchase all or a portion of such holder's Senior Unsecured Notes in cash at a purchase price equal to 101% of the principal amount thereof plus accrued and unpaid interest, if any, to the date of repurchase.

Guarantees

All obligations under the Senior Credit Facilities are guaranteed by Venator and substantially all of our subsidiaries (the "Guarantors"), and are secured by substantially all of the assets of Venator and the Guarantors, in each case subject to certain exceptions. Lien priority as between the Term Loan Facility and the ABL Facility with respect to the collateral will be governed by an intercreditor agreement.

Letters of Credit

As of December 31, 2020 we had \$75 million issued and outstanding letters of credit and bank guarantees to third parties. Of this amount, \$45 million were issued by various banks on an unsecured basis with the remaining \$30 million issued from our secured ABL facility.

Related Party Notes Payable of Venator to Subsidiaries of Huntsman International

We have a note payable to Huntsman for a liability pursuant to the tax matters agreement entered into at the time of the separation, of which \$17 million has been presented as Noncurrent payable to affiliates and \$3 million is included within accounts payable to affiliates on our consolidated balance sheets. See "Note 19. Income Taxes" for further discussion.

Maturities

The scheduled maturities of our debt (excluding debt to affiliates) by year as of December 31, 2020 are as follows:

Year ended December 31,	Amount
2021	\$ 6
2022	4
2023	4
2024	351
2025	600
Thereafter	—
Total	\$ 965

Note 17. Derivative Instruments and Hedging Activities

To reduce cash flow volatility from foreign currency fluctuations, we enter into forward and swap contracts to hedge portions of cash flows of certain foreign currency transactions. We do not use derivative financial instruments for trading or speculative purposes.

Cross-Currency Swaps

In December 2017, we entered into three cross-currency swap agreements to convert a portion of our intercompany fixed-rate, U.S. Dollar denominated notes, including the semi-annual interest payments and the payment of remaining principal at maturity, to a fixed-rate, Euro denominated debt. The economic effect of the swap agreement was to eliminate the uncertainty of the cash flows in U.S. Dollars associated with the notes by exchanging a notional amount of \$200 million at a fixed rate of

Koppers Performance Chemicals, Inc.

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Page 157 of 203

5.75% for €169 million with a fixed annual rate of 3.43%. These hedges were designated as cash flow hedges and the critical terms of the cross-currency swap agreements correspond to the underlying hedged item. These swaps were scheduled to mature in July 2022, which was the best estimate of the repayment date of the intercompany loans.

In August 2019, we terminated the three cross-currency interest rate swaps entered into in 2017, resulting in cash proceeds of \$15 million. Concurrently, we entered into three new cross-currency interest rate swaps which notionally exchanged \$200 million at a fixed rate of 5.75% for €181 million on which a weighted average rate of 3.73% is payable. The cross-currency swaps have been designated as cash flow hedges of a fixed rate U.S. Dollar intercompany loan and the economic effect is to eliminate uncertainty on the U.S. Dollar cash flows. The cross-currency swaps are set to mature in July 2024, which is the best estimate of the repayment date on the intercompany loan.

We formally assessed the hedging relationship at the inception of the hedge in order to determine whether the derivatives that are used in the hedging transactions are highly effective in offsetting cash flows of the hedged item and we will continue to assess the relationship on an ongoing basis. We use the hypothetical derivative method in conjunction with regression analysis to measure effectiveness of our cross-currency swap agreement.

The changes in the fair value of the swaps are deferred in other comprehensive loss and subsequently recognized in other income in the audited consolidated statements of operations when the hedged item impacts earnings. Cash flows related to our cross-currency swap that relate to our periodic interest settlement will be classified as operating activities and the cash flows that relate to principal balances will be designated as financing activities. The fair value of these hedges were liabilities of \$14 million and \$3 million at December 31, 2020 and 2019, respectively, and they were recorded as other long-term liabilities on our consolidated balance sheets. We estimate the fair values of our cross-currency swaps by taking into consideration valuations obtained from a third-party valuation service that utilizes an income-based industry standard valuation model for which all significant inputs are observable either directly or indirectly. These inputs include foreign currency exchange rates, credit default swap rates and cross-currency basis swap spreads. The cross-currency swap has been classified as Level 2 because the fair value is based upon observable market-based inputs or unobservable inputs that are corroborated by market data.

During 2020, 2019, and 2018, the changes in accumulated other comprehensive loss associated with these cash flow hedging activities was a loss of \$11 million, a gain of \$6 million, and a gain of \$11 million respectively. As of December 31, 2020, accumulated other comprehensive loss of nil is expected to be reclassified to earnings during the next twelve months. The actual amount that will be reclassified to earnings over the next twelve months may vary from this amount due to changing market conditions.

We would be exposed to credit losses in the event of nonperformance by a counterparty to our derivative financial instruments. We continually monitor our position and the credit rating of our counterparties, and we do not anticipate nonperformance by the counterparties.

Forward Currency Contracts Not Designated as Hedges

We transact business in various foreign currencies and we enter into currency forward contracts to offset the risk associated with the risks of foreign currency exposure. At December 31, 2020 and 2019 we had \$77 million and \$75 million, respectively, notional amount (in U.S. dollar equivalents) outstanding in foreign currency contracts with a term of approximately one month. The contracts are valued using observable market rates (Level 2).

Note 18. Share-Based Compensation Plan

On August 1, 2017, our compensation committee and board of directors adopted the Venator Materials 2017 Stock Incentive Plan (the "LTIP") to provide for the granting of non-qualified stock options, incentive stock options, stock appreciation rights, restricted stock, phantom shares, performance awards and other stock-based awards to our employees, directors and consultants and to employees and consultants of our subsidiaries, provided that incentive stock options may be granted solely to employees. The terms of the grants are fixed at the grant date. As of December 31, 2020, we were authorized to grant up to 17.8 million shares under the LTIP. As of December 31, 2020, we had 11.2 million shares remaining under the LTIP available for grant. Stock option awards have a maximum contractual term of 10 years and generally must have an exercise price at least equal to the market price of Venator's ordinary shares on the date the stock option award is granted. Share-based awards generally vest over a three-year period; certain performance awards vest over a two-year period and awards to Venator's directors vest on the grant date.

We incurred \$8 million, \$7 million and \$6 million in stock-based compensation expense for the years ended December 31, 2020, 2019 and 2018, respectively. The total income tax benefit recognized in the consolidated statements of operations for

stock-based compensation arrangements was \$2 million, \$1 million and \$1 million for the years ended December 31, 2020, 2019 and 2018, respectively.

Stock Options

The fair value of the stock option awards were estimated using the Black-Scholes valuation model that uses the assumptions noted in the following table. Expected volatilities were based on a weighted average of the historical volatility of Huntsman's and our common stock through the grant date, whereby the volatility of Huntsman's common stock was used to estimate historical volatility for periods prior to the separation. The expected term of stock options granted was estimated using the safe harbor approach calculated as the vesting period plus remaining contractual term divided by two. The risk-free rate for the periods within the expected life of the option was based on the U.S. Treasury yield curve in effect at the time of grant. The assumptions noted below represent the weighted average of assumptions utilized for stock options granted during 2020, 2019 and 2018 under the LTIP.

	Year ended December 31,		
	2020	2019	2018
Dividend yield	—	—	—
Expected volatility	50.4 %	41.8 %	38.8 %
Risk-free interest rate	1.5 %	2.6 %	2.8 %
Expected life of stock options granted during the period	6.0 years	6.0 years	6.0 years

The table below presents the changes in stock option awards for our ordinary shares from December 31, 2019 through December 31, 2020.

	Shares (in thousands)	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at December 31, 2019	1,831	\$ 10.83		
Granted	1,666	3.10		
Exercised	—	—		
Forfeited	(72)	5.41		
Expired	(10)	13.81		
Outstanding at December 31, 2020	3,415	7.16	8.3	\$ —
Exercisable at December 31, 2020	1,059	12.66	7.2	—

Intrinsic value is the difference between the market value of our common stock and the exercise price of each stock option multiplied by the number of stock options outstanding for those stock options where the market value exceeds their exercise price. During the years ended December 31, 2020, 2019 and 2018, the total intrinsic value of stock options exercised was nil, each.

The weighted-average grant-date fair value of stock options granted during December 31, 2020, 2019 and 2018 was \$1.51, \$2.52 and \$9.12 per option, respectively. As of December 31, 2020, there was \$3 million of total unrecognized compensation cost related to nonvested stock option arrangements granted under the LTIP. That cost is expected to be recognized over a weighted-average period of 1.8 years.

Restricted Stock Units

The fair value of the restricted stock is based on the closing share price on the date of grant. The fair value of each performance unit award was estimated using a Monte Carlo simulation model that uses various assumptions, including an expected volatility rate and a risk-free interest rate. For the year ended December 31, 2020, the weighted-average expected volatility rate was 56.6% and the weighted-average risk-free interest rate was 1.4%. For the performance unit awards granted during the years ended December 31, 2020 and 2019, the number of shares earned varies based on the Company achieving certain performance criteria over a three-year performance period. The performance criteria are total stockholder return of our common stock relative to the total stockholder return of a specified industry peer-group for the three-year performance period. Additionally, performance unit awards were granted during the year ended December 31, 2020 based on achieving a certain return on net assets.

The table below presents the changes in nonvested awards for our ordinary shares from December 31, 2019 through December 31, 2020.

	Shares (in thousands)	Weighted Average Grant-Date Fair Value
Nonvested at December 31, 2019	1,173	\$ 9.16
Granted	1,895	3.27
Vested ⁽¹⁾	(316)	10.50
Forfeited	(34)	5.24
Nonvested at December 31, 2020	2,718	4.94

(1) As of December 31, 2020, a total of 351,679 restricted stock units were vested but not yet issued. These shares have not been reflected as vested shares in the table because, in accordance with the restricted stock unit agreements, these shares are not issued for vested restricted stock until termination of employment.

As of December 31, 2020, there was \$5 million of total unrecognized compensation cost related to nonvested share compensation arrangements granted under the LTIP. That cost is expected to be recognized over a weighted-average period of 1.7 years.

Note 19. Income Taxes

Our income tax basis of presentation is summarized in "Note 1. Description Of Business, Recent Developments and Summary Of Significant Accounting Policies."

The components of income (loss) before income taxes were as follows:

	Year ended December 31,		
	2020	2019	2018
U.K.	\$ 4	\$ (1)	\$ 80
Non-U.K.	(97)	(19)	(245)
Total	\$ (93)	\$ (20)	\$ (165)

A summary of the provisions for current and deferred income taxes is as follows:

	Year ended December 31,		
	2020	2019	2018
Income tax expense (benefit):			
U.K.			
Current	\$ —	\$ —	\$ 2
Deferred	—	—	—
Non-U.K.			
Current	10	7	9
Deferred	2	143	(19)
Total	\$ 12	\$ 150	\$ (8)

The reconciliation of the differences between the U.K. income taxes at the U.K. statutory rate to Venator's provision for income taxes is as follows:

	Year ended December 31,		
	2020	2019	2018
Loss from continuing operations before income taxes	\$ (93)	\$ (20)	\$ (165)
Expected tax benefit at U.K. statutory rate of 19%	\$ (18)	\$ (4)	\$ (31)
Change resulting from:			
Non-U.K. tax rate differentials	(9)	(4)	(7)
Other tax effects, including nondeductible expenses and transfer pricing adjustments	2	—	(5)
Effect of tax rate changes	(6)	(6)	—
Change in valuation allowance	43	164	39
Other	—	—	(4)
Total income tax expense (benefit)	\$ 12	\$ 150	\$ (8)

Venator operates in over 20 non-U.K. tax jurisdictions with no specific country earning a predominant amount of its off-shore earnings. Some of these countries have income tax rates that are approximately the same as the U.K. statutory rate, while other countries have rates that are higher or lower than the U.K. statutory rate. Losses earned in countries with higher average statutory rates than the U.K., resulted in higher tax benefit of \$9 million, \$4 million and \$7 million, respectively, for the years ended December 31, 2020, 2019 and 2018.

Components of deferred income tax assets and liabilities at December 31, 2020 and December 31, 2019 were as follows:

	December 31,	
	2020	2019
Deferred income tax assets:		
Net operating loss carryforwards	\$ 615	\$ 519
Pension and other employee compensation	61	53
Property, plant and equipment	42	34
Operating Lease Liability	13	13
Other, net	78	64
Total	\$ 809	\$ 683
Total deferred income tax liabilities:		
Pension and other employee compensation	\$ (18)	\$ (13)
Property, plant and equipment	(37)	(35)
Operating Lease, Right of Use Asset	(13)	(13)
Other, net	—	(4)
Total	\$ (68)	\$ (65)
Net deferred tax assets before valuation allowance	\$ 741	\$ 618
Valuation allowance	(708)	(585)
Net deferred tax assets	\$ 33	\$ 33
Non-current deferred tax assets	33	33
Non-current deferred tax liabilities	—	—
Net deferred tax assets	\$ 33	\$ 33

Venator has NOLs of \$2,986 million in various jurisdictions, principally in Finland, France, Germany, Italy, Luxembourg, Spain, South Africa, U.S. and the U.K., all of which have no expiration dates except for \$262 million, which begin to expire on December 31, 2028 and is subject to a valuation allowance.

Included in the \$2,986 million of gross NOLs is \$1,041 million attributable to our Luxembourg entity, which have an expiration date of December 31, 2035. As of December 31, 2020, due to the uncertainty surrounding the realization of the benefits of these losses, there is a full valuation allowance of \$237 million against these net tax effected NOLs.

Venator has total net deferred tax assets, before valuation allowance, of \$741 million, including \$615 million of tax-effected NOLs. After taking into account deferred tax liabilities, Venator has recognized valuation allowance on net deferred tax assets of \$708 million, including valuation allowances in the following countries: Finland, France, Germany, Hong Kong, Italy, Luxembourg (as discussed above), South Africa, Spain and the U.K. Venator also has net deferred tax assets of \$33 million, not subject to valuation allowances, primarily in Malaysia, Spain, and the U.S.

Valuation allowances are reviewed each period on a tax jurisdiction by jurisdiction basis to analyze whether there is sufficient positive or negative evidence to support a change in judgment about the realizability of the related deferred tax assets. These conclusions require significant judgment. In evaluating the objective evidence that historical results provide, we consider the cyclicity of businesses and cumulative income or losses during the applicable period. Uncertainties regarding expected future income in certain jurisdictions could affect the realization of deferred tax assets in those jurisdictions and result in additional valuation allowances in future periods.

At December 31, 2019, we concluded that there was insufficient positive evidence within our German business to overcome a history of losses. As a result we recognized a full valuation allowance against German net deferred tax assets of \$162 million.

Pursuant to Sections 382 and 383 of the U.S. Internal Revenue Code, utilization of tax attributes, including loss carryforwards, are subject to annual limitations due to any ownership changes of 5% owners. In general, an ownership change, as defined by Section 382, results when the ownership of certain stockholders or public groups increases by more than 50 percentage points over a three-year period. If an ownership change occurs, the annual limitation on the future utilization of tax attributes existing on the change date is equal to the value of the stock of the corporation times the long term tax exempt rate.

This amount may then be increased or decreased in the five years after the change by recognized built in gains or losses that existed in the company's assets on the change date.

SK Capital's acquisition of 42.5 million Venator shares from Huntsman on December 23, 2020 has resulted in a change of control pursuant to Section 382. As a result, certain Venator deferred tax assets, including U.S. tax net operating losses with an unlimited carryforward period, will be subject to an annual limitation on the amount of taxable income which can be offset. The limitations from the ownership change may cause us to pay U.S. federal income taxes earlier. Based on management's analysis of positive and negative evidence within our U.S. business, and especially considering historical earnings and the evidence of estimated future income in an amount sufficient to exceed the limitation, we have concluded at December 31, 2020 that there is sufficient positive evidence that our U.S. deferred tax assets will be realized. Net deferred tax assets in our U.S. business were \$18 million and \$24 million at December 31, 2020 and December 31, 2019, respectively.

The following is a reconciliation of the unrecognized tax benefits:

	2020	2019	2018
Unrecognized tax benefits as of January 1,	\$ 16	\$ 17	\$ 23
Gross increases and decreases- tax positions taken during prior period	2	1	2
Gross increases and decreases—tax positions taken during the current period	—	—	—
Decreases related to settlements of amounts due to tax authorities	—	—	—
Reductions resulting from the lapse of statutes of limitation	—	(2)	(7)
Foreign currency movements	—	—	(1)
Unrecognized tax benefits as of December 31,	\$ 18	\$ 16	\$ 17

As of December 31, 2020, 2019 and 2018, the amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate is \$1 million, \$1 million and \$14 million, respectively.

In accordance with Venator's accounting policy, it recognizes interest and penalties accrued related to unrecognized tax benefits in income tax expense, which were insignificant for each of the years ended December 31, 2020, 2019 and 2018.

Venator conducts business globally and, as a result, files income tax returns in the U.S. federal, various U.S. state and various non-U.S. jurisdictions. The following table summarizes the tax years that remain subject to examination by major tax jurisdictions:

Tax Jurisdiction	Open Tax Years
France	2017 and later
Germany	2012 and later
Italy	2015 and later
Malaysia	2015 and later
Spain	2015 and later
United Kingdom	2016 and later
United States federal	2017 and later

Certain of Venator's U.S. and non-U.S. income tax returns are currently under various stages of audit by applicable tax authorities and the amounts ultimately agreed upon in resolution of the issues raised may differ materially from the amounts accrued.

Venator estimates that it is reasonably possible that no change of its unrecognized tax benefits could occur within 12 months of the reporting date.

For U.S. federal income tax purposes Huntsman recognized a gain as a result of the IPO and the separation to the extent the fair market value of the assets associated with our U.S. businesses exceeded the basis of such assets for U.S. federal income tax purposes at the time of the separation. As a result of such gain recognized, the basis of the assets associated with our U.S. businesses was increased. Pursuant to the tax matters agreement entered into at the time of the separation, we are required to make a future payment to Huntsman for any actual U.S. federal income tax savings we recognize.

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 166 of 203

increase for tax years through December 31, 2028. For the year ended December 31, 2019, we estimated that the aggregate future payments required by this provision were expected to be approximately \$30 million and we recognized a noncurrent liability for this amount as of December 31, 2019. Due to a decrease in the expectation of future payments as a result of the Internal Revenue Code Section 382 change of control limitation, resulting from SK Capital's acquisition of Venator shares, we reduced the total liability to \$20 million at December 31, 2020, the current portion of which is \$3 million and is included within accounts payable to affiliates on our consolidated balance sheets. Any subsequent adjustment asserted by U.S. taxing authorities could change the amount of gain recognized with a corresponding basis and liability adjustment for us under the tax matters agreement.

As of December 31, 2020, our non-U.K. subsidiaries have no plan to distribute earnings in a manner that would cause them to be subject to material U.K., U.S., or other local country taxation. For the year ended December 31, 2020, our non-U.K. subsidiaries made no distribution of earnings that caused them to be subject to material U.K., or other local country taxation. In the first quarter of 2019 a non-U.K. subsidiary distributed \$12 million to a U.K. subsidiary subject to 5% withholding tax.

On March 27, 2020, President Trump signed into U.S. tax law the Coronavirus Aid, Relief and Economic Security (CARES) Act. The CARES Act, among other things, includes provisions relating to refundable payroll tax credits, deferment of employer social security payments, net operating loss carryback periods, eliminating NOL limitations, alternative minimum tax credit refunds, and modifications to the net interest deduction limitations. The CARES Act did not have a material impact to our income tax provision.

Note 20. Employee Benefit Plans

Defined Benefit and Other Postretirement Benefit Plans

Venator sponsors defined benefit plans in a number of countries outside of the U.S. in which employees of Venator participate. The availability of these plans and their specific design provisions are consistent with local competitive practices and regulations.

The disclosures for the defined benefit and other postretirement benefit plans within the U.S. are combined with the disclosures of the plans outside of the U.S. Of the total projected benefit obligations for Venator as of December 31, 2020 and 2019, the amount related to the U.S. benefit plans was \$12 million and \$11 million, respectively, or 1% each. Of the total fair value of plan assets for Venator, the amount related to the U.S. benefit plans for December 31, 2020 and 2019 was \$9 million and \$8 million, respectively, or 1% each.

The following table sets forth the funded status of the plans for Venator and the amounts recognized in the consolidated balance sheets at December 31, 2020 and December 31, 2019:

	Defined Benefit Plans		Other Postretirement Benefit Plans	
	2020	2019	2020	2019
Change in benefit obligation				
Benefit obligation at beginning of year	\$ 1,100	\$ 1,021	\$ 3	\$ 3
Service cost	3	3	—	—
Interest cost	17	24	—	—
Actuarial loss	78	108	—	1
Gross benefits paid	(49)	(52)	—	(1)
Exchange rates	61	17	—	—
Curtailments	(1)	(21)	—	—
Transfers	(6)	—	—	—
Benefit obligation at end of year	\$ 1,203	\$ 1,100	\$ 3	\$ 3
Accumulated benefit obligation at end of year	1,189	1,076		
Change in plan assets				
Fair value of plan assets at beginning of year	\$ 934	\$ 813	\$ —	\$ —
Actual return on plan assets	97	108	—	—
Employer contribution	38	40	—	—
Gross benefits paid	(49)	(52)	—	—
Transfers	(6)	—	—	—
Exchange rates	42	24	—	—
Other	(1)	1	—	—
Fair value of plan assets at end of year	\$ 1,055	\$ 934	\$ —	\$ —
Funded status				
Fair value of plan assets	\$ 1,055	\$ 934	\$ —	\$ —
Benefit obligation	(1,203)	(1,100)	(3)	(3)
Accrued benefit cost	\$ (148)	\$ (166)	\$ (3)	\$ (3)
Amounts recognized in balance sheet:				
Noncurrent asset	\$ 124	\$ 79	\$ —	\$ —
Current liability	(1)	(1)	—	—
Noncurrent liability	(271)	(244)	(3)	(3)
Total	\$ (148)	\$ (166)	\$ (3)	\$ (3)
Amounts recognized in accumulated other comprehensive loss:				
Net actuarial loss (gain)	\$ 333	\$ 321	\$ (3)	\$ (3)
Prior service cost	4	5	—	—
Total	\$ 337	\$ 326	\$ (3)	\$ (3)

Actuarial losses arising during 2020 and 2019 were primarily due to decreases in discount rates used to determine our projected benefit obligation.

Components of net periodic benefit costs for the years ended December 31, 2020, December 31, 2019 and December 31, 2018 were as follows:

	Defined Benefit Plans		
	2020	2019	2018
Service cost	\$ 3	\$ 3	\$ 5
Interest cost	17	24	25
Expected return on plan assets	(46)	(42)	(47)
Amortization of actuarial loss	13	14	15
Amortization of prior service cost	1	1	3
Curtailments	—	(9)	23
Settlement loss	1	—	—
Net periodic benefit cost	\$ (11)	\$ (9)	\$ 24

	Other Postretirement Benefit Plans		
	2020	2019	2018
Amortization of actuarial loss	\$ —	\$ —	\$ —
Amortization of prior service credit	—	—	—
Curtailments	—	(1)	—
Net periodic benefit cost	\$ —	\$ (1)	\$ —

The amounts recognized in net periodic benefit cost and other comprehensive loss for the years ended December 31, 2020, December 31, 2019 and December 31, 2018 were as follows:

	Defined Benefit Plans		
	2020	2019	2018
Current year actuarial loss	\$ 26	\$ 21	\$ 45
Amortization of actuarial loss	(13)	(14)	(15)
Current year prior service cost	—	—	5
Amortization of prior service cost	(1)	(1)	(3)
Curtailments	—	9	(23)
Other	(1)	—	—
Total recognized in other comprehensive loss	11	15	9
Net periodic benefit cost	(11)	(9)	24
Total recognized in net periodic benefit cost and other comprehensive loss	\$ —	\$ 6	\$ 33

	Other Postretirement Benefit Plans		
	2020	2019	2018
Current year actuarial loss	\$ —	\$ 1	\$ —
Amortization of actuarial loss	—	—	—
Amortization of prior service credit	—	—	—
Curtailments	—	1	—
Total recognized in other comprehensive loss	—	2	—
Net periodic benefit cost	—	(1)	—
Total recognized in net periodic benefit cost and other comprehensive loss	\$ —	\$ 1	\$ —

The following weighted-average assumptions were used to determine the projected benefit obligation at the measurement date and the net periodic pension cost for the year:

	Defined Benefit Plans		
	2020	2019	2018
Projected benefit obligation:			
Discount rate	1.09 %	1.60 %	2.38 %
Rate of compensation increase	2.12 %	2.56 %	3.69 %
Net periodic pension cost:			
Discount rate	1.60 %	2.38 %	2.21 %
Rate of compensation increase	2.56 %	3.69 %	3.74 %
Expected return on plan assets	5.02 %	5.23 %	5.23 %

	Other Postretirement Benefit Plans		
	2020	2019	2018
Projected benefit obligation:			
Discount rate	2.46 %	3.27 %	3.50 %
Net periodic pension cost:			
Discount rate	3.27 %	3.51 %	3.30 %
Rate of compensation increase	— %	4.35 %	— %

At December 31, 2020 and 2019, the health care trend rate used to measure the expected increase in the cost of benefits was assumed to be 5.79% and 5.80%, respectively, decreasing to 4.51% after 2030. Assumed health care cost trend rates can have a significant effect on the amounts reported for the postretirement benefit plans.

The projected benefit obligation and fair value of plan assets for the defined benefit plans with projected benefit obligations in excess of plan assets as were as follows:

	December 31,	
	2020	2019
Projected benefit obligation	\$ 449	\$ 407
Fair value of plan assets	177	162

The projected benefit obligation, accumulated benefit obligation and fair value of plan assets for the defined benefit plans with an accumulated benefit obligation in excess of plan assets as of December 31, 2020 and December 31, 2019 were as follows:

	December 31,	
	2020	2019
Projected benefit obligation	\$ 449	\$ 386
Accumulated benefit obligation	445	383
Fair value of plan assets	177	142

Expected future contributions and benefit payments are as follows:

	Defined Benefit Plans	Other Postretirement Benefit Plans
2021 expected employer contributions:		
To plan trusts	\$ 50	\$ —
Expected benefit payments:		
2021	56	—
2022	44	—
2023	46	—
2024	46	—
2025	46	—
2026 - 2030	240	1

Our investment strategy with respect to pension assets is to pursue an investment plan that, over the long term, is expected to protect the funded status of the plan, enhance the real purchasing power of plan assets and not threaten the plan's ability to meet currently committed obligations. Additionally, our investment strategy is to achieve returns on plan assets, subject to a prudent level of portfolio risk. Plan assets are invested in a broad range of investments. These investments are diversified in terms of domestic and international equities, both growth and value funds, including small, mid and large capitalization equities; short-term and long-term debt securities; real estate; and cash and cash equivalents. The investments are further diversified within each asset category. The portfolio diversification provides protection against a single investment or asset category having a disproportionate impact on the aggregate performance of the plan assets.

Our pension plan assets are managed by outside investment managers. The investment managers value our plan assets using quoted market prices, other observable inputs or unobservable inputs. For certain assets, the investment managers obtain third-party appraisals at least annually, which use valuation techniques and inputs specific to the applicable property, market or geographic location. We have established target allocations for each asset category. Venator's pension plan assets are periodically rebalanced based upon our target allocations.

The fair value of plan assets for the pension plans was \$1,055 million and \$934 million at December 31, 2020 and December 31, 2019, respectively. The following plan assets are measured at fair value on a recurring basis:

Asset Category	December 31, 2020	Fair Value Amounts Using Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Pension plans:				
Equities	\$ 218	\$ 198	\$ 20	\$ —
Fixed income	781	25	749	7
Real estate/other	38	—	10	28
Cash and cash equivalents	18	18	—	—
Total pension plan assets	\$ 1,055	\$ 241	\$ 779	\$ 35

Asset Category	December 31, 2019	Fair Value Amounts Using Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Pension plans:				
Equities	\$ 196	\$ 179	\$ 17	\$ —
Fixed income	692	42	643	7
Real estate/other	40	—	14	26
Cash and cash equivalents	6	6	—	—
Total pension plan assets	\$ 934	\$ 227	\$ 674	\$ 33

Koppers Performance Chemicals, Inc.

	Real Estate/Other Year ended December 31,	
	2020	2019
Fair Value Measurements of Plan Assets Using Significant Unobservable Inputs (Level 3)		
Balance at the beginning of the period	\$ 26	\$ 28
Return on pension plan assets	2	(1)
Purchases, sales and settlements	—	(1)
Transfers (out of) into Level 3	—	—
Disposals	—	—
Balance at the end of the period	\$ 28	\$ 26

	Fixed Income Year ended December 31,	
	2020	2019
Fair Value Measurements of Plan Assets Using Significant Unobservable Inputs (Level 3)		
Balance at the beginning of the period	\$ 7	\$ 7
Return on pension plan assets	—	—
Purchases, sales and settlements	—	—
Transfers (out of) into Level 3	—	—
Balance at the end of the period	\$ 7	\$ 7

Based upon historical returns, the expectations of our investment committee and outside advisors, the expected long-term rate of return on the pension assets is estimated to be between 5.02% and 5.23%. The asset allocation for our pension plans at December 31, 2020 and December 31, 2019 and the target allocation for 2021, by asset category, are as follows:

Asset category	Target allocation 2021	Allocated at December 31, 2020	Allocated at December 31, 2019
Pension plans:			
Equities	20 %	21 %	19 %
Fixed income	73 %	71 %	73 %
Real estate/other	1 %	1 %	1 %
Cash	6 %	7 %	7 %
Total pension plans	100 %	100 %	100 %

Equity securities in Venator's pension plans did not include any equity securities of Huntsman Corporation or Venator and its affiliates at the end of 2020.

U.S. Benefit Plans

Venator's U.S. employees participated in a trustee, non-contributory defined benefit pension plan (the "Plan") that covered substantially all of Huntsman International's full-time U.S. employees. In July 2004, the Plan formula for employees not covered by a collective bargaining agreement was converted to a cash balance design. For represented employees, participation in the cash balance design was subject to the terms of negotiated contracts. For participating employees, benefits accrued under the prior formula were converted to opening cash balance accounts. The new cash balance benefit formula provides annual pay credits from 4% to 12% of eligible pay, depending on age and service, plus accrued interest. Participants in the plan as of July 1, 2004 were eligible for additional annual pay credits from 1% to 8%, depending on their age and service as of that date, for up to 5 years. Beginning July 1, 2014, the Huntsman Defined Benefit Pension Plan was closed to new, non-union entrants and as of April 1, 2015, it was closed to new union entrants. After closure, new hires were provided with a defined contribution plan with a non-discretionary employer contribution of 6% of pay and a company match of up to 4% of pay, for a total company contribution of up to 10% of pay. In connection with the separation, Venator adopted a non-contributory defined benefit pension plan for union entrants prior to April 2015.

Our eligible employees (who were employed by Huntsman prior to August 1, 2015) also participate in an unfunded postretirement benefit plan, which provides medical and life insurance benefits. This plan is sponsored by Venator.

Our U.S. employees participate in a postretirement benefit plan that provides a fully insured Medicare Part D plan including prescription drug benefits affected by the Medicare Prescription Drug, Improvement and Modernization Act of 2003 (the "Act"). Venator has not determined whether the medical benefits provided by these postretirement benefit plans are actuarially equivalent to those provided by the Act. Venator does not collect a subsidy, and our net periodic postretirement benefits cost, and related benefit obligation, do not reflect an amount associated with the subsidy.

Non-U.S. Defined Contribution Plans

We have defined contribution plans in a variety of non-U.S. locations. Venator's combined expense for these defined contribution plans for the years ended December 31, 2020, 2019 and 2018 was \$12 million, \$9 million and \$8 million, respectively, primarily related to the U.K. Pension Plan.

All U.K. associates are eligible to participate in the Huntsman U.K. Pension Plan, a contract-based arrangement with a third party. Company contributions vary by business during a 5 year transition period. Plan participants elect to make voluntary contributions to this plan up to a specified amount of their compensation. We contribute a matching amount not to exceed 12% of the participant's salary for new hires and 15% of the participant's salary for all other participants.

U.S. Defined Contribution Plans

Huntsman provided a money purchase pension plan covering substantially all of its domestic employees who were hired prior to January 1, 2004. Employer contributions were made based on a percentage of employees' earnings (ranging up to 8%). During 2014, Huntsman closed this plan to non-union participants and in 2015 Huntsman closed this plan to union associates. We continue to provide equivalent benefits to those who were covered under this plan into their salary deferral accounts.

We also have a salary deferral plan covering substantially all U.S. employees. Plan participants may elect to make voluntary contributions to this plan up to a specified amount of their compensation. New hires are provided a defined contribution plan with a non-discretionary employer contribution of 6% of pay and a company match of up to 4% of pay, for a total company contribution of up to 10% of pay.

Along with the introduction of the cash balance formula within the defined benefit pension plan, the money purchase pension plan was closed to new hires. At the same time, the employer match in the salary deferral plan was increased, for new hires, to a 100% match, not to exceed 4% of the participant's compensation.

Our total combined expense for the above defined contribution plans was \$2 million, \$2 million and \$3 million for the years ended December 31, 2020, 2019 and 2018, respectively.

Note 21. Related Party Transactions

Transactions with Huntsman

We are party to a variety of transactions and agreements with Huntsman, our former parent and former largest shareholder.

On August 11, 2017, we entered into a separation agreement with Huntsman to effect the separation and to provide a framework for the relationship with Huntsman. This agreement governs the relationship between Venator and Huntsman subsequent to the completion of the separation and provides for the allocation between Venator and Huntsman of assets, liabilities and obligations attributable to periods prior to the separation. Because these agreements were entered into in the context of a related party transaction, the terms may not be comparable to terms that would be obtained in a transaction between unaffiliated parties.

See description of our arrangement with Huntsman as part of the separation in "Note 19. Income Taxes."

SK Capital Share Acquisition

In December 2020, funds advised by SK Capital purchased just under 40% of Venator's outstanding shares from Huntsman Corporation. We transact with other entities under common ownership by SK Capital in the ordinary course of business. Purchases and sales with these entities since becoming affiliates were immaterial to our consolidated statement of operations. Accounts receivable and accounts payable with these affiliates were immaterial to our consolidated balance sheet.

Other Related Party Transactions

We conduct transactions in the normal course of business with other parties under common ownership. Sales of raw materials to LPC as part of a sourcing arrangement were \$81 million, \$87 million and \$65 million for the years ended December 31, 2020, 2019 and 2018, respectively. Proceeds from this arrangement are recorded as a reduction of cost of goods sold in Venator's consolidated statements of operations. Related to this same arrangement, purchases of finished goods from LPC were \$168 million, \$177 million and \$167 million for the years ended December 31, 2020, 2019 and 2018, respectively. The related accounts receivable from affiliates and accounts payable to affiliates as of December 31, 2020 and 2019 are recognized in the consolidated balance sheets.

Note 22. Commitments and Contingencies

Purchase Commitments

We have various purchase commitments extending through 2029 for materials, supplies and services entered into in the ordinary course of business. Included in the purchase commitments table below are contracts which require minimum volume purchases that extend beyond one year or are renewable annually and have been renewed for 2021. Certain contracts allow for changes in minimum required purchase volumes in the event of a temporary or permanent shutdown of a facility. To the extent the contract requires a minimum notice period; such notice period has been included in the table below. The contractual purchase prices for substantially all of these contracts are variable based upon market prices, subject to annual negotiations. We have estimated our contractual obligations by using the terms of our current pricing for each contract. We also have a limited number of contracts which require a minimum payment even if no volume is purchased. We believe that all of our purchase obligations will be utilized in our normal operations. For the years ended December 31, 2020, 2019 and 2018, we made minimum payments under such take or pay contracts without taking the product of nil, \$1 million and nil, respectively. Total purchase commitments as of December 31, 2020 were as follows:

Year ended December 31,	Amount
2021	\$ 124
2022	121
2023	24
2024	21
2025	15
Thereafter	13

Legal Proceedings

Overview

We accrue liabilities related to legal matters when they are either known or considered probable and can be reasonably estimated. Legal matters are inherently unpredictable and subject to significant uncertainties, and significant judgment is required to determine both probability and the estimated amount. Some of these uncertainties include the stage of litigation, available facts, uncertainty as to the outcome of any legal proceedings or settlement discussions, and any novel legal issues presented.

In addition to the matters discussed below, we are a party to various other proceedings instituted by private plaintiffs, governmental authorities and others arising under provisions of applicable laws, including various environmental, products liability and other laws. Except as otherwise disclosed in these consolidated financial statements, we do not believe that the outcome of any of these matters will have a material effect on our financial condition, results of operations or liquidity.

Shareholder Litigation

On February 8, 2019 we, certain of our executive officers, Huntsman and certain banks who acted as underwriters in connection with our IPO and secondary offering were named as defendants in a proposed class action civil suit filed in the District Court for the State of Texas, Dallas County (the "Dallas District Court"), by an alleged purchaser of our ordinary shares in connection with our IPO on August 3, 2017 and our secondary offering on November 30, 2017. The plaintiff, Macomb County Employees' Retirement System, alleges that inaccurate and misleading statements were made regarding the impact to our operations, and prospects for restoration thereof, resulting from the fire that occurred at our Pori, Finland manufacturing facility, among other allegations. Additional complaints making substantially the same allegations were filed in the Dallas District Court by the Firemen's Retirement System of St. Louis on March 4, 2019 and by Oscar Gonzalez on March 13, 2019, with the third case naming two of our directors as additional defendants. A fourth case was filed in the U.S. District Court for the Southern District of New York by the City of Miami General Employees' & Sanitation Employees' Retirement Trust on July 31, 2019, making substantially the same allegations, adding claims under sections 10(b) and 20(a) of the U.S. Exchange Act, and naming all of our directors as additional defendants. A fifth case, filed by Bonnie Yoon Bishop in the U.S. District Court for the Southern District of New York, was voluntarily dismissed without prejudice on October 7, 2019. A sixth case was filed in the U.S. District Court for the Southern District of Texas by the Cambria County Employees Retirement System on September 13, 2019, making substantially the same allegations as those made by the plaintiff in the case pending in the Southern District of New York.

The plaintiffs in these cases seek to determine that the proceedings should be certified as class actions and to obtain alleged compensatory damages, costs, rescission and equitable relief.

The cases filed in the Dallas District Court have been consolidated into a single action, *In re Venator Materials PLC Securities Litigation*. On October 29, 2019, the U.S. District Court for the Southern District of New York entered an order transferring the case brought by the city of Miami General Employees' & Sanitation Employees' Retirement Trust to the U.S. District Court for the Southern District of Texas, where it was consolidated into a single action with the case brought by the Cambria County Employees' Retirement Trust and is now known as *In re: Venator Materials PLC Securities Litigation*. On January 17, 2020, plaintiffs in the consolidated action filed a consolidated class action complaint.

On May 8, 2019, we filed a "special appearance" in the Dallas District Court action contesting the court's jurisdiction over the Company and a motion to transfer venue to Montgomery County, Texas and on June 7, 2019 we and certain defendants filed motions to dismiss. On July 9, 2019, a hearing was held on certain of these motions, which were subsequently denied. On October 3, 2019, a hearing was held on our motion to dismiss under the Texas Citizens Participation Act, which was subsequently denied. On October 22, 2019, we and other defendants filed a Petition for Writ of Mandamus in the Court of Appeals for the Fifth District of Texas seeking relief from the Dallas District Court's denial of defendants' Rule 91a motions to dismiss. On November 22, 2019, we also filed a notice of appeal regarding the denial of our motion to dismiss under the Texas Citizens Participation Act. On January 21, 2020, the Court of Appeals for the Fifth District of Texas reversed the Dallas District Court's order that denied the special appearances of Venator and certain other defendants, and rendered judgment dismissing the claims against Venator and those other defendants for lack of jurisdiction. The Court of Appeals also remanded the case for the Dallas District Court to enter an order transferring the claims against Huntsman to the Montgomery County District Court.

We may be required to indemnify our executive officers and directors, Huntsman, and the banks who acted as underwriters in our IPO and secondary offerings, for losses incurred by them in connection with these matters pursuant to our agreements with such parties. Because of the early stage of this litigation and because the parties have yet to engage in significant discovery, we are unable to reasonably estimate any possible loss or range of loss and we have not accrued for a loss contingency with regard to these matters.

Tronox Litigation

On April 26, 2019, we acquired intangible assets related to the European paper laminates product line from Tronox. A separate agreement with Tronox entered into on July 14, 2018 requires that Tronox promptly pay us a "break fee" of \$75 million upon the consummation of Tronox's merger with Cristal once the sale of the European paper laminates business to us was consummated, if the sale of Cristal's Ashtabula manufacturing complex to us was not completed. The deadline for such payment was May 13, 2019. On April 26, 2019, Tronox publicly stated that it believes it is not obligated to pay the break fee.

On May 14, 2019, we commenced a lawsuit in the Delaware Superior Court against Tronox arising from Tronox's breach of its obligation to pay the break fee. We are seeking a judgment for \$75 million, plus pre- and post-judgment interest, and reasonable attorneys' fees and costs. On June 17, 2019, Tronox filed an answer denying our claims.

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 180 of 203

fee and asserting affirmative defenses and counterclaims of approximately \$400 million, alleging that we failed to negotiate the purchase of the Ashtabula complex in good faith. The parties have engaged in discovery and the preparation of expert reports. On February 4, 2021, the parties participated in mediation as required by Delaware courts, during which no settlement was reached. While we believe we will prevail on adjudication of these matters, we are unable at the current stage of this litigation to determine the likelihood of an unfavorable outcome and are unable to reasonably estimate any possible loss or range of loss and we have not made any accrual with regard to this matter.

Neste Engineering Services Matter

We are party to an arbitration proceeding initiated by Neste Engineering Services Oy ("NES") on December 19, 2018 for payment of invoices allegedly due of approximately €14 million in connection with the delivery of services by NES to the Company in respect of the Pori site rebuild project. While we have fully accrued for the value of these invoices, we are contesting their validity and filed counterclaims against NES on March 8, 2019. In the arbitration proceeding, our defense and counterclaim were filed on April 17, 2020. NES filed its reply and defense to counterclaim on September 18, 2020. Venator filed its rejoinder on December 20, 2020. A hearing during which the arbitration panel will hear the parties' respective fact witnesses and arguments is scheduled to take place during the fourth quarter of 2021.

Calais Pipeline Matter

The Region Hauts-de-France (the "Region") has issued two duplicate title perception demands against us requiring repayment of approximately €12 million. This sum was previously paid to us by the Region under a settlement agreement, pursuant to which we were required to move an effluent pipeline at our Calais site. We filed claims with the Administrative Court in Lille, France on February 14, 2018 and April 12, 2018, requesting orders that the demands be set aside, which suspended enforcement of the demands. On July 12, 2018, the court set aside the first demand. The second demand remains suspended, but in dispute. The parties have lodged various arguments and responses regarding the second demand with the court. The court hearing for this matter has not yet been scheduled. We have not recorded a liability related to this matter because it is our belief that while a loss is reasonably possible, it is not probable.

Gasum Arbitration

We entered into a natural gas supply agreement with Skangass Oy (now Gasum LNG Oy) in 2015 to supply natural gas to our Pori, Finland manufacturing facility. The initial fixed term of the agreement was ten years. We are entitled to terminate the agreement upon closure of the facility by giving 12 months' notice of the closure. Upon such termination, a compensation fee would be payable to Gasum.

The agreement requires us to purchase a minimum annual quantity, subject to a mechanism for making up shortfalls. The minimum annual quantity can be reduced (even to zero) in the event of a "Force Majeure Event". We declared that the fire at our Pori facility in January 2017 was a Force Majeure Event under the agreement, reducing the minimum annual quantity to the actual quantity purchased. Gasum alleges that this Force Majeure Event subsequently ceased to apply, and that we were thereafter again obliged to purchase the original minimum annual quantity.

Gasum continues to supply natural gas to the Pori facility. On April 17, 2020, Gasum filed arbitration proceedings seeking declaratory relief to require us to take or pay the original minimum annual quantities of natural gas. In their request, Gasum estimated that the monetary value of declaratory relief to be approximately €27 million should we close the Pori facility by the end of 2022. Following a case management conference, a procedural order was issued on August 19, 2020. Gasum served their statement of claim on September 11, 2020 we served our statement of defense on November 27, 2020. The matter is now in a discovery phase. Because of the early stage of this proceeding, we are unable to reasonably estimate any possible loss or range of loss and we have not accrued for a loss contingency with regard to this matter.

Note 23. Environmental, Health and Safety Matters

Environmental, Health and Safety Capital Expenditures

We may incur future costs for capital improvements and general compliance under EHS laws, including costs to acquire, maintain and repair pollution control equipment. For the years ended December 31, 2020, 2019, and 2018, our capital expenditures for EHS matters totaled \$13 million, \$35 million and \$9 million, respectively. Because capital expenditures for these matters are subject to

evolving regulatory requirements and depend, in part, on the timing, promulgation and enforcement of specific requirements, our capital expenditures for EHS matters have varied significantly from year to year and we cannot provide assurance that our recent expenditures are indicative of future amounts we may spend related to EHS and other

applicable laws. A number of our EHS capital expenditures will be subject to extended timelines as a result of the COVID-19 pandemic. Changes to timelines may be related to regulatory orders or guidelines that cause suppliers or contractors to cease or slow down operational activities, including as a result of changes to social distancing rules, among other factors. The impacts may vary significantly between different jurisdictions.

Environmental Liabilities

We accrue liabilities relating to anticipated environmental cleanup obligations, site reclamation and closure costs, and known penalties. Liabilities are recorded when potential liabilities are either known or considered probable and can be reasonably estimated. Our liability estimates are calculated using present value techniques as appropriate and are based upon requirements placed upon us by regulators, available facts, existing technology, and past experience. The environmental liabilities do not include amounts recorded as asset retirement obligations. As of December 31, 2020 and 2019, we had environmental liabilities of \$8 million and \$9 million, respectively. We may incur additional losses for environmental remediation.

Environmental Matters

We have incurred, and we may in the future incur, liabilities to investigate and clean up waste or contamination at our current or former facilities or facilities operated by third parties at which we may have disposed of waste or other materials. Similarly, we may incur costs for the cleanup of waste that was disposed of prior to the purchase of our businesses. Under some circumstances, the scope of our liability may extend to damages to natural resources.

In the EU, the Environmental Liability Directive (Directive 2004/35/EC) has established a framework based on the "polluter pays" principle for the prevention and remediation of environmental damage, which establishes measures to prevent and remedy environmental damage. The directive defines "environmental damage" as damage to protected species and natural habitats, damage to water and damage to soil. Operators carrying out dangerous activities listed in the Directive are strictly liable for remediation, even if they are not at fault or negligent.

Under EU Directive 2010/75/EU on industrial emissions, permitted facility operators may be liable for significant pollution of soil and groundwater over the lifetime of the activity concerned. We are in the process of plant closures at facilities in the EU and liability to investigate and clean up waste or contamination may arise during the surrender of operators' permits at these locations under the directive and associated legislation such as the Water Framework Directive (Directive 2000/60/EC) and the Groundwater Directive (Directive 2006/118/EC).

Under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") and similar state laws, a current or former owner or operator of real property in the U.S. may be liable for remediation costs regardless of whether the release or disposal of hazardous substances was in compliance with law at the time it occurred, and a current owner or operator may be liable regardless of whether it owned or operated the facility at the time of the release. Outside the U.S., analogous contaminated property laws, such as those in effect in France, can hold past owners and/or operators liable for remediation at former facilities. We have not been notified by third parties of claims against us for cleanup liabilities at former facilities or third-party sites, including, but not limited to, sites listed under CERCLA.

Under the Resource Conservation and Recovery Act in the U.S. and similar state laws, we may be required to remediate contamination originating from our properties as a condition to our hazardous waste permit. Some of our manufacturing sites have an extended history of industrial chemical manufacturing and use, including on-site waste disposal and we have made accruals for related remediation activity. We are aware of soil, groundwater or surface contamination from past operations at some of our sites and have made accruals for related remediation activity, and we may find contamination at other sites in the future. Similar laws exist in a number of locations in which we currently operate, or previously operated, manufacturing facilities.

Pori Remediation

In connection with our previously announced intention to close our TiO₂ manufacturing facility in Pori, Finland, we expect to incur environmental costs related to the cleanup of the facility upon its eventual closure, including remediation and closure costs. While we do not currently have enough information to be able to estimate the range of potential costs for the closure of this facility, the environmental assessment and related discussions with the Finnish environmental authorities are ongoing, and these costs could be material to our consolidated financial statements.

We are engaged in source removal and groundwater remediation at our facility in Harrisburg, NC, under a corrective action plan agreed with the North Carolina Department of Environmental Quality. The agreed interim corrective measures include the removal of a settlement lagoon and the relining of lagoons and containment areas prior to risk based remediation of groundwater. We have environmental reserves of \$2 million for this remediation obligation however the risk-based remediation of the groundwater following the remediation of the lagoons and containment areas cannot be reliably estimated at this stage, and these costs could be material to our consolidated financial statements.

Calais Remediation

Following the closure of our manufacturing facility in Calais, France we are engaged in a site assessment and a remediation assessment. The risk-based targets for remediation and the extent of any required remediation are yet to be agreed with regulators and cannot be reliably estimated, but these costs could be material to our consolidated financial statements.

Duisburg Remediation

We are engaged in the assessment of metal contaminants in the groundwater and the hydrogeological nature of the groundwater beneath our Duisburg, Germany facility to determine if a risk of contamination exists. Any remediation of the plume has not been demonstrated to be required and is not reliably estimable at this stage and will require further technical assessment and regulatory agreement, but these costs could be material to our consolidated financial statements.

Note 24. Other Comprehensive Loss

Other comprehensive loss consisted of the following:

	Foreign currency translation adjustment ⁽¹⁾	Pension and other postretirement benefits adjustments, net of tax ⁽²⁾	Other comprehensive income of unconsolidated affiliates	Hedging instruments	Total	Amounts attributable to noncontrolling interests	Amounts attributable to Venator
Beginning balance, January 1, 2019	(96)	(278)	(5)	6	(373)	—	(373)
Other comprehensive (loss) income before reclassifications	(1)	(32)	—	6	(27)	—	(27)
Tax expense	—	—	—	—	—	—	—
Amounts reclassified from accumulated other comprehensive loss, gross ⁽³⁾	—	15	—	—	15	—	15
Tax expense	—	—	—	—	—	—	—
Net current-period other comprehensive (loss) income	(1)	(17)	—	6	(12)	—	(12)
Ending balance, December 31, 2019	(97)	(295)	(5)	12	(385)	—	(385)
Other comprehensive income (loss) before reclassifications	78	(25)	—	(11)	42	—	42
Tax expense	—	—	—	—	—	—	—
Amounts reclassified from accumulated other comprehensive loss, gross ⁽³⁾	—	14	—	—	14	—	14
Tax expense	—	—	—	—	—	—	—
Net current-period other comprehensive (loss) income	78	(11)	—	(11)	56	—	56
Ending balance, December 31, 2020	\$ (19)	\$ (306)	\$ (5)	\$ 1	\$ (329)	\$ —	\$ (329)

(1) Amounts are net of tax of nil each as of January 1, 2019, December 31, 2019 and December 31, 2020.

(2) Amounts are net of tax of \$50 million, \$50 million and \$50 million as of January 1, 2019, December 31, 2019 and December 31, 2020, respectively.

(3) See table below for details about the amounts reclassified from accumulated other comprehensive loss.

	Year ended December 31,		Affected line item in the statement where net income is presented
	2020	2019	
Details about Accumulated Other Comprehensive Loss Components:			
Amortization of pension and other postretirement benefits:			
Actuarial loss	\$ 13	\$ 14	(a)
Prior service cost	1	1	(a)
Total before tax	14	15	
Income tax expense	—	—	Income tax (expense) benefit
Total reclassifications for the period, net of tax	\$ 14	\$ 15	

(a) These accumulated other comprehensive loss components are included in the computation of net periodic pension costs. See "Note 20. Employee Benefit Plans."

Note 25. Operating Segment Information

We derive our revenues, earnings and cash flows from the manufacture and sale of a wide variety of chemical products. We have reported our operations through our two segments, Titanium Dioxide and Performance Additives, and organized our business and derived our operating segments around differences in product lines.

The major product groups of each reportable operating segment are as follows:

Segment	Product Group
Titanium Dioxide	titanium dioxide
Performance Additives	functional additives, color pigments, timber treatment and water treatment chemicals

Sales between segments are generally recognized at external market prices and are eliminated in consolidation. Adjusted EBITDA is presented as a measure of the financial performance of our global business units and for reporting the results of our operating segments. The revenues and adjusted EBITDA for each of the two reportable operating segments are as follows:

	Year ended December 31,		
	2020	2019	2018
Revenues:			
Titanium Dioxide	\$ 1,431	\$ 1,614	\$ 1,666
Performance Additives	507	516	599
Total	\$ 1,938	\$ 2,130	\$ 2,265
Adjusted EBITDA⁽¹⁾:			
Titanium Dioxide	\$ 127	\$ 197	\$ 417
Performance Additives	55	47	62
	182	244	479
Corporate and other	(46)	(50)	(43)
Total	\$ 136	\$ 194	\$ 436
Reconciliation of adjusted EBITDA to net loss:			
Interest expense	(64)	(53)	(53)
Interest income	12	12	13
Income tax (expense) benefit	(12)	(150)	8
Depreciation and amortization	(114)	(110)	(132)
Net income attributable to noncontrolling interests	7	5	6
Other adjustments:			
Business acquisition and integration (expense) credits	(1)	1	(20)
Separation gain (expense), net	10	3	(2)
Gain (loss) on disposition of businesses/assets	5	(1)	(2)
Certain legal expenses/ settlements	(6)	(4)	—
Amortization of pension and postretirement actuarial losses	(13)	(14)	(15)
Net plant incident (costs) credits, net	(7)	(20)	232
Restructuring, impairment and plant closing and transition costs	(58)	(33)	(628)
Net loss	\$ (105)	\$ (170)	\$ (157)
Depreciation and Amortization:			
Titanium Dioxide	\$ 85	\$ 79	\$ 93
Performance Additives	26	27	27
Corporate and other	3	4	12
Total	\$ 114	\$ 110	\$ 132
	Year ended December 31,		
	2020	2019	2018
Capital Expenditures:			
Titanium Dioxide	\$ 60	\$ 133	\$ 301
Performance Additives	9	18	24
Corporate and other	—	1	1
Total	\$ 69	\$ 152	\$ 326
Total Assets:			
Titanium Dioxide	\$ 1,559	\$ 1,670	
Performance Additives	475	540	
Corporate and other	323	55	
Total	\$ 2,357	\$ 2,265	

- (1) Our management uses adjusted EBITDA to assess financial performance. Adjusted EBITDA is defined as net income/loss before interest income/expense, net, income tax expense/benefit, depreciation and amortization, and net income attributable to noncontrolling interests, as well as eliminating the following adjustments: (a) business acquisition and integration expense/credits; (b) separation gain/expense, net; (c) loss/gain on disposition of businesses/assets; (d) certain legal

expenses/settlements; (e) amortization of pension and postretirement actuarial losses/gains; (f) net plant incident costs/credits; and (g) restructuring, impairment, and plant closing and transition costs/credits. We believe that net income is the performance measure calculated and presented in accordance with GAAP that is most directly comparable to adjusted EBITDA.

By Geographic Area	Year ended December 31,		
	2020	2019	2018
Revenues⁽¹⁾:			
United States	\$ 476	\$ 500	\$ 518
Germany	214	234	257
United Kingdom	105	110	116
China	103	126	131
Italy	101	111	126
Spain	76	92	96
France	76	78	89
India	54	62	65
Other nations	733	817	867
Total	\$ 1,938	\$ 2,130	\$ 2,265
Long Lived Assets:			
Germany	\$ 268	\$ 279	
United Kingdom	182	189	
Italy	166	163	
United States	97	104	
Malaysia	89	96	
Other nations	145	158	
Total	\$ 947	\$ 989	

(1) Geographic information for revenues is based upon countries into which product is sold.

Note 26. Selected Unaudited Quarterly Financial Data

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2020				
Revenue	\$ 532	\$ 456	\$ 474	\$ 476
Cost of goods sold	471	411	454	442
Restructuring, impairment and plant closing and transition costs	7	5	13	33
Net (loss) income	8	(17)	(39)	(57)
Net (loss) income attributable to Venator	7	(19)	(42)	(58)
Basic income (loss) per share:				
Net (loss) income attributable to Venator Materials PLC ordinary shareholders	0.07	(0.18)	(0.39)	(0.54)
Diluted income (loss) per share:				
Net (loss) income per share attributable to Venator Materials PLC ordinary shareholders	0.07	(0.18)	(0.39)	(0.54)
2019				
Revenue	562	578	526	464
Cost of goods sold	486	511	464	431
Restructuring, impairment and plant closing and transition costs	12	—	12	9
Net income (loss)	(2)	22	(17)	(173)
Net income (loss) attributable to Venator	(3)	21	(19)	(174)
Basic (loss) income per share:				
Net income (loss) per share attributable to Venator Materials PLC ordinary shareholders	(0.03)	0.20	(0.18)	(1.63)
Diluted (loss) income per share:				
Net income (loss) per share attributable to Venator Materials PLC ordinary shareholders	(0.03)	0.20	(0.18)	(1.63)

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As required by rule 13-a 15(b) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), we have evaluated, under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this annual report. Based on this evaluation, our principal executive officer and principal financial officer have concluded that, as of December 31, 2020, our disclosure controls and procedures were effective, in that they ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is (1) recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and (2) accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

There were no changes to our internal control over financial reporting during the three months ended December 31, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act).

Management’s Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control framework and processes are designed to provide reasonable assurance to management and our Board of Directors regarding the reliability of financial reporting and the preparation of our consolidated financial statements in accordance with accounting principles generally accepted in the United States of America.

Our internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of our Company;
- provide reasonable assurance that transactions are recorded properly to allow for the preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of our Company are being made only in accordance with authorizations of management and our Board of Directors;
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our consolidated financial statements; and
- provide reasonable assurance as to the detection of fraud.

Because of its inherent limitations, a system of internal control over financial reporting can provide only reasonable assurance and may not prevent or detect misstatements. Further, because of changing conditions, effectiveness of internal control over financial reporting may vary over time.

Our management assessed the effectiveness of our internal control over financial reporting and concluded that, as of December 31, 2020, such internal control is effective. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control-Integrated Framework (2013)* (“COSO”).

Our independent registered public accountants, Deloitte & Touche LLP, with direct access to our Board of Directors through our Audit Committee, have audited our consolidated financial statements and have issued an attestation report on internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Venator Materials PLC.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Venator Materials PLC and subsidiaries (the “Company”) as of December 31, 2020, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2020, of the Company and our report dated February 26, 2021, expressed an unqualified opinion on those financial statements.

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 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/ Deloitte & Touche LLP

Houston, Texas
February 26, 2021

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information relating to our Directors (including identification of our Audit Committee's financial expert(s)) and executive officers will be disclosed in the definitive Proxy Statement for our Annual General Meeting of Shareholders and may be incorporated herein by reference. Alternatively, we may include such information in an amendment to this Annual report on Form 10-K. See also the information regarding executive officers of the registrant set forth in "Part I. Item 1. Business" under the caption "Executive Officers of the Registrant" in reliance on General Instruction G to Form 10-K.

Code of Ethics

Our Company has adopted a code of ethics, as defined by Item 406(b) of Regulation S-K under the Exchange Act, that applies to our principal executive officer, principal financial officer and principal accounting officer or controller. A copy of the code of ethics is posted on our website, at www.venatorcorp.com. We intend to disclose any amendments to, or waivers from, our code of ethics on our website.

ITEM 11. EXECUTIVE COMPENSATION

Information relating to executive compensation and our equity compensation plans will be disclosed in the definitive Proxy Statement for our Annual General Meeting of Shareholders and may be incorporated herein by reference. Alternatively, we may include such information in an amendment to this Annual report on Form 10-K.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information with respect to beneficial ownership of our ordinary shares by each Director and all Directors and officers of our Company as a group will be disclosed in the definitive Proxy Statement for our Annual General Meeting of Shareholders and may be incorporated herein by reference. Alternatively, we may include such information in an amendment to this Annual report on Form 10-K.

Information relating to any person who beneficially owns in excess of 5 percent of the total outstanding shares of our ordinary shares will be disclosed in the definitive Proxy Statement for our Annual General Meeting of Shareholders and may be incorporated herein by reference. Alternatively, we may include such information in an amendment to this Annual report on Form 10-K.

Information with respect to compensation plans under which equity securities are authorized for issuance will be disclosed in the definitive Proxy Statement for our Annual General Meeting of Shareholders and may be incorporated herein by reference. Alternatively, we may include such information in an amendment to this Annual report on Form 10-K.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information with respect to certain relationships and related transactions will be disclosed in the definitive Proxy Statement for our Annual General Meeting of Shareholders and may be incorporated herein by reference. Alternatively, we may include such information in an amendment to this Annual report on Form 10-K.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information with respect to principal accountant fees and services, and the disclosure of the Audit Committee's pre-approval policies and procedures are contained in the definitive Proxy Statement for our Annual General Meeting of Shareholders and may be incorporated herein by reference. Alternatively, we may include such information in an amendment to this Annual report on Form 10-K.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Documents filed with this report.

(1) Consolidated Financial Statements

i. All financial statements of the Company as set forth under Item 8 of this annual report on Form 10-K

(1) Financial Statement Schedules

i. Schedule II – Valuation and Qualifying Accounts

(1) Exhibits – The exhibits to this report are listed on the Exhibit Index below.

EXHIBIT INDEX

Each exhibit identified below is filed as a part of this annual report. Exhibits designated with an "*" are filed as an exhibit to this annual report on Form 10-K and exhibits designated with an "***" are furnished as an exhibit to this annual report on Form 10-K. Exhibits designated with a "+" are identified as management contracts or compensatory plans or arrangements. Exhibits previously filed as indicated below are incorporated by reference.

Exhibit Number	Description	Incorporated by Reference		
		Schedule Form	Exhibit	Filing Date
3.1	Amended and Restated Articles of Association of Venator Materials PLC	8-K	3.1	June 19, 2020
4.1*	Description of Securities			
4.2	Form of Certificate evidencing Ordinary Shares.	S-1	4.1	June 30, 2017
4.3	Registration Rights Agreement, dated August 8, 2017, by and among Venator Materials PLC, Huntsman International LLC and Huntsman (Holdings) Netherlands B.V.	8-K	10.4	August 11, 2017
4.4	Indenture for 5.75% Senior Notes due 2025.	S-1/A	4.3	July 14, 2017
4.5	Form of 5.75% Senior Note due 2025.	S-1/A	4.3	July 14, 2017
4.6	Supplemental Indenture, dated August 8, 2017, by and among Venator Finance S.à r.l., Venator Materials LLC, the guarantors party thereto and Wilmington Trust, National Association.	8-K	10.8	August 11, 2017
4.7	Indenture, dated as of May 22, 2020, by and among Venator Finance S.à r.l., Venator Materials LLC, the guarantors party thereto and Wilmington Trust, National Association, as trustee and notes collateral agent	8-K	4.1	May 22, 2020
4.8	First Supplemental Indenture, dated as of August 19, 2020, by and among the guarantors party thereto and Wilmington Trust, National Association, as trustee and notes collateral agent	8-K	4.1	August 19, 2020
4.9	Second Supplemental Indenture, dated as of August 19, 2020, by and between the guarantor party thereto and Wilmington Trust, National Association, as trustee and notes collateral agent	8-K	4.2	August 19, 2020
10.1	Separation Agreement dated August 7, 2017, by and among Venator Materials PLC and Huntsman Corporation.	8-K	2.1	August 11, 2017
10.2	Tax Matters Agreement, dated August 7, 2017, by and Among Venator Materials PLC and Huntsman International LLC.	8-K	10.2	August 11, 2017
10.3	ABL Facility Agreement, dated August 8, 2017, by and among Venator Materials LLC, the borrowers party thereto, the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative and collateral agent.	8-K	10.5	August 11, 2017
10.4	Term Loan Credit Agreement, dated August 8, 2017, by and among Venator Materials PLC, Venator Finance S.à r.l. and Venator Materials LLC, as borrowers, the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative and collateral agent.	8-K	10.6	August 11, 2017
10.5+	Form of Non-qualified Stock Option Agreement (Employee Form) related to the Venator Materials 2017 Stock Incentive Plan.	S-8	4.4	August 15, 2017
10.6+	Form of Performance Unit Agreement (Employee Form) related to the Venator Materials 2017 Stock Incentive Plan.	S-8	4.5	August 15, 2017

Koppers Performance Chemicals, Inc.

Ex. 2002

Page 197 of 203

Table of Contents

10.7+	<u>Form of Phantom Share Agreement (Employee Form) related to the Venator Materials 2017 Stock Incentive Plan.</u>	S-8	4.6	August 15, 2017
10.8+	<u>Form of Restricted Stock Unit Agreement (Employee Form, IPO Award Conversion) related to the Venator Materials 2017 Stock Incentive Plan.</u>	S-8	4.7	August 15, 2017
10.9+	<u>Form of Restricted Stock Unit Agreement (Employee Form, New Grants) related to the Venator Materials 2017 Stock Incentive Plan.</u>	S-8	4.8	August 15, 2017
10.10+	<u>Form of Restricted Stock Unit Agreement (Director Form) related to the Venator Materials 2017 Stock Incentive Plan.</u>	S-8	4.9	August 15, 2017
10.11+	<u>Form of Share Unit Agreement (Director Form) related to the Venator Materials 2017 Stock Incentive Plan (incorporated by reference to Exhibit 4.10 of the Company's Registration Statement on Form S-8 (File No. 333-219982) filed with the Commission on August 15, 2017).</u>	S-8	4.10	August 15, 2017
10.12+	<u>Form of Notice of Award of Ordinary Shares (Director Form) related to the Venator Materials 2017 Stock Incentive Plan.</u>	S-8	4.11	August 15, 2017
10.13+	<u>Employment Transfer Agreement, dated June 19, 2017 (Stolle).</u>	S-1	10.8	July 14, 2017
10.14+	<u>Employment Transfer Agreement, dated July 11, 2017 (Ogden).</u>	S-1	10.9	July 14, 2017
10.15+	<u>Amended and Restated Executive Severance Plan dated November 14, 2017.</u>	S-1	10.20	November 27, 2017
10.16+	<u>Form of Restricted Stock Unit Agreement (Employee Form) related to the Venator Materials 2017 Stock Incentive Plan.</u>	10-K	10.21	February 23, 2018
10.17+	<u>Form of non-qualified Stock Option Agreement (Employee Form) related to the Venator Materials 2017 Stock Incentive Plan.</u>	10-K	10.22	February 23, 2018
10.18	<u>Form of Indemnification Deed for Officers and Directors.</u>	10-K	10.20	February 20, 2019
10.19+	<u>Terms and Conditions of Employment (UK), dated December 5, 2018, between Venator Materials UK Limited and Simon Turner.</u>	10-K	10.21	February 20, 2019
10.20+	<u>Terms and Conditions of Employment (US), dated December 5, 2018, between Venator Americas LLC, Venator Materials UK Limited and Kurt D. Ogden.</u>	10-K	10.22	February 20, 2019
10.21+	<u>Terms and Conditions of Employment (US), dated December 5, 2018, between Venator Americas LLC, Venator Materials UK Limited and Russell R. Stolle.</u>	10-K	10.23	February 20, 2019
10.22+	<u>Terms and Conditions of Employment (UK), dated December 5, 2018, between Venator Materials UK Limited and Mahomed A. Maiter.</u>	10-K	10.24	February 20, 2019
10.23+	<u>Terms and Conditions of Employment (UK), dated December 5, 2018, between Venator Materials UK Limited and Robert L. Portsmouth.</u>	10-K	10.25	February 20, 2019
10.24+	<u>Form of Performance Unit Agreement (Employee Form) related to the Venator Materials 2017 Stock Incentive Plan.</u>	10-K	10.26	February 20, 2019
10.25	<u>First Incremental Amendment to Revolving Credit Agreement, dated as of June 20, 2019, by and among Venator Materials PLC, the borrowers and guarantors party thereto, the incremental lenders party thereto, and JPMorgan Chase Bank, N.A., as administrative agent and collateral agent.</u>	8-K	10.1	June 24, 2019
10.26+	<u>Amendment to Terms and Conditions of Employment (UK), dated November 13, 2019 between Venator Materials UK Limited and Simon Turner</u>	10-K	10.28	March 12, 2020
10.27	<u>Purchase Agreement, dated May 8, 2020, by and among Venator Finance S.à r.l, Venator Materials LLC, the guarantors party thereto and J.P. Morgan Securities LLC, as representative of the initial purchasers listed in Schedule I thereto</u>	8-K	10.1	May 8, 2020
10.28+	<u>Amended and Restated Venator Materials 2017 Stock Incentive Plan</u>	8-K	10.1	June 19, 2020
10.29+	<u>Amendment to Terms and Conditions of Employment (US), dated April 29, 2020, between Venator Americas LLC, Venator Materials UK Limited and Kurt D. Ogden</u>	10-Q	10.2	August 4, 2020
10.30+	<u>Amendment to Terms and Conditions of Employment (US), dated April 29, 2020, between Venator Americas LLC, Venator Materials UK Limited and Russell R. Stolle</u>	10-Q	10.3	August 4, 2020
10.31+	<u>Amendment to Terms and Conditions of Employment (US), dated April 29, 2020, between Venator Materials UK Limited and Mahomed A. Maiter</u>	10-Q	10.4	August 4, 2020
10.32+	<u>First Amendment to the Venator Executive Elective Deferral Plan, dated April 29, 2020</u>	10-Q	10.5	August 4, 2020
21.1*	<u>List of Subsidiaries of Venator Materials PLC</u>			

[Table of Contents](#)

23.1*	Consent of Deloitte & Touche LLP (Venator Materials PLC and Subsidiaries)
23.2*	Consent of Deloitte LLP (Venator Materials PLC and Subsidiaries)
24.1*	Power of Attorney (included on the Signatures page of this Annual Report on Form 10-K)
31.1*	Certification by Chief Executive Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Exchange Act Rules, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Certification by Chief Financial Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Exchange Act Rules, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1*	Certifications by Chief Executive Officer pursuant to Title 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of Sarbanes-Oxley Act of 2002
32.2*	Certifications by Chief Financial Officer pursuant to Title 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of Sarbanes-Oxley Act of 2002
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Labels Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document
104*	The cover page to this Annual Report on Form 10-K, formatted in XBRL

VENATOR MATERIALS PLC AND SUBSIDIARIES
Schedule II—Valuation and Qualifying Accounts

Description	Balance at beginning of period	Additions		Deductions	Balance at end of period
		Charges to cost and expenses	Charged to other accounts		
Allowance for doubtful accounts:					
Year ended December 31, 2020	\$ 4	\$ 1	\$ —	\$ —	\$ 5
Year ended December 31, 2019	5	—	—	(1)	4
Year ended December 31, 2018	5	1	—	(1)	5

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: February 26, 2021

VENATOR MATERIALS PLC

By: /s/ Kurt D. Ogden
Kurt D. Ogden
Executive Vice President and Chief Financial Officer

POWERS OF ATTORNEY

Each person whose signature appears below constitutes and appoints Kurt D. Ogden and Russ R. Stolle, jointly and severally, his or her attorneys-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of Venator Materials PLC in the capacities indicated on the dates indicated.

[Table of Contents](#)

<u>/s/ Simon Turner</u> Simon Turner	President and Chief Executive Officer, and Director (Principal Executive Officer)	February 26, 2021
<u>/s/ Kurt D. Ogden</u> Kurt D. Ogden	Executive Vice President and Chief Financial Officer (Principal Financial Officer), and Venator's Authorized Representative in the United States	February 26, 2021
<u>/s/ Stephen Ibbotson</u> Stephen Ibbotson	Vice President and Corporate Controller (Principal Accounting Officer)	February 26, 2021
<u>/s/ Barry B. Siadat</u> Barry B. Siadat	Director	February 26, 2021
<u>/s/ Aaron C. Davenport</u> Aaron C. Davenport	Director	February 26, 2021
<u>/s/ Daniele Ferrari</u> Daniele Ferrari	Director	February 26, 2021
<u>/s/ Peter R. Huntsman</u> Peter R. Huntsman	Director	February 26, 2021
<u>/s/ Heike van de Kerkhof</u> Heike van de Kerkhof	Director	February 26, 2021
<u>/s/ Vir Lakshman</u> Vir Lakshman	Director	February 26, 2021
<u>/s/ Kathy D. Patrick</u> Kathy D. Patrick	Director	February 26, 2021