Celanese The chemistry inside innovation™

2023 ANNUAL REPORT

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, 2023

OR

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

(Commission File Number) 001-32410

Celanese

CELANESE CORPORATION

(Exact Name of Registrant as Specified in its Charter)

Delaware	**98-0420726**
(State or Other Jurisdiction of Incorporation or Organization)	*(I.R.S. Employer Identification No.)*

222 W. Las Colinas Blvd., Suite 900N
Irving, TX 75039-5421
(Address of Principal Executive Offices and zip code)

(972) 443-4000
(Registrant's telephone number, including area code)

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

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock, par value $0.0001 per share	**CE**	**New York Stock Exchange**
1.250% Senior Notes due 2025	**CE /25**	**New York Stock Exchange**
4.777% Senior Notes due 2026	**CE /26A**	**New York Stock Exchange**
2.125% Senior Notes due 2027	**CE /27**	**New York Stock Exchange**
0.625% Senior Notes due 2028	**CE /28**	**New York Stock Exchange**
5.337% Senior Notes due 2029	**CE /29A**	**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. ☑

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

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 registrant's common stock held by non-affiliates as of June 30, 2023 (the last business day of the registrants' most recently completed second fiscal quarter) was $12,564,643,206.

The number of outstanding shares of the registrant's common stock, $0.0001 par value, as of February 9, 2024 was 108,906,426.

DOCUMENTS INCORPORATED BY REFERENCE

Certain portions of the registrant's Definitive Proxy Statement relating to the 2024 annual meeting of shareholders, to be filed with the Securities and Exchange Commission, are incorporated by reference into Part III.

CELANESE CORPORATION

Form 10-K
For the Fiscal Year Ended December 31, 2023

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Special Note Regarding Forward-Looking Statements

Certain statements in this Annual Report on Form 10-K ("Annual Report") or in other materials we have filed or will file with the Securities and Exchange Commission ("SEC"), and incorporated herein by reference, are forward-looking in nature as defined in Section 27A of the Securities Act of 1933, as amended, Section 21E of the Securities Exchange Act of 1934, as amended, and the Private Securities Litigation Reform Act of 1995. You can identify these statements by the fact that they do not relate to matters of a strictly factual or historical nature and generally discuss or relate to forecasts, estimates or other expectations regarding future events. Generally, the words "believe," "expect," "intend," "estimate," "anticipate," "project," "plan," "may," "can," "could," "might," "will" and similar expressions identify forward-looking statements, including statements that relate to such matters as planned and expected capacity increases and utilization rates; anticipated capital spending; environmental matters; legal proceedings; sources of raw materials and exposure to, and effects of hedging of raw material and energy costs and foreign currencies; interest rate fluctuations; global and regional economic, political, business and regulatory conditions; expectations, strategies, and plans for individual assets and products, business segments, as well as for the whole Company; cash requirements and uses of available cash; financing plans; pension expenses and funding; anticipated restructuring, divestiture, and consolidation activities; planned construction or operation of facilities; cost reduction and control efforts and targets and integration of acquired businesses.

Forward-looking statements are not historical facts or guarantees of future performance but instead represent only our beliefs at the time the statements were made regarding future events, which are subject to significant risks, uncertainties, and other factors, many of which are outside of our control and certain of which are listed above. Any or all of the forward-looking statements included in this Annual Report and in any other materials incorporated by reference herein may turn out to be materially inaccurate. This can occur as a result of incorrect assumptions, in some cases based upon internal estimates and analyses of current market conditions and trends, management plans and strategies, economic conditions, or as a consequence of known or unknown risks and uncertainties. Many of the risks and uncertainties mentioned in this Annual Report, such as those discussed in *Item 1A. Risk Factors*, *Item 3. Legal Proceedings* and *Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations* will be important in determining whether these forward-looking statements prove to be accurate. Consequently, neither our shareholders nor any other person should place undue reliance on our forward-looking statements and should recognize that actual results may differ materially from those anticipated by us.

All forward-looking statements made in this Annual Report are made as of the date hereof, and the risk that actual results will differ materially from expectations expressed in this Annual Report will increase with the passage of time. We undertake no obligation, and disclaim any duty, to publicly update or revise any forward-looking statements, whether as a result of new information, future events, changes in our expectations or otherwise. However, we may make further disclosures regarding future events, trends and uncertainties in our subsequent reports on Forms 10-K, 10-Q and 8-K to the extent required under the Exchange Act. The above cautionary discussion of risks, uncertainties and possible inaccurate assumptions relevant to our business includes factors we believe could cause our actual results to differ materially from expected and historical results. Other factors beyond those listed above or in *Item 1A. Risk Factors*, *Item 3. Legal Proceedings* and *Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations* below, including factors unknown to us and factors known to us which we have determined not to be material, could also adversely affect us.

Item 1. *Business*

Basis of Presentation

In this Annual Report on Form 10-K, the term "Celanese" refers to Celanese Corporation, a Delaware corporation, and not its subsidiaries. The terms "Company," "we," "our" and "us" refer to Celanese and its subsidiaries on a consolidated basis. The term "Celanese U.S." refers to the Company's subsidiary, Celanese US Holdings LLC, a Delaware limited liability company, and not its subsidiaries.

Industry

This Annual Report on Form 10-K includes industry data obtained from industry publications and surveys, as well as our own internal company surveys. Third-party industry publications, surveys and forecasts generally state that the information contained therein has been obtained from sources believed to be reliable.

Overview

We are a global chemical and specialty materials company. We are a leading global producer of high performance engineered polymers that are used in a variety of high-value applications, as well as one of the world's largest producers of acetyl products, which are intermediate chemicals for nearly all major industries. As a recognized innovator in the chemicals industry, we engineer and manufacture a wide variety of products essential to everyday living. Our broad product portfolio serves a diverse set of end-use applications including automotive, chemical additives, construction, consumer and industrial adhesives, medical, consumer electronics, energy storage, filtration, paints and coatings, paper and packaging, industrial applications and textiles. Our products enjoy leading global positions due to our differentiated business models, large global production capacity, operating efficiencies, proprietary technology and competitive cost structures.

Our large and diverse global customer base primarily consists of major companies across a broad array of industries. We hold geographically balanced global positions and participate in diversified end-use applications. We combine a demonstrated track record of execution, strong performance built on differentiated business models and a clear focus on growth and value creation. Known for operational excellence, reliability and execution of our business strategies, we partner with our customers around the globe to deliver best-in-class technologies and solutions.

Celanese's history began in 1918, the year that its predecessor company, The American Cellulose & Chemical Manufacturing Company, was incorporated. The company, which manufactured cellulose acetate, was founded by Swiss brothers Drs. Camille and Henri Dreyfus. The current Celanese was incorporated in 2004 under the laws of the State of Delaware and is a U.S.-based public company traded on the New York Stock Exchange under the ticker symbol CE.

Headquartered in Irving, Texas, our operations are primarily located in North America, Europe and Asia and consist of 58 global production facilities and an additional 20 strategic affiliate production facilities. As of December 31, 2023, we employed 12,410 people worldwide.

Business Segment Overview

Effective December 31, 2022, we reorganized our operating and reportable segments to align with recent structural and management reporting changes. The change reflects the resegmentation of the former Acetate Tow operating and reportable segment into the Acetyl Chain operating and reportable segment. This reorganization reflects the culmination of a shift in operating strategy and organizational hierarchy, with a focus on integration, collaboration and maximization of value creation through its global optionality and integrated chain model of the underlying businesses.

We operate principally through two business segments: Engineered Materials and the Acetyl Chain. See *Business Segments* in this *Item 1. Business* and Note 21 - Segment Information and Note 22 - Revenue Recognition in the accompanying consolidated financial statements for further information.

Business Segments

Engineered Materials

Products	Major End-Use Applications	Principal Competitors	Key Raw Materials
• Nylon compounds or formulations • High temperature nylons ("HTN") • Polyoxymethylene ("POM") • Polyethylene terephthalate ("PET") • Polybutylene terephthalate ("PBT") • Ultra-high molecular weight polyethylene ("UHMW-PE") • Long-fiber reinforced thermoplastics ("LFRT") • Liquid crystal polymers ("LCP") • Thermoplastic elastomers ("TPE") • Thermoplastic vulcanizates ("TPV") • Polypropylene compounds or formulations • Polyphenylene sulfide ("PPS") • Ethylene vinyl acetate ("EVA") pharmaceutical grade copolymers • Ethylene acrylic elastomers ("EAE")	• Automotive • Medical • Industrial • Energy storage • Consumer electronics • Appliances • Construction • Filtration equipment • Telecommunications • Beverages • Electrical • Mobility • Connectivity	• Anhui Jinhe Industrial Co., Ltd. • Ascend Performance Materials LLC • BASF SE • Daicel Corporation ("Daicel") • DOMO Chemicals • E. I. du Pont de Nemours and Company • Kingfa Science and Technology • Korea Petrochemical Ind. Co, Ltd ("KPIC") • Envalior GmbH • SABIC Innovative Plastics • Solvay S.A. Other regional competitors: • Asahi Kasei Corporation • Braskem S.A. • Mitsubishi Gas Chemical Company, Inc. • Sumitomo Corporation • Teijin Limited • Toray Industries, Inc.	• HMD • Adipic acid • Formaldehyde • DMT • BDO • Ethylene • Fiberglass • Polypropylene • Acetic anhydride • Propylene • Ethylene propylene diene monomer • Base Oil • PA6 • PA66 • Para-dichlorobenzene • Diketene • TPEE • PTMEG • Flame Retardants • DDDA • PTA • Methyl acrylate • Precious metals • PET

- ***Overview***

Our Engineered Materials segment includes our engineered materials business and certain strategic affiliates. The engineered materials business leverages our leading project pipeline model to more rapidly commercialize projects. Our unique approach is based on deep customer engagement to develop new projects that are aligned with our skill domains to address critical customer needs and ensure our success and growth.

Engineered Materials is a project-based business where growth is driven by increasing new project commercializations from the pipeline. Our project pipeline model leverages competitive advantages that include our global assets and resources, marketplace presence, broad materials portfolio and differentiated capabilities. Our global assets and resources are represented by our operations, including polymerization, compounding, research and development, and customer technology centers in all regions of the world, including Belgium, Brazil, Canada, China, Germany, India, Italy, Japan, Luxembourg, Mexico, Singapore, South Korea, Switzerland, Taiwan, the United Kingdom and the U.S., along with sites associated with our 17 strategic affiliates in China, Germany, Japan, Luxembourg, Netherlands, Saudi Arabia, South Korea, United Kingdom and the U.S.

Our broad marketplace presence reflects our deep understanding of global and customer trends, including the growing global demand for more sophisticated vehicles, elevated environmental considerations, increased global connectivity, and improved health and wellness. These global trends drive a range of needed customer solutions, such as vehicle lightweighting, precise components, aesthetics and appearance, low emissions, heat resistance and low-friction for medical applications, that we are uniquely positioned to address with our materials portfolio. In addition, the opportunity pipeline process identifies a number of emerging trends early, enabling faster growth.

Our materials portfolio offers differentiated chemical and physical properties that enable them to perform in a variety of conditions. These include enduring a wide range of temperatures, resisting adverse chemical interactions and withstanding deformation. Nylon compounds are used in a range of applications including automotive, consumer, electrical, electronic and industrial. These value-added applications in diverse end uses support the business' global growth objectives. POM, PBT and LFRT are used in a broad range of performance-demanding applications, including fuel system components, automotive safety systems, consumer electronics, appliances, industrial products and medical applications. UHMW-PE is used in battery separators, industrial products, filtration equipment, coatings and medical applications. Primary end uses for LCP are electrical applications or products and consumer electronics. Thermoplastic elastomers offer unique attributes for use in automotive, appliances, consumer goods, electrical, electronic and industrial applications.

We also have several differentiated polymer technologies designed for the utility industry, the oil and gas industry, original equipment manufacturers and companies that enhance supply chain efficiency. These include composite technologies for the utility industry that deliver greater reliability, capacity and performance for utility transmission lines.

Our differentiated capabilities are highlighted in our intimate and unique customer engagement which allows us to work across the entirety of our customers' value chain. For example, in the automotive industry we work with original equipment manufacturers as well as system and tier suppliers and injection molders in numerous areas, including polymer formulation and functionality, part and structural design, mold design, color development, part testing and part processing. This broad access allows us to create a demand pull for our solutions. This business segment also includes 17 strategic affiliates that complement our global reach, improve our ability to capture growth opportunities in emerging economies and positions us as a leading participant in the global specialty polymers industry.

In July 2020, we announced that we are establishing a European Compounding Center of Excellence at our Forli, Italy facility, which includes the intended consolidation of our compounding operations in Kaiserslautern, Germany; Wehr, Germany; and Ferrara Marconi, Italy. This consolidation was completed in 2023 and are included in our Engineered Materials segment.

In November 2022, we acquired a majority of the Mobility & Materials business (the "M&M Business") of DuPont de Nemours, Inc. ("DuPont") pursuant to a definitive transaction agreement entered into in February 2022 by us, DuPont and an affiliate of DuPont (the "M&M Acquisition"). The M&M Acquisition was completed for a purchase price of $11.0 billion, subject to transaction adjustments. The M&M Business is a leading global producer of engineering thermoplastics and elastomers serving a variety of end-uses including automotive, electrical and electronics, consumer goods and industrial applications. The acquired M&M Business product portfolio includes numerous specialty materials with global leadership positions in nylons, specialty nylons polyesters and elastomers. See Note 4 - Acquisitions, Dispositions and Plant Closures in the accompanying consolidated financial statements for further information.

On September 27, 2023, we formed a food ingredients joint venture with Mitsui & Co., Ltd. ("Mitsui") under the name Nutrinova. We contributed receivables, inventory, property, plant and equipment, certain other assets, other liabilities, technology and employees of our food ingredients business while retaining a 30% interest in the joint venture. Mitsui acquired the remaining 70% interest in the food ingredients business for a purchase price of $503 million. See Note 4 - Acquisitions, Dispositions and Plant Closures in the accompanying consolidated financial statements for further information.

- ***Key Products***

Nylon. Our nylon products include Nylfor® A (PA 6.6), Nylfor® B (PA 6), NILAMID® (PA 6, PA 66, PPA), FRIANYL® (flame retardant PA 6, PA 66, PPA compounds), ECOMID® (recycled polyamide), Zytel® (PA, PA 6, PA 66, PA 610, PA 612), Zytel® HTN (PPA) and Zytel® LCPA (long-chain polyamide) and are used in automotive, appliances, electrical, medical, industrial and consumer applications due to their mechanical properties, dimensional stability, high impact resistance, resistance to organic solvents, high wear and fatigue resistance even at high temperatures, and easy processing and molding.

POM. Commonly known as polyacetal in the chemical industry, POM is sold by our engineered materials business under the trademarks Celcon®, Hostaform® and Tarnoform®. POM is used for diverse end-use applications in the automotive, industrial, consumer and medical industries. These applications include mechanical parts in automotive fuel system components and window lift systems, water handling, conveyor belts, sprinkler systems, drug delivery systems and gears in large and small home appliances.

We continue to innovate and broaden the portfolio of Celcon®, Hostaform® and Tarnoform® in order to support the industry needs for higher performing polyacetal. We have expanded our portfolio to include products with higher impact resistance and stiffness, low emissions, improved wear resistance and enhanced appearance such as laser marking and metallic effects. We

launched POM ECO-B, a sustainable polyacetal, which allows customers to realize reduction in carbon dioxide emissions in their end-use products and advance toward their renewable content goals.

Korea Engineering Plastics Co., Ltd., our 50%-owned strategic affiliate, manufactures POM and other engineering resins in the Asia-Pacific region. For further discussion, see *Strategic Affiliates* in this *Item 1. Business*.

National Methanol Company, our 25% owned strategic affiliate, produces methanol which is a key feedstock for POM production. Its production facilities are located in Saudi Arabia. For further discussion, see *Strategic Affiliates* in this *Item 1. Business*.

The primary raw material for POM is formaldehyde, which is manufactured from methanol. Raw materials are sourced from internal production and from third parties, generally through long-term contracts.

Polyesters. Our products include a series of thermoplastic polyesters including Celanex® PBT, Crastin® PBT, Melinex®, Mylar® and Thermx® PCT (polycyclohexylene-dimethylene terephthalate), as well as Rynite® PET, a polyester resin. These products are used in a wide variety of automotive, electrical, medical, industrial and consumer applications, including ignition system parts, radiator grilles, electrical switches, medical devices, insulation, photovoltaic panels, critical energy components, appliance and sensor housings, light emitting diodes and technical fibers.

UHMW-PE. Celanese is a global leader in UHMW-PE products, which are sold under the GUR® trademark. They are highly engineered thermoplastics designed for a variety of industrial, consumer and medical applications. Primary applications for the material include lead acid battery separators, heavy machine components, lithium ion separator membranes, and noise and vibration dampening tapes. Several specialty grades are also produced for applications in high performance filtration equipment, ballistic fibers, thermoplastic and elastomeric additives, as well as medical implants.

LFRT. Celstran® and Factor®, our LFRT products, impart extra strength and stiffness, making them more suitable for larger parts than conventional thermoplastics. These products are used in automotive, transportation and industrial applications, such as instrument panels, consoles and front end modules. LFRTs meet a wide range of end-user requirements and are excellent candidates for metal replacement where they provide the required structural integrity with significant weight reduction, corrosion resistance and the potential to lower manufacturing costs.

LCP. Vectra® and Zenite®, our LCP brands, are primarily used in electrical and electronics applications for precision parts with thin walls and complex shapes and applications requiring heat dissipation. They are also used in high heat cookware applications.

TPE. Forprene®, Sofprene® T, Laprene® and Hytrel®, our TPE brands, are primarily used in automotive, construction, appliances and consumer applications due to their ability to combine the advantages of both flexible and plastic materials. These materials are selected for their ability to stretch and return to their near original shape creating a longer life and better physical range than other materials.

TPV. Santoprene™, Dytron™ and Geolast™, our TPV trademarks, are chemically cross-linked, high-performance materials which leverage a unique combination of engineering thermoplastic and elastomer properties. These products are used in future mobility, infrastructure, medical and sustainability applications.

Elastomers. Vamac® EAE, our elastomer brand, is primarily used in variety of demanding automotive applications, including electric and hybrid vehicle components. These materials can be formulated to provide excellent resistance to extreme temperatures and fluids.

Polypropylene. Our polypropylene products include Polifor® and Tecnoprene® and are primarily used in automotive, appliances, electrical and consumer applications due to their high impact and fatigue resistance, exceptional rigidity at high temperatures and an ability to withstand chemical agents.

VitalDose®. Our ethylene vinyl acetate ("EVA") copolymers, sold under the VitalDose® trademark, are an enabling technology used for controlled-release drugs, medical implants and combination devices, including drug-eluting implants, reliable controlled-release performance in subcutaneous and surgical implants, intravitreal and extraocular devices.

- ***Customers***

Engineered Materials' principal customers are original equipment manufacturers and their suppliers serving the automotive, medical, industrial and consumer industries. We utilize our customer options mapping process to collaborate with our customers to identify customized solutions that leverage our broad range of polymers and technical expertise. Our engineered materials business has long-standing relationships through multi-year and annual arrangements with many of its major customers and utilizes distribution partners to expand its customer base.

Because Engineered Materials is a project-based business focused on solutions, the pricing of products in this segment is primarily based on the value-in-use and is generally independent of changes in the cost of raw materials. Therefore, in general, margins may expand or contract in response to changes in raw material costs.

See Note 22 - Revenue Recognition in the accompanying consolidated financial statements for further information.

Acetyl Chain

Products[(1)]	Major End-Use Applications	Principal Competitors	Key Raw Materials
• Acetic acid • Vinyl acetate monomer ("VAM") • Vinyl acetate ethylene ("VAE") emulsions • Conventional emulsions • Ethylene vinyl acetate ("EVA") resins and compounds • Low-density polyethylene resins ("LDPE") • Redispersible Powders ("RDP") • Acetic anhydride • Ethyl acetate • Formaldehyde • Butyl acetate • Acetate tow • Acetate flake	• Paints • Coatings • Adhesives • Textiles • Paper finishing • Flexible packaging • Lamination products • Pharmaceuticals • Films • Inks • Plasticizers • Solvents • Automotive parts • External thermal insulation composite systems • Tiling • Plasters and renders • Lubricants • Filtration	• Arkema • BASF SE • Cerdia • Chang Chun Petrochemical Co., Ltd. • Daicel • Dairen Chemical Corporation • Dow Inc. • Eastman Chemical Company • ExxonMobil Chemical • Huayi Chemical Co., Ltd. • INEOS • Jiangsu Sopo (Group) Co., Ltd. • Kuraray Co., Ltd. • LyondellBasell Industries N.V. • Nippon Gohsei • Showa Denko K.K. • Sipchem • Wacker Chemie AG	• Methanol • Carbon monoxide • Ethylene • Acetic acid • VAM • VAE emulsions • Conventional emulsions • Acrylate esters • Styrene • Polyvinyl alcohol • Wood pulp • Acetic anhydride

(1) Our globally-integrated value chain positions us to provide solutions with carbon capture content across all products in the Acetyl Chain as well as other methanol derived products like acetal copolymers, including POM.

- ***Overview***

The Acetyl Chain segment, which includes the integrated chain of acetic acid, VAM, acetic anhydride, acetate esters, emulsion polymers, EVA polymers, redispersible powders, and acetate tow businesses, is active in every major global industrial sector and serves diverse consumer end-use applications. The Acetyl Chain operates as an integrated business with the breadth and flexibility to sell solutions across the segment and across global geographies utilizing various feedstocks. These solutions include traditional vinyl-based end uses, such as paints and coatings and adhesives, as well as other unique, high-value end uses including flexible packaging, thermal laminations, wire and cable, and compounds.

Our acetyl chain business produces and supplies acetyl products, including acetic acid, VAM, acetic anhydride and acetate esters. These products are generally used as starting materials for colorants, paints, adhesives, coatings and pharmaceuticals.

Our acetyl chain business also produces organic solvents and intermediates for pharmaceutical, agricultural and chemical products.

We have focused in recent years on enhancing our ability to drive incremental value through our global production network and productivity initiatives as well as proactively managing the acetyl chain business in response to trade flows and prevailing industry trends.

Our Acetyl Chain segment has production sites in Belgium, Canada, China, Germany, Mexico, the Netherlands, Singapore, Sweden, Switzerland and the U.S. We are a global industry leader, with a broad acetyls product portfolio, leading technology, low cost production footprint and a global supply chain. We believe our production technology is among the lowest cost in the industry and provides us with global growth opportunities through low cost expansions and a cost advantage over our competitors. With decades of experience, advanced proprietary process technology and favorable capital and production costs, we are a leading global producer of acetic acid, VAM and VAE. AOPlus®3 technology extends our historical technology advantage in acetic acid and enables us to construct a world scale greenfield acetic acid facility at a lower capital cost than our competitors. Our VAntage®2 technology enables us to increase VAM capacity to meet growing customer demand globally with minimal investment. VAM produced by the acetyl chain business is a primary raw material for our emulsion polymers and EVA polymers businesses.

Our emulsion polymers business is a leading global producer of vinyl acetate-based emulsions and develops products and application technologies to improve performance, create value and drive innovation in applications such as paints and coatings, adhesives, construction, glass fiber, textiles and paper. Our emulsion polymers products are sold under globally and regionally recognized brands including EcoVAE®, Mowilith®, Vinamul®, Celvolit®, Dur-O-Set®, TufCOR®, Avicor®, Flexbond® and Resyn®.

Our EVA polymers business is a leading North American manufacturer of a full range of specialty EVA resins and compounds, as well as select grades of LDPE. Sold under the Ateva® brand, these products are used in many applications, including flexible packaging films, lamination film products, hot melt adhesives, automotive parts and carpeting.

Our RDP business is a leading global producer of redispersible polymer powders, sold under the Elotex® brand. The business consumes polymer emulsions which are converted into powdered thermoplastic resin materials. RDP products are used in a variety of applications in the mortar industry, including decorative mortar, exterior insulation and finish systems, gypsum-based materials, plaster and render, self-leveling floor systems, skim coat and tile adhesives.

Our acetate tow business is a leading global producer and supplier of acetate tow and acetate flake, primarily used in filter products applications. We hold an approximately 30% ownership interest in three separate ventures in China that produce acetate flake and acetate tow. China National Tobacco Corporation, a Chinese state-owned tobacco entity, has been our venture partner for over three decades.

- ***Key Products***

Acetyl Products. Acetyl products include acetic acid, VAM, acetic anhydride and acetate esters. Acetic acid is primarily used to manufacture VAM, purified terephthalic acid and other acetyl derivatives. VAM is used in a variety of adhesives, paints, films, coatings and textiles. Acetic anhydride is a raw material used in the production of cellulose acetate, detergents and pharmaceuticals. Acetate esters are used in solvents for ink formulations, surface coatings, adhesives and pharmaceutical industries. We manufacture acetic acid, VAM and acetic anhydride for our own use in producing downstream, value-added products, as well as for sale to third parties.

Acetic acid and VAM leverage global supply and demand fundamentals. The principal raw materials in these products are carbon monoxide, methanol and ethylene. We generally purchase carbon monoxide under long-term contracts, and we also produce carbon monoxide in our Clear Lake facility. We generally purchase methanol and ethylene under both annual and multi-year contracts. Methanol and ethylene are commodity products and generally available from a wide variety of sources, while carbon monoxide is typically purpose-made in close proximity.

We have a joint venture, Fairway Methanol LLC ("Fairway"), with Mitsui, in which we own a 50% interest, for the production of methanol at our integrated chemical plant in Clear Lake, Texas. The methanol unit utilizes natural gas in the U.S. Gulf Coast region as a feedstock. Almost all of our North American methanol needs are met from our share of the production, as well as the long-term contract we have with our joint venture partner, Mitsui.

In December 2023, we began carbon capture and utilization ("CCU") operations at our Clear Lake site as part of our Fairway joint venture. The unit is expected to capture CO2 industrial emissions and produce low-carbon methanol which will help our global customers meet the growing demand for more sustainable and circular solutions. The products will be launched under the ECO-CC name and be supported through third-party mass balance tracking and life cycle assessment processes.

Solvents and Derivatives. We manufacture a variety of solvents, formaldehyde and other chemicals, which in turn are used in the manufacture of paints, coatings, adhesives and other products. Many solvents and derivatives products are derived from our production of acetic acid. Primary products are:

- Ethyl acetate, an acetate ester that is a solvent used in coatings, inks and adhesives;
- Butyl acetate, an acetate ester that is a solvent used in inks, pharmaceuticals and perfume; and
- Formaldehyde and paraformaldehyde, which are primarily used to produce adhesive resins for plywood, particle board, coatings, POM engineering resins and a compound used in making polyurethane.

Emulsion Polymers. Our emulsion polymers business produces conventional vinyl- and acrylate-based emulsions and VAE emulsions. VAE emulsions are a key component of water-based architectural coatings, adhesives, non-wovens, textiles, glass fiber and other applications. VAE emulsions are in high demand in Europe and Asia as they enable low volatile organic compound paints, specifically in interior paints.

EVA Polymers. Our EVA polymers business produces low-density polyethylene, EVA resins and compounds. Low-density polyethylene is produced in high-pressure reactors from ethylene, while EVA resins and compounds are produced in high-pressure reactors from ethylene and VAM.

Redispersible Powders. Our RDP business uses a number of emulsions in manufacturing redispersible powders to meet requirements for various applications and formulated to fit our customers' needs for optimal production.

Acetate tow and acetate flake. Acetate tow is a fiber used primarily in cigarette filters. In order to produce acetate tow, we first produce acetate flake by processing wood pulp with acetic acid and acetic anhydride. Wood pulp generally comes from reforested trees and is purchased externally from a variety of sources, and acetic anhydride is an intermediate chemical that we produce from acetic acid in our intermediate chemistry business. Acetate flake is then further processed into acetate tow.

- ***Customers***

Our acetyl chain business sells its products both directly to customers and through distributors. Acetic acid, VAM, acetate esters and acetic anhydride are global businesses, and we generally supply our customers under a mix of short- and long-term agreements. Acetic acid, VAM and acetic anhydride customers produce intermediate chemicals and polymers used in water-based paints, adhesives, paper coatings, polyesters, film modifiers, pharmaceuticals, cellulose acetate and textiles. We have long-standing relationships with most of these customers. Solvents and derivatives are sold to a diverse group of regional and multinational customers under multi-year contracts and on the basis of long-standing relationships. Solvents and derivatives customers are primarily engaged in the production of paints, coatings and adhesives. We manufacture formaldehyde for our own use as well as for sale to a few regional customers.

Emulsion, RDP and EVA polymers products are sold to a diverse group of regional, family owned and multinational customers. Customers of our emulsion polymers and RDP business are manufacturers of water-based paints and coatings, adhesives, paper, building and construction products, glass fiber, non-wovens, textiles and premixed dry mortars. Customers of our EVA polymers business are engaged in the manufacture of a variety of products, including hot melt adhesives, automotive components, thermal laminations, and flexible and food packaging materials.

Acetate tow is sold principally to the major tobacco companies that account for a majority of worldwide cigarette production. Many sales are conducted under contracts with pricing for one or more years. As a result, margins may expand or contract in response to changes in market conditions over these similar periods, and we may be unable to adjust pricing due to other factors, such as the intense level of competition in the industry.

Pricing of our products within the Acetyl Chain segment is influenced by industry utilization, changes in the cost of raw materials, sensitivity to demand and the value-in-use. Therefore, in general, there is a direct correlation between these factors and our net sales for most Acetyl Chain products. This impact to pricing typically lags changes in raw material costs over months or quarters and impacts profit margins over those periods.

See Note 22 - Revenue Recognition in the accompanying consolidated financial statements for further information.

Other Activities

Other Activities primarily consists of corporate center costs, including administrative activities such as finance, information technology and human resource functions, interest income and expense associated with our financing activities and results of our captive insurance companies. Our two wholly-owned captive insurance companies are a key component of our global risk management program, as well as a form of self-insurance for our liability, property and workers compensation risks. The captive insurance companies retain risk at levels approved by management and obtain reinsurance coverage from third parties to limit the net risk retained. Other Activities also includes the interest cost, expected return on assets and net actuarial gains and losses components of our net periodic benefit cost for our defined benefit pension plans and other postretirement plans, which are not allocated to our business segments. Ongoing merger, acquisition and integration related costs are also included in Other Activities.

Strategic Affiliates

Our strategic affiliates represent an important component of our strategy. During 2022, we acquired interests in several global strategic affiliates as part of the M&M Acquisition, described further below. On September 27, 2023, we formed a food ingredients joint venture with Mitsui under the name Nutrinova, also described below.

We have a substantial portfolio of affiliates in various regions, including Asia-Pacific, Europe, North America and the Middle East. These affiliates have sizeable operations and are significant within their industries.

With shared characteristics such as products, applications and manufacturing technology, these strategic affiliates complement and extend our technology and specialty materials portfolio. We have historically entered into these investments to gain access to local demand, minimize costs and accelerate growth in areas we believe have significant future business potential.

Our strategic affiliates contribute substantial earnings and cash flows to us. During the year ended December 31, 2023, our equity method strategic affiliates generated combined sales of $2.1 billion, resulting in our recording $67 million of equity in net earnings of affiliates and $124 million of dividends.

Our strategic affiliates as of December 31, 2023 are as follows:

	Location of Headquarters	Ownership	Partner(s)	Year Entered
Equity Investments				
Engineered Materials				
National Methanol Company	Saudi Arabia	25 %	Saudi Basic Industries Corporation (50%); Duke Energy Arabian Ltd. (25%)	1981
Nutrinova Netherlands B.V.	Netherlands	30 %	Mitsui & Co., Ltd. (70%)	2023
Korea Engineering Plastics Co., Ltd.	South Korea	50 %	Mitsubishi Gas Chemical Company, Inc. (40%); Mitsubishi Corporation (10%)	1999
Fortron Industries, LLC	U.S.	50 %	Kureha America Inc. (50%)	1992
Toray Celanese Co., Ltd.	Japan	50 %	Toray (50%)	2022
DuBay Polymer GmbH	Germany	50 %	Lanxess AG (50%)	2022
DuPont Teijin Films UK Ltd. now known as Mylar Specialty Films UK Limited	United Kingdom	50 %	Teijin Limited (50%)	2022
DuPont Teijin Films Netherlands B.V.	Netherlands	50 %	Teijin Limited (50%)	2022
DuPont Teijin Films Luxembourg S.A. now known as Mylar Specialty Films Luxembourg S.A.	Luxembourg	50 %	Teijin Limited (50%)	2022
DuPont Teijin Films U.S. Limited Partnership now known as Mylar Specialty Films U.S. Limited Partnership	U.S.	50 %	Teijin Limited (50%)	2022
Teijin-DuPont Films, Incorporated now known as Mylar Specialty Films Incorporated	U.S.	50 %	Teijin Limited (50%)	2022
Consolidated Investments				
Engineered Materials				
DuPont Teijin Films China Ltd. now known as Mylar Specialty Films China Limited	China	51 %	Teijin Limited (49%)	2022
DuPont Teijin Hongji Films Ningbo Co. Ltd.	China	26 %	Teijin Limited (73.99%)	2022
DuPont Hongji Films Foshan Co. Ltd.	China	26 %	Teijin Limited (73.99%)	2022
Celanese Filaments-Americas, LLC	U.S.	70 %	Xingda (30%)	2022
DuPont Filaments-Europe, B.V.	Netherlands	70 %	Xingda (30%)	2022
Celanese Xingda Filaments Co., Ltd.	China	70 %	Xingda (30%)	2022
Acetyl Chain				
Fairway Methanol LLC	U.S.	50 %	Mitsui & Co., Ltd. (50%)	2014
Equity Investments Without Readily Determinable Fair Value				
Acetyl Chain				
Kunming Cellulose Fibers Company, Limited	China	30 %	China National Tobacco Corporation (70%)	1993
Nantong Cellulose Fibers Company, Limited	China	31 %	China National Tobacco Corporation (69%)	1986
Zhuhai Cellulose Fibers Company, Limited	China	30 %	China National Tobacco Corporation (70%)	1993

National Methanol Company. National Methanol Company ("Ibn Sina") is one of the world's largest producers of methyl tertiary-butyl ether, a gasoline additive. Its production facilities are located in Saudi Arabia. Saudi Basic Industries Corporation ("SABIC") is responsible for all product marketing. Methanol is a key feedstock for POM production and is produced by our Ibn Sina affiliate which provides an economic hedge against raw material costs in our engineered materials business.

Nutrinova Netherlands B.V. Nutrinova Netherlands B.V. ("Nutrinova") is a producer of Sunett® acesulfame potassium (Ace-K) and Nutrinova® sorbates, which are used to improve the safety, shelf-life and taste of its customers' products including food and beverages, personal care, pet food, household cleaning products and pharmaceutical products.

Korea Engineering Plastics Co., Ltd. Korea Engineering Plastics Co., Ltd. ("KEPCO") is a leading producer of POM in South Korea. KEPCO has polyacetal production facilities in Ulsan, South Korea, compounding facilities for PBT and nylon in Pyongtaek, South Korea, and participates with Mitsubishi Gas Chemical Company, Inc. in a world-scale POM facility in Nantong, China. In December 2020, we signed a memorandum of understanding with our joint venture partners to restructure KEPCO, in which we and our joint venture partners will receive exclusive offtake rights to POM in Asia and global marketing rights without restrictions. In April 2022, we completed the joint venture restructuring of KEPCO. As part of the restructuring of KEPCO, we paid KEPCO $5 million and will have paid 5 equal annual installments of €24 million on October 1 of each year from 2022 to 2026. This resulted in an increase to our investment in KEPCO of $134 million. Our joint venture partner has made and will make similar payments to KEPCO. The restructuring did not result in a change in ownership percentage of KEPCO, nor a change in control, and KEPCO will continue to be accounted for as an equity method investment.

Fortron Industries, LLC. Fortron Industries, LLC ("Fortron") is a global producer of PPS, sold under the Fortron® brand, which is used in a wide variety of automotive and other applications, especially those requiring heat and/or chemical resistance. Fortron's facility is located in Wilmington, North Carolina. This venture combines our sales, marketing, distribution, compounding and manufacturing expertise with the PPS polymer technology expertise of Kureha America Inc.

Toray Celanese Co., Ltd. Toray Celanese Co., Ltd. manufactures Hytrel® for sale primarily in the Japanese market. Hytrel® is a versatile material with the ability to flex in multiple directions long after rubber would break. Its strength and durability, combined with its heat resilience and chemical resistance make it an essential ingredient in automotive and construction applications due to its ability to combine the advantages of both flexible and plastic materials.

DuBay Polymer GmbH. DuBay Polymer GmbH is a manufacturing joint venture with Lanxess AG for the production of PBT-based products.

DuPont Teijin Films. DuPont Teijin Films is a leading global producer of PET and polyethylene naphthalate ("PEN") polyester films, which are used in a wide variety of end markets from healthcare to industrial and electronics. Mylar® and Melinex® brand films, known for their wide range of performance capabilities, are used in a variety of applications.

DuPont Filaments. DuPont Filaments is a joint venture with Xingda for the production and sale of nylon and PBT-based filament products used in the personal care, construction and industrial end-markets.

Acetyl Chain strategic ventures. Our Acetyl Chain ventures generally fund their operations using operating cash flow and pay dividends based on each ventures' performance in the preceding year. In 2023, 2022 and 2021, we received cash dividends of $125 million, $132 million and $146 million, respectively.

Although our ownership interest in each of our Acetyl Chain ventures exceeds 20%, we account for these investments at cost after considering observable price changes for similar instruments, minus impairment, if any, because we determined that we cannot exercise significant influence over these entities due to local government investment in and influence over these entities, limitations on our involvement in the day-to-day operations and the present inability of the entities to provide timely financial information prepared in accordance with generally accepted accounting principles in the United States of America. Further, these investments were determined not to have a readily determinable fair value.

Other Equity Method Investments

InfraServs. We hold indirect ownership interests in several German InfraServ Groups that own and develop industrial parks and provide various technical and administrative services to tenants. Our ownership interest in the equity investments in InfraServ affiliates are as follows:

	As of December 31, 2023
	(In percentages)
InfraServ GmbH & Co. Gendorf KG	30
InfraServ GmbH & Co. Hoechst KG	31
Yncoris GmbH & Co. KG	22

Intellectual Property

We attach importance to protecting our intellectual property, including safeguarding our confidential information and through our patents, trademarks and copyrights, in order to preserve our investment in research and development, manufacturing and marketing. Patents may cover processes, equipment, products, intermediate products and product uses. We also seek to register trademarks as a means of protecting the brand names of our Company and products.

Patents. In most industrial countries, patent protection exists for new substances and formulations, as well as for certain unique applications and production processes. However, we do business in regions of the world where intellectual property protection may be limited and difficult to enforce.

Confidential Information. We maintain stringent information security policies and procedures wherever we do business. Such information security policies and procedures include data encryption, controls over the disclosure and safekeeping of confidential information and trade secrets, as well as employee awareness training.

Trademarks. Amcel®, AOPlus®, Ateva®, Avicor®, Celanese®, Celanex®, Celanyl®, Celcon®, Celstran®, Celvolit®, Clarifoil®, Crastin®, Dur-O-Set®, Dytron®, ECOMID®, EcoVAE®, Elotex®, Factor®, Flexbond®, Forprene®, FRIANYL®, Fortron®, Geolast®, GHR®, GUR®, Hostaform®, Hytrel®, Laprene®, Melinex®, MetaLX®, Micromax®, Mowilith®, MT®, Mylar®, NILAMID®, Nylfor®, OmniLon®, Pibifor®, Pibiter®, Polifor®, Resyn®, Rynite®, Santoprene®, SlideX®, Sofprene®, Sofpur®, Talcoprene®, Tarnoform®, Tecnoprene®, TufCOR®, Tynex®, Vamac®, VAntage®, Vectra®, Vinac®, Vinamul®, VitalDose®, Zenite®, Zytel® and certain other branded products and services named in this document are registered or reserved trademarks or service marks owned or licensed by Celanese. The foregoing is not intended to be an exhaustive or comprehensive list of all registered or reserved trademarks and service marks owned or licensed by Celanese. Fortron® is a registered trademark of Fortron Industries LLC. Hostaform® is a registered trademark of Hoechst GmbH. Mowilith® and NILAMID® are registered trademarks of Celanese in most European countries.

We monitor competitive developments and defend against infringements on our intellectual property rights. Neither Celanese nor any particular business segment is materially dependent upon any one patent, trademark, copyright or trade secret.

Environmental and Other Regulation

Matters pertaining to environmental and other regulations are discussed in *Item 1A. Risk Factors*, as well as Note 2 - Summary of Accounting Policies, Note 13 - Environmental and Note 19 - Commitments and Contingencies in the accompanying consolidated financial statements.

We expect to incur approximately $50 million to $70 million in capital expenditures for environmental control measures in each of 2024 and 2025.

Climate Change

Climate change is one of the most challenging and significant issues facing the world today, and we seek to do our part to make sustainable progress toward addressing this challenge.

The nature of our operations is energy and fossil fuel intensive. We have therefore invested in capital projects to increase energy efficiency, improve reliability, recover and reuse waste heat, and increase our purchase of renewable energy as well as more sustainable raw materials. These include a combined heat and power unit at our Lanaken, Belgium facility, a waste-to-

energy system in Nanjing, China, using solar energy at our Clear Lake, Texas facility designed for use by us and our onsite industrial partners, and a carbon dioxide capture and conversion to methanol project at our Clear Lake, Texas facility.

We are focused on developing products to help our customers meet their sustainability goals. Examples include products for improving the sustainability of building and construction materials, adhesives, fiber coatings, flexible packaging, vehicle lightweighting and powering electric vehicles. We are also focused on making our own products from more sustainable sources, including increasing our offering products using biocertified content or recycled feedstocks. We believe these capabilities, together with trends such as the automobile industry's commitment towards improved energy efficiency and clean energy, present market opportunities for us.

With the fourth quarter 2023 publication of our 2022-2023 Sustainability Report, we have reported gross Scope 1 and Scope 2 greenhouse gas ("GHG") emissions for 2021 and 2022 using *The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard*, as a guide. Updated 2023 emissions figures were not available at the time of this Form 10-K filing. We have also announced a Scope 1 and 2 GHG emissions reduction target described in our 2022-2023 Sustainability Report, obtained limited external assurance on our 2021 and 2022 environmental metrics, and are working to better understand where we can further reduce our GHG emissions sources and to continue to integrate the M&M Business into our GHG measurement and reporting processes.

For information on the risks we face related to climate change and other sustainability matters as well as, potential legislative and regulatory developments in this area that may increase our operating costs, potentially significantly, please see the risk factors in *Item 1A. Risk Factors* titled "We are subject to financial, regulatory, physical and transition risks associated with climate change or other sustainability matters as well as potential legislation, regulation and international accords to address climate change and other sustainability matters," "Changes in environmental, health and safety regulations in the jurisdictions where we manufacture or sell our products could lead to a decrease in demand for or significant restrictions on use and/or production of our products and raw materials" and "Our aspirations, goals, and initiatives related to sustainability, and our public statements and disclosures regarding them, expose us to risks." Climate-related regulatory risks are assessed as a part of our Enterprise Risk Management process. However, due to the level of uncertainty regarding what legislative or regulatory requirements may be enacted, it is not possible for us to estimate the impact of climate-related developments on our results of operations or financial conditions.

Human Capital Resources

Workforce Composition and Diversity, Equity and Inclusion

Our business is operated by a diverse and global workforce, with employees in the following key geographies:

	Employees as of December 31, 2023
North America	
U.S.	4,248
Other North America	709
Total	**4,957**
Europe	
Germany	1,918
Other Europe	2,597
Total	**4,515**
Asia	
China	1,785
Other Asia	1,057
Total	**2,842**
Rest of World	**96**
Total	**12,410**

We believe that providing a workplace that promotes mutual respect and inclusion for all employees is critical to our success and to driving innovation and growth. To that end, we continue to make progress in our efforts to promote diversity, equity and inclusion in our Company. In order to enhance our visibility to a diverse pipeline of talent and broaden our candidate pool, we engage with historically black colleges and universities ("HBCUs"), trade associations and other professional groups. We also promote engagement globally through 68 chapters of nine different Employee Resource Groups designed to inspire, develop and increase the representation and engagement of underrepresented groups.

As of December 31, 2023:

- globally, women represent approximately 33% of our senior leadership team and 26% of our overall workforce; and
- in the U.S., people of color represent approximately 11% of our senior leadership team and 28% of our overall workforce.

The following shows our attrition rate for the year ended December 31, 2023:

	Attrition Rate
Employee Category	
Global employees	10.5 %
Women (globally)	9.5 %
People of Color (U.S.)	12.8 %

Stewardship: Health, Safety and Environmental

We focus on more than the occupational health and safety of our employees, contractors and any visitors to our sites. We have an expanded view and measurement of "Stewardship" that includes process safety and environmental events since these incidents may have an impact on our communities. Our Stewardship values and guiding principles are centered on a commitment to do no harm to our workforce, environment, people or communities.

Achieving and maintaining stewardship excellence is a process of continuous improvement. Our values include a commitment to the health and safety of our employees, contractors, communities and the environment.

We utilize a mixture of leading and lagging indicators to assess the Stewardship performance of our operations. Lagging indicators for occupational health and safety include Total Recordable Incident Rate ("TRIR") and Lost Time Incident Rate ("LTIR") based upon the number of incidents per 200,000 work hours of both employees and contractors. Process Safety lagging indicators follow the industry standard from API RP 754 for Tier 1 and Tier 2 events for incident count, rate, and severity. In 2023, the criteria for tracking release to the environment was enhanced to a criteria that includes impact to the community and notification to a regulatory authority outside of routine communications.

Examples of Stewardship Tier 3 leading indicators include reporting and resolution of near miss events and high potential events, losses of primary containment releases and challenges to process safety systems.

For the year ended December 31, 2023, we had a TRIR of 0.11 and an LTIR of 0.03. Through deliberate actions and intentions to understand and recognize our employees' contributions to stewardship excellence, we have reduced our TRIR rate by 58% from 2022.

Rounding out our Stewardship performance in 2023, we had 5 Tier 1 and Tier 2 process safety incidents and 5 environmental incidents. Any other loss of primary containment incidents, challenges to pressure relief systems, safety instrumented systems and safe operating limits are tracked as Tier 3 leading indicators. Our expanded tracking of leading indicator events helps identify potential emerging deficiencies that enables us to take continuous improvement actions. For example, this past year we concentrated heavily on improving our hazard identification and risk assessment and migration systems, which included expanding these concepts beyond process safety. We are also working to strengthen and fully integrate our stewardship management systems and developing new ways to establish and maintain an effective stewardship culture in a changing and evolving world around us so that all members of our workforce understand and act on their responsibilities seriously, leaders lead, and the entire workforce is fully involved and engaged. We continue to strive to create a workplace where every worker can return home safely every day.

Talent Development

We are committed to fostering an engaging and inclusive workplace with opportunities for collaboration, development and leadership. Our Talent Management strategies provide a consistent and efficient approach to how we acquire talent, manage performance, develop bench strength, support development and help employees reach their fullest potential.

We have a structured approach to reviewing talent with management, as well as with the Board of Directors. This includes discussions of employee development, executive succession, diversity, talent pipelines and workforce planning requirements. We regularly report to the Board of Directors on talent management strategies across functional areas, and annually review executive succession with the Board of Directors.

Available Information — Securities and Exchange Commission ("SEC") Filings and Corporate Governance Materials

We make available free of charge, through the investor portion of our internet website (http://investors.celanese.com), 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 well as ownership reports on Form 3 and Form 4, as soon as reasonably practicable after electronically filing such material with, or furnishing it to, the SEC. References to our website in this report are provided as a convenience, and the information on our website is not, and shall not be deemed to be a part of this report or incorporated into any other filings we make with the SEC. The SEC maintains a website that contains reports, proxy and information statements, and other information regarding issuers, including Celanese Corporation, that electronically file with the SEC at http://www.sec.gov.

We also make available free of charge, through our website, our Corporate Governance Guidelines of our Board of Directors and the charters of each of the standing committees of our Board of Directors.

Item 1A. ***Risk Factors***

The following risks could materially and adversely affect our business, financial condition, cash flows and results of operations, and the trading price of our common stock or outstanding senior notes could decline. These risk factors do not identify all risks that we face; our operations could also be affected by factors that are not presently known to us or that we currently consider to be immaterial to our operations. Due to risks and uncertainties, known and unknown, our past financial results may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. Refer also to the other information set forth in this Form 10-K, including in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and the accompanying consolidated financial statements and notes thereto.

Risks Related to Business and Industry Conditions

We are exposed to general economic, political and regulatory conditions and risks in the countries in which we have operations and customers.

We operate globally and have customers in many countries. Our major facilities are primarily located in North America, Europe and Asia, and we hold interests in affiliates that operate in the United States ("U.S."), Germany, China, Japan, South Korea and Saudi Arabia. Our principal customers are similarly global in scope and the prices of our most significant products are typically regional or world market prices. Consequently, our business and financial results are affected, directly and indirectly, by world economic conditions, including declines in consumer and business confidence, fluctuating commodity prices and interest rates, cost inflation, instability in credit markets, volatile exchange rates and other challenges such as the changing regulatory environment.

Our operations are also subject to global political conditions. For example, any future withdrawal or renegotiation of trade agreements, or the failure to reach agreement over trade agreements, or the imposition of new or increased tariffs on our products or raw materials, or the more aggressive prosecution of trade disputes with countries like China, may increase costs or reduce profitability, or adversely affect our ability to operate our business and execute our growth strategy. In addition, it may be more difficult for us to enforce agreements, collect receivables, receive dividends and repatriate earnings through foreign legal systems. In certain foreign jurisdictions our operations are subject to nationalization and expropriation risk and some of our contractual relationships within these jurisdictions are subject to cancellation without full compensation for loss. Furthermore, in certain cases where we benefit from local government subsidies or other undertakings, such benefits are subject to the solvency of local government entities and are subject to termination without meaningful recourse or remedies.

We have invested significant resources in China and other Asian countries. This region's growth may slow, or trade flows could be negatively impacted, and we may fail to realize the anticipated benefits associated with our investment there and, consequently, our financial results may be adversely impacted.

In addition, we have significant operations and financial relationships based in Europe. Historically, sales originating in Europe have accounted for approximately one-third of our net sales annually, and accounted for approximately 32% of our Net sales in 2023. Adverse conditions in the European economy may negatively impact our overall financial results due to reduced economic growth, trade disruptions, decreased end-use customer demand or other factors.

We are subject to risks associated with the increased volatility in the prices and availability of key raw materials and energy, which could have a significant adverse effect on the margins of our products and our financial results.

We purchase significant amounts of ethylene, methanol, carbon monoxide and natural gas from third parties primarily for use in our production of basic chemicals in our intermediate chemistry business, principally acetic acid, VAM and formaldehyde. We use a portion of our output of these chemicals, in turn, as inputs in the production of downstream products in all of our business segments. We also purchase some of these raw materials for use in our emulsion polymers and EVA polymer businesses, primarily for vinyl acetate ethylene emulsions and ethylene vinyl acetate production, as well as significant amounts of wood pulp for use in our production of acetate tow. We also procure polymers, rubber and polypropylene for use in production of engineered materials, and other raw materials as additives to our products including fiberglass, flame retardant materials and other compounding components.

The prices and availability of many of these items is dependent on supply and logistics considerations. Prices can increase significantly as a result of uncertainties associated with inflationary pressures, transportation or logistics disruptions, weather, natural disasters, epidemics, pandemics, the effects of climate change or political instability, plant or production disruptions, war or conflicts, strikes or other labor unrest, breakdown or degradation of transportation infrastructure used in the delivery of raw materials and energy commodities, terrorist activities, civil unrest, or changes in laws or regulations in any of the countries in which we have significant suppliers. In particular, to the extent of our vertical integration in the production of chemicals, shortages in the availability of raw material chemicals, such as natural gas, ethylene and methanol, or the loss of our dedicated supplies of carbon monoxide, may have an increased adverse impact on us as it can cause a shortage in intermediate and finished products. Such shortages would adversely impact our ability to produce certain products and increase our costs resulting in reduced margins and adverse impacts to our financial results.

Like many companies, we experienced significant supply disruptions and increased costs of inputs during 2021 and into 2022. These trends impacted our operating costs. We undertook efforts to offset these costs through pricing actions, alternative supply arrangements, and hedging strategies, however, these do not eliminate all exposure to inflationary pressure. Should such conditions recur or resume, we cannot always successfully pass costs to customers, competitive market conditions may prevent us from doing so, and even where we are successful increased prices could lead to reduced demand for our products or could result in competitive disadvantages.

We are exposed to volatility in the prices of our raw materials and energy. Although we have long-term supply agreements, multi-year purchasing and sales agreements and forward purchase contracts providing for the supply of ethylene, methanol, carbon monoxide, wood pulp, natural gas and electricity, the contractual prices for these raw materials and energy can vary with economic conditions and may be highly volatile. In addition to the factors noted above that may impact supply or price, factors that have caused volatility in our raw material prices in the past and which may do so in the future include:

- Shortages of raw materials due to increasing demand, e.g., from growing uses or new uses;
- Capacity constraints, e.g., due to construction delays, labor disruption, government-imposed work or travel restrictions, involuntary shutdowns or turnarounds;
- A supplier's inability to meet our delivery orders, a supplier's decision not to fulfill orders or to terminate a supply contract or our inability to obtain or renew supply contracts on favorable terms;
- The general level of business, economic and industry activity; and
- The direct or indirect effect of governmental regulation (including the impact of government regulation relating to power usage, climate change or regulation of production and transport of certain chemicals).

If we are not able to fully offset the effects of higher energy and raw material costs through price increases, productivity improvements or cost reduction programs, or if such commodities become unavailable, it could have a significant adverse effect

on our ability to timely and profitably manufacture and deliver our products resulting in reduced margins, lost sales and adverse impacts to our financial results.

We have a practice of maintaining, when available, multiple sources of supply for raw materials and services. However, some of our individual plants may have single sources of supply for some of their raw materials, such as carbon monoxide, steam and ethylene, or site services. Although we have been able to obtain sufficient supplies of raw materials and services, there can be no assurance that unforeseen developments will not affect our ability to source raw materials or services in the future. Even if we have multiple sources of supply for a raw material or a service, there can be no assurance that these sources can make up for the loss of a major supplier. Furthermore, if any sole source or major supplier were unable or unwilling to deliver a raw material or a service for an extended period of time, we may not be able to find an acceptable alternative or any such alternative could result in increased costs. It is also possible that profitability would be adversely affected if we were required to qualify additional sources of supply for a raw material or a service to our specifications in the event of the loss of a sole source or major supplier.

Almost all of our supply of methanol in North America is currently obtained from our Fairway joint venture with Mitsui, in which we own a 50% interest, for the production of methanol at our integrated chemical plant in Clear Lake, Texas.

Risks Related to Our Global Operations and Our Strategy

Production at our manufacturing facilities, or at our suppliers', could be disrupted for a variety of reasons, which could prevent us from producing enough of our products to maintain our sales and satisfy our customers' demands.

A disruption in production at one or more of our manufacturing facilities, or our suppliers, could have a material adverse effect on our business. Disruptions or interruptions of operations could occur for many reasons, including fire, natural disasters, severe weather, unplanned maintenance or other manufacturing problems, public health crises (including, but not limited to, the COVID-19 pandemic), disease, geopolitical events, strikes or other labor unrest, transportation interruption, government regulation, political unrest or terrorism, accidents, interruptions in sources of raw materials, cybersecurity incidents, the occurrence of acts of war, or other unforeseen events or delays in construction or operation of facilities. Alternative facilities with sufficient capacity or capabilities may not be available, may cost substantially more or may take a significant time to start production, each of which could negatively affect our business and financial performance.

We have experienced disruptions of the type described above in recent years. For example, we proactively and temporarily shut down one or more of our Texas production facilities during Winter Storm Uri in February 2021 and Hurricane Laura in August 2020, each of which instances resulted in lost sales and impacted our financial results for the relevant quarter.

If one of our key manufacturing facilities is unable to produce our products for an extended period of time, our sales may be reduced by the shortfall caused by the disruption and we may not be able to meet our customers' needs, which could cause them to seek other suppliers. In particular, production disruptions at our manufacturing facilities that produce chemicals used as inputs in the production of chemicals in other business segments, such as acetic acid, VAM and formaldehyde, could have a more significant adverse effect on our business and financial performance and results of operations to the extent of such vertical integration. Furthermore, to the extent a production disruption occurs at a manufacturing facility that has been operating at or near full capacity, the resulting shortage of our product could be particularly harmful because production at such manufacturing facility may not be able to reach levels achieved prior to the disruption.

We may experience difficulties or delays achieving the intended benefits from acquiring the M&M Business and integrating its systems with the Company.

In November 2022, we completed the acquisition of the M&M Business of DuPont. Since closing we have actively worked, and continue to actively work, to integrate the M&M Business and its systems into our own. For example, in February 2024 we incorporated the M&M Business into the new enterprise resource planning ("ERP") system used by the Company. As we work to further integrate technology, information and ERP systems, financial reporting and commercial activities, it is possible that we may encounter unanticipated delays, costs or inefficiencies in connection with our continuing efforts to integrate the M&M Business. If this occurs, if the potential benefits and synergies of the M&M Business going forward do not materialize in the amounts or on the timing we expect, or if we are not as successful as we plan at aligning our and the M&M Business's practices and operations – including continuing to integrate commercial activities, information and ERP systems and technologies and continuing to align business cultures – our business, financial performance and operating results could be adversely affected.

Failure to develop new products and production technologies or to implement productivity and cost reduction initiatives successfully, may harm our competitive position.

Our operating results depend significantly on the development of commercially viable new products, product grades and applications, as well as improving process technologies. If we are unsuccessful in developing new products, applications and improved production processes in the future, including failing to leverage our opportunity pipeline in our Engineered Materials segment, our competitive position and operating results may be negatively affected. However, as we invest in new technology, we face the risk of unanticipated operational or commercialization difficulties, including an inability to obtain necessary permits or governmental approvals, the development of competing technologies, failure of facilities or processes to operate in accordance with specifications or expectations, construction delays, cost over-runs, the unavailability of financing, required materials or equipment and various other factors. Likewise, we have undertaken and are continuing to undertake initiatives in all of our business segments to improve productivity and performance and to generate cost savings. These initiatives may not be completed or beneficial or the estimated cost savings from such activities may not be realized.

We could be subject to damages based on claims brought against us by our customers or lose customers as a result of the failure of our products to meet certain quality specifications.

Our products provide important performance attributes to our customers' products. If one of our products fails to perform in a manner consistent with applicable quality specifications, a customer could seek replacement of the product or damages for costs incurred as a result of the product failing to perform as guaranteed. A successful claim or series of claims against us could have a material adverse effect on our reputation, financial condition and results of operations and could result in a loss of one or more key customers.

Our production facilities, including facilities we own and/or operate and operations at our facilities owned and/or operated by third parties, handle the processing of some volatile and hazardous materials that subject us to operating and other risks that could have a negative effect on our operating results.

Although we take precautions to enhance the safety of, and minimize the disruption to, our operations and operations at our facilities owned and/or operated by third parties, we are subject to operating and other risks associated with chemical manufacturing, including the storage and transportation of raw materials, finished products and waste. These risks include, among other things, pipeline and storage tank leaks and ruptures, explosions and fires and discharges or releases of toxic or hazardous substances. In addition, we may have limited control over operations at our facilities owned and/or operated by third parties or such operations may not be fully integrated into our safety programs.

These operating and other risks can cause personal injury, property damage, third-party damages and environmental contamination, and may result in the shutdown of affected facilities and the imposition of civil or criminal penalties. The occurrence of any of these events may disrupt production and have a negative effect on the productivity and profitability of a particular manufacturing facility, our operating results and cash flows.

Our future success depends in part on our ability to protect our intellectual property rights and our rights to use our intellectual property. Our inability to protect and enforce these rights could reduce our ability to maintain our industry position and our profit margins.

We rely on our patents, trademarks, copyrights, know-how and trade secrets, and patents and other technology licensed from third parties, to protect our investment in research and development and our competitive commercial positions in manufacturing and marketing our products. We have adopted internal policies for protecting our know-how and trade secrets. In addition, our practice is to seek patent or trade secret protection for significant developments that provide us competitive advantages and freedom to practice for our businesses. Patents may cover catalysts, processes, products, intermediate products and product uses. These patents are usually filed in strategic countries throughout the world and provide varying periods and scopes of protection based on the filing date and the type of patent application. The legal life and scope of protection provided by a patent may vary among those countries in which we seek protection. As patents expire, the catalysts, processes, products, intermediate products and product uses described and claimed in those patents generally may become available for use by the public subject to our continued protection for associated know-how and trade secrets. We also monitor intellectual property of others, especially patents that could impact our rights to commercially implement research and development, our rights to manufacture and market our products, and our rights to use know-how and trade secrets. We will not intentionally infringe upon the valid intellectual property rights of others, and we will continue to assess and take actions as necessary to protect our positions. We also seek to register trademarks as a means of protecting the brand names of our products, which brand names become more important once the corresponding product or process patents have expired. We operate in regions of the world where intellectual property protection may be limited and difficult to enforce and our continued growth strategy may result in us

seeking intellectual property protection in additional regions with similar challenges. We also monitor the trademarks of others and take action when our trademark rights are being infringed upon. If we are not successful in protecting or maintaining our patent, license, trademark or other intellectual property rights, or protecting our rights to commercially make, market and sell our products, our net sales, results of operations and cash flows may be adversely affected.

Our business is exposed to risks associated with the creditworthiness of our suppliers, customers and business partners and the industries in which our suppliers, customers and business partners participate are cyclical in nature, both of which may adversely affect our business and results of operations.

Our business is exposed to risks associated with the creditworthiness of our key suppliers, customers and business partners and reductions in demand for our customers' products. These risks include the interruption of production at the facilities of our customers, the reduction, delay or cancellation of customer orders, delays in or the inability of customers to obtain financing to purchase our products, delays in or interruptions of the supply of raw materials we purchase and bankruptcy of customers, suppliers or other creditors. Furthermore, some of the industries in which our end-use customers participate, such as the automotive, electrical, construction and textile industries, are highly competitive, to a large extent driven by end-use applications, and may experience overcapacity, all of which may affect demand for and the pricing of our products. In addition, many of these industries are highly cyclical in nature, thus posing risks to us that vary throughout the year and vary according to macroeconomic factors. The occurrence of any of these events may adversely affect our cash flow, profitability and financial condition.

We may incur significant charges in the event we close or divest all or part of a manufacturing plant or facility.

We periodically assess our manufacturing operations in order to manufacture and distribute our products in the most efficient manner. Based on our assessments, we may make capital improvements to modernize certain units, move manufacturing or distribution capabilities from one plant or facility to another plant or facility, discontinue manufacturing or distributing certain products or close or divest all or part of a manufacturing plant or facility. We also have shared services agreements at several of our plants and if such agreements are terminated or revised, we would assess and potentially adjust our manufacturing operations. The closure of our Polyamide 66 (also known as PA66 or Nylon 66) and High-Performance Nylon (HPN) polymerization units at our facility in Uentrop, Germany resulted in charges during fiscal 2023 and is expected to result in charges in fiscal 2024. The closure or divestiture of all or part of a manufacturing plant or facility could result in future charges that could be significant. See Note 4 - Acquisitions, Dispositions and Plant Closures in the accompanying consolidated financial statements for further information.

The insurance coverage that we maintain may not fully cover all operational risks.

We maintain property, business interruption, casualty and cyber/information security insurance but such insurance may not cover all of the risks associated with the hazards of our business and is subject to limitations, including deductibles and maximum liabilities covered. We may incur losses beyond the limits, or outside the coverage, of our insurance policies, including liabilities for environmental remediation. In the future, the types of insurance we obtain and the level of coverage we maintain may be inadequate or we may be unable to continue to maintain our existing insurance or obtain comparable insurance at a reasonable cost.

Risks associated with our joint ventures, including differences in views with our joint venture partners may cause them not to operate according to their business plans, which may adversely affect our results of operations.

We currently participate in a number of joint ventures, acquired interests in several additional joint ventures through the M&M Acquisition and may enter into additional joint ventures in the future. Our joint ventures require us to work cooperatively with unaffiliated third parties. Differences in views among joint venture participants may result in delayed decisions or failure to agree on major decisions. Additionally, our partners may be unable or unwilling to meet their economic or other obligations to the joint ventures, which could negatively impact them. If these risks cause the joint ventures to fail to achieve their desired operating performance, our results of operations could be adversely affected.

Our significant non-U.S. operations expose us to global exchange rate fluctuations that could adversely impact our profitability.

We conduct a significant portion of our operations outside the U.S. Consequently, fluctuations in currencies of other countries, especially the euro and Chinese yuan, may materially affect our operating results. Because our consolidated financial statements are presented in U.S. dollars, we must translate revenues, income and expenses, as well as assets and liabilities, into U.S. dollars based on average exchange rates prevailing during the reporting period or the exchange rate at the end of that period. Therefore,

increases or decreases in the value of the U.S. dollar against other major currencies will affect our net operating revenues, operating income and the cost of balance sheet items denominated in foreign currencies. Foreign exchange rates can also impact the competitiveness of products produced in certain jurisdictions and exported for sale into other jurisdictions. These changes may impact the value received for the sale of our goods versus those of our competitors.

In addition to currency translation risks, we incur a currency transaction risk whenever one of our operating subsidiaries enters into a purchase or sales transaction using a currency different from the operating subsidiary's functional currency. Given the volatility of exchange rates, particularly the strengthening of the U.S. dollar against major currencies or the currencies of large developing countries, we may not be able to manage our currency transaction and translation risks effectively.

We use financial instruments to hedge certain exposure to foreign currency fluctuations, but those hedges in most cases cover existing balance sheet exposures and not future transactional exposures. We cannot guarantee that our hedging strategies will be effective. In addition, the use of financial instruments creates counterparty settlement risk. Failure to effectively manage these risks could have an adverse impact on our financial position, results of operations and cash flows.

We are subject to information or operational technology cybersecurity threats that could materially affect our business.

We have been and will continue to be subject to advanced and persistent threats in the areas of information and operational technology security and fraud. We rely on information and operational technology systems, including tools that utilize artificial intelligence, to conduct our business. We seek to prevent unauthorized access to our information and operational technology systems and to detect and investigate any cybersecurity incidents that may occur, however in some cases we might be unaware of a particular incident or its magnitude and effects. We may face increased information technology security and fraud risks due in part to our business efforts to digitize certain operations at our manufacturing sites to increase efficiencies and to our continued reliance on many employees working remotely part of the time, which may create additional information security vulnerabilities and/or magnify the impact of any disruption in information technology systems. Many tools and resources we use integrate or will integrate some form of artificial intelligence, which has the potential to result in bias, miscalculations, data errors, intellectual property infringement and other unintended consequences. Additionally, we may be exposed to unauthorized access to our information or operational technology systems through undetected vulnerabilities in our service providers' information systems or software. These risks may be heightened as a result of our ongoing efforts to integrate the M&M Business's technology environment with our own.

The theft, misuse or publication of our intellectual property and/or confidential business information or the compromising of our systems or networks (including through ransomware or denial-of-service attacks) could harm our competitive position, cause operational disruption (including the potential to disrupt or compromise our control of physical plant operations at our manufacturing sites), reduce the value of our investment in research and development of new products and other strategic initiatives or otherwise adversely affect our business or results of operations. To the extent that any security breach impacts operations at our manufacturing sites, we may experience production or shipping disruptions. To the extent that any security breach results in inappropriate disclosure of our employees', customers' or vendors' confidential or personally identifiable information, we may incur liability or suffer reputational damage in the marketplace as a result. We maintain cyber/information security insurance, but any losses may be beyond the limits, or outside the coverage, of our policy.

Information and operational security threats and methods of perpetrating fraud or misappropriating information are constantly evolving and becoming more complex, which increases the difficulty and expense of defending against these threats. Although we attempt to mitigate these risks by employing a number of measures, including insurance, monitoring of our systems and networks, implementation of security tools and processes, employee training, crisis simulations and maintenance of backup and protective systems, our systems, networks, products and services remain potentially vulnerable to increasingly sophisticated advanced persistent threats that may have a material effect on our business. In addition, the devotion of additional resources to the security of our information or operational technology systems in the future could significantly increase the cost of doing business or otherwise adversely impact our financial results.

Regulatory, Legal, Environmental and Tax Risks

Failure to comply with applicable laws or regulations and/or changes in applicable laws or regulations may adversely affect our business and financial results as a whole.

We are subject to extensive international, national, state, local and other laws and regulations. Failure to comply with these laws, including antitrust, anticorruption and sanctions laws, rules, regulations or court decisions, could expose us to fines, penalties and other costs. Although we have implemented policies, procedures and employee training designed to ensure compliance with these laws, rules, regulations and court decisions, there can be no assurance that our employees and business

partners and other third parties acting on our behalf will comply with these laws, rules, regulations and court decisions, which could result in fines, penalties and costs and damage to our business reputation. For example, in July 2020 we announced that we had reached a final settlement of $92 million with respect to a competition law investigation by the European Commission based on certain past ethylene purchases by certain subsidiaries of the Company. Shell Chemicals Europe and another group of corporate claimants have filed claims for damages with the District Court of Amsterdam against four companies, including the Company, arising from those activities, and the first court hearing was held in late September 2023. See Note 19 - Commitments and Contingencies in the accompanying consolidated financial statements for further information.

Moreover, changes in laws or regulations, including the more aggressive enforcement of such laws and regulations, such as unexpected changes in regulatory requirements (including trade compliance requirements), or changes in reporting requirements of the U.S., Canadian, Mexican, German, EU or Asian governmental agencies, could increase the cost of doing business in these regions. In addition, enforcement of environmental or other governmental policy may result in plant shut downs or significantly decreased production, such as in China on high pollution days. Any of these types of conditions, including the failure to obtain or maintain operating permits for our business, may have an effect on our business and financial results as a whole and may result in volatile current and future prices for our products and raw materials. See Note 19 - Commitments and Contingencies in the accompanying consolidated financial statements for further information.

The M&M Acquisition introduced us into a number of new geographic markets, subjecting us to additional non-U.S. laws, regulations and policies which did not previously apply to us, and increased our exposure to certain other geographic markets as well as their laws and regulations. These laws and regulations are complex, change frequently, have become more stringent over time, could increase our cost of doing business, and could result in conflicting legal requirements. The increased risk of non-compliance with non-U.S. laws, regulations and policies as a result of the M&M Acquisition could adversely affect our results of operations, financial condition or strategic objectives.

Our business exposes us to potential product liability, warranty, and tort claims, and recalls, which could adversely affect our financial condition and performance.

The development, manufacture and sale of specialty chemical products by us, including products produced for the medical device, pharmaceutical, automobile, construction, appliance, cigarette and aerospace end markets, involves a risk of exposure to product liability, warranty, and tort claims, product recalls, product seizures and related adverse publicity. A product liability, warranty, or tort claim or judgment against us that is larger than those typically experienced in the regular course of business could also result in substantial and unexpected expenditures, affect consumer or customer confidence in our products, and divert management's attention from other responsibilities. Although we maintain product liability insurance, there can be no assurance that this type or the level of coverage is adequate or that we will be able to continue to maintain our existing insurance or obtain comparable insurance at a reasonable cost, if at all. A product recall or a significant partially or completely uninsured judgment against us could have a material adverse effect on our results of operations or financial condition. Although we have standard contracting policies and controls, we may not always be able to contractually limit our exposure to third party claims should our failure to perform result in downstream supply disruptions or product recalls.

Environmental regulations and other obligations relating to environmental matters could subject us to liability for clean-ups, fines, penalties and other damages, require us to incur significant costs to modify our operations and increase our manufacturing and delivery costs.

Costs related to our compliance with environmental, health and safety laws and regulations, and potential obligations with respect to sites currently or formerly owned or operated by us, may have a negative impact on our operating results. We also have obligations related to the indemnity agreement contained in the demerger and transfer agreement between Celanese GmbH and Hoechst AG for environmental matters arising out of certain divestitures that took place prior to the demerger. See Note 13 - Environmental in the accompanying consolidated financial statements for further information.

Our operations are subject to extensive international, national, state, local and other laws and regulations that govern environmental, health and safety matters and that regulate the handling, manufacture, use, emission and disposal of products, materials and hazardous and non-hazardous waste. If we violate any one of those laws or regulations, we can be held liable for substantial fines and other sanctions, including limitations on our operations as a result of changes to or revocations of environmental permits involved. We could also face claims for damages from individuals or groups for alleged violations of these laws or regulations.

We also incur substantial capital and other costs to comply with environmental, health and safety requirements. Stricter environmental, safety and health laws and regulations could result in substantial additional costs and liabilities to us or limitations on our operations. Consequently, compliance with these laws and regulations may negatively affect our earnings and

cash flows in a particular reporting period. See *Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources* for further information.

For more information on risks we face specifically related to climate change and related potential regulation, see the risk factor titled "We are subject to financial, regulatory, physical and transition risks associated with climate change or other sustainability matters as well as potential legislation, regulation and international accords to address climate change and other sustainability matters" below.

Changes in environmental, health and safety regulations in the jurisdictions where we manufacture or sell our products could lead to a decrease in demand for or significant restrictions on use and/or production of our products and raw materials.

New or revised governmental regulations, independent studies or consumer or societal perceptions relating to the effect of our products on health, safety or the environment may affect demand for our products and the cost of producing our products. In addition, products we produce, including VAM, formaldehyde and polymers derived from formaldehyde, may be classified and labeled in a manner that would adversely affect demand for such products. For example, in 2019 the EPA designated formaldehyde as a high-priority substance under the Toxic Substances Control Act and the substance is currently undergoing risk evaluation. In addition, in 2012 the International Agency for Research on Cancer ("IARC"), a research agency within the World Health Organization, classified formaldehyde as carcinogenic to humans (Group 1) based on epidemiological studies linking formaldehyde exposure to nasopharyngeal cancer, a rare cancer in humans, and leukemia. In 2011, a similar conclusion was reached by the National Toxicology Program ("NTP"), a U.S. inter-agency research program. We anticipate that the results of the IARC's and the NTP's reviews will continue to be examined and considered by government regulatory agencies with responsibility for setting worker and environmental exposure standards and labeling requirements.

Other initiatives, including the Chemical Strategy for Sustainability initiative currently to be undertaken by the EU as part of the Green Deal will potentially require, or increase existing requirements for, toxicological testing and risk assessments of a wide variety of chemicals, including chemicals used or produced by us. These assessments may result in heightened concerns about the chemicals involved and additional regulatory requirements being placed on the production, handling, labeling and/or use of the subject chemicals. The new requirements may necessitate reformulation of products in order to meet customers' demands, which would be a financially burdensome process.

Such concerns and additional requirements could also increase the cost incurred by our customers to use our chemical products and otherwise limit the use of these products, which could lead to a decrease in demand for these products. Such a decrease in demand would likely have an adverse impact on our business and results of operations.

We are subject to financial, regulatory, physical and transition risks associated with climate change or other sustainability matters as well as potential legislation, regulation and international accords to address climate change and other sustainability matters.

Greenhouse gas ("GHG") emissions have become the subject of significant international, national, regional, state and local attention. For example, the EPA, SEC, and European Commission have promulgated or proposed extensive rules concerning reporting of GHG emissions. The European Commission has also embarked on the European Green Deal initiative with the goal of making the EU carbon neutral by 2050, which is leading to additional statutory and regulatory requirements. In addition, regulation of greenhouse gas also could occur pursuant to future treaty obligations, statutory or regulatory changes or new climate change legislation intended to reduce or mitigate the effects of GHG emissions. Compliance with such legislation, regulation and accords and the associated potential cost is complicated by the fact that various countries and regions are following different approaches and standards to the regulation of climate change.

A number of our operations are within jurisdictions that have or are developing regulatory regimes governing GHG emissions, which may lead to direct and indirect costs on our operations. Some jurisdictions have emissions reduction measures directed at the power or oil and gas sectors, which could result in higher power input costs or reduced energy availability for us. Other regulations that are being implemented or contemplated include the potential for restrictions on GHG emissions, cap and trade emissions trading systems, taxes on GHG emissions, fuel, and energy, or carbon import charges on certain products among other provisions. These may exist in addition to country and corporate-level net-zero GHG emissions pledges. These measures, if and where enacted, may significantly increase our costs of operations or require us to incur significant additional capital costs for the installation of equipment to mitigate GHG emissions for our sites' manufacturing operations.

Physical impacts of climate change, such as increased frequency and severity of hurricanes and floods and impact on sea levels, may also impact our facilities and operations and those of our key suppliers. A number of our sites are located in areas that are

exposed to weather events and changing sea levels (such as the Texas Gulf Coast) and that have been impacted by hurricanes and other weather events in the past as described elsewhere in these risk factors. To the extent climate change exacerbates these threats, our operations and supply chains could experience increased levels of disruptions and added costs.

Additionally, increased social, legislative and regulatory focus on climate change and other sustainability matters as well as customer demand for responsibly manufactured products could lead to changes in the behavior of our customers or their end-customers, and could result in reduced customer demand for products made from materials that are perceived to be significant contributors to greenhouse gas emissions and global climate change. We may fail to accurately react to these trends and refine our product offerings through innovation, or we may not be able to fully address these concerns through changes in manufacturing methods or use of more sustainable materials and processes, which could result in reduced demand for our products.

We closely monitor developments in this area, but there is significant uncertainty regarding what legislative or regulatory requirements may be put in place, which makes it impossible for us to predict the longer-term impact these measures have on our operations. However, we believe that future legislative and regulatory developments related to climate change are likely, which could materially increase operating costs in the chemical industry and thereby increase our manufacturing and delivery costs.

Our aspirations, goals, and initiatives related to sustainability, and our public statements and disclosures regarding them, expose us to risks.

We have developed and publicized, and expect to continue to establish, goals, targets, and other objectives related to sustainability matters. These include a GHG intensity reduction target and other environmental targets. Such statements reflect our current plans at the time they are made, and do not constitute a guarantee that they will be achieved. Our ability to track and meet these goals depends on future innovations and technology and the availability of accurate reporting methods. Our efforts to research, establish, accomplish, and accurately report on these goals, targets, and objectives could expose us to operational, reputational, financial, legal, and other risks. Our ability to achieve any stated goal, target, or objective is and will be subject to numerous factors and conditions, many of which are outside of our control, such as evolving regulatory or quasi-regulatory sustainability standards, the ability of suppliers to meet our sustainability and other standards, differing requirements and the pace of changes in technology.

We may face increased scrutiny from the investment community, other stakeholders, regulators, and the media related to our sustainability activities, including the goals, targets, and objectives that we announce, and our methodologies and timelines for pursuing them. If our sustainability practices do not meet investor or other stakeholder expectations and standards, which continue to evolve, our reputation, ability to attract or retain employees, and attractiveness as an investment, business partner, or as an acquirer could be negatively impacted, which could in turn adversely impact our business and results of operations. Similarly, our failure or perceived failure to pursue or fulfill our goals, targets, and objectives, to comply with ethical, environmental, or other standards, regulations, or expectations, or to satisfy various reporting standards with respect to these matters, within the timelines that we announce, or at all, could have the same negative impacts, as well as expose us to government enforcement actions and private litigation. Even if we achieve the goals, targets, and objectives we set, we may not realize all of the benefits expected at the time they were established.

Our business and financial results may be adversely affected by various legal and regulatory proceedings.

We are involved in legal and regulatory proceedings, lawsuits, claims and investigations in the normal course of business and could become subject to additional claims in the future, some of which could be material. The outcome of existing proceedings, lawsuits, claims and investigations may differ from our expectations because the outcomes of such proceedings, including regulatory matters, are often difficult to reliably predict. Various factors or developments can lead us to change current estimates of liabilities and related insurance receivables where applicable, or permit us to make such estimates for matters previously not susceptible to reasonable estimates, such as a significant judicial ruling or judgment, a significant settlement, significant regulatory developments, or changes in applicable law. A future adverse ruling, settlement, or unfavorable development could result in charges that could have a material adverse effect on our business, results of operations or financial condition in any particular period. See Note 13 - Environmental and Note 19 - Commitments and Contingencies in the accompanying consolidated financial statements for further information.

Changes in, or the interpretation of, tax legislation or rates throughout the world, or the resolution of tax examinations or audits, could materially impact our results.

Our future effective tax rate and related tax balance sheet attributes could be impacted by changes in, or the interpretation of, tax legislation throughout the world. The overall tax environment has made it increasingly challenging for multinational corporations to operate with certainty about taxation in many jurisdictions. For example, the European Commission has been conducting investigations focusing on whether local country tax rulings or tax legislation provide preferential tax treatment that violates EU state aid rules.

Furthermore, a number of countries where we do business, including the U.S. and many countries in the EU, have changed or are considering changes in relevant tax, accounting and other laws, regulations and interpretations, including changes to tax laws applicable to multinational corporations. Our future effective tax rates could be affected by changes in the mix of earnings in countries with differing statutory tax rates, expirations of tax holidays or rulings, changes in the assessment regarding the realization of deferred tax assets, or changes in tax laws and regulations or their interpretation. The increasingly complex global tax environment and related legislative developments could have a material adverse effect on our effective tax rate, results of operations, cash flows and financial condition.

For example, the Organization of Economic Cooperation and Development (the "OECD"), which represents a coalition of member countries, is supporting changes to numerous long-standing tax principles through its base erosion and profit shifting initiatives, which focus on a number of issues, including (i) the shifting of profits among affiliated entities located in different tax jurisdictions and (ii) a global minimum tax of at least 15% of adjusted financial statement income, applied on a country-by-country basis, applicable to multinational groups with annual revenue of EUR750 million or more. The adoption of such changes is contingent upon the independent actions of participating countries to enact implementing domestic legislation. In December 2022, the EU member states voted unanimously to implement the 15% global minimum tax into national legislation, and other countries where we do business have either implemented or are in the process of implementing domestic legislation which will be effective starting in 2024.

In August 2022, the Inflation Reduction Act of 2022 ("IRA") was enacted in the U.S. The IRA created a new book minimum tax, effective for tax years beginning after December 31, 2022, of 15% of adjusted consolidated GAAP pre-tax income for corporations with three-year average adjusted annual book income in excess of $1.0 billion. The IRA also created an excise tax that is generally equal to 1% of the value of any stock repurchased by us after December 31, 2022.

We are subject to the regular examination of our income tax returns by various tax authorities. Examinations in material jurisdictions or changes in laws, rules, regulations or interpretations by local taxing authorities could result in impacts to tax years open under statute or to foreign operating structures currently in place.

Our tax returns are under audit for the years 2013 through 2015 by the United States, the Netherlands and Germany. These authorities have proposed adjustments to transfer pricing and the reallocation of income between the related jurisdictions to open tax years through 2019. While we have reached resolution with the Netherlands, we are currently continuing discussions with the other taxing authorities and are evaluating all potential remedies. If this matter is resolved in a manner inconsistent with our expectations or we are unsuccessful in defending our position, our financial condition and operating results could be adversely impacted.

In addition, we are under examination in other jurisdictions for other matters for various years, including Mexico and Canada.

We cannot predict with certainty the outcome of tax examinations or audits. We regularly assess the likelihood of adverse outcomes resulting from these examinations or changes in laws, rules, regulations or interpretations to determine the adequacy of our provision for taxes. It is possible the outcomes from these examinations will have a material adverse effect on our financial condition and operating results in future periods.

Risks Related to Our Human Capital

Our success depends upon our ability to attract and retain key employees and the identification and development of talent to succeed senior management.

Our success depends on our ability to attract and retain key personnel including our management team. The inability to recruit and retain talented employees or the unexpected loss of such talented employees or key personnel may adversely affect our operations. Like many companies, we have experienced in the last couple of years and continue to experience an increasingly competitive hiring environment for skilled employees at our manufacturing and other sites, which in some cases has increased, or may in the future increase, the cost of retaining or hiring talented employees, particularly in technical manufacturing roles critical to our success.

In addition, we rely on our senior management team specifically, therefore our future success depends in part on our ability to retain those members of senior management and to identify and develop talent to succeed senior management. The hiring and retention of key personnel and appropriate senior management succession planning will continue to be important to the successful implementation of our strategies.

Significant changes in pension fund investment performance or assumptions relating to pension costs may have a material effect on the valuation of pension obligations, the funded status of pension plans and our pension cost.

The cost of our pension plans is incurred over long periods of time and involves many uncertainties during those periods of time. Our funding policy for pension plans is to accumulate plan assets that, over the long run, will approximate the present value of projected benefit obligations. Our pension cost is materially affected by the discount rate used to measure pension obligations, the level and value of plan assets available to fund those obligations at the measurement date and the expected long-term rate of return on plan assets. Significant changes in investment performance or a change in the portfolio mix of invested assets will likely result in corresponding increases and decreases in the valuation of plan assets and a change in the discount rate or mortality assumptions, which will likely result in an increase or decrease in the valuation of pension obligations. The combined impact of these changes will affect the reported funded status of our pension plans as well as the net periodic pension cost in the following fiscal years. In recent years, an extended duration strategy in the asset portfolio has been implemented in some plans to reduce the influence of liability volatility due to changes in interest rates. If the funded status of a pension plan declines, we may be required to make unscheduled contributions in addition to those contributions for which we have already planned. See Note 12 - Benefit Obligations in the accompanying consolidated financial statements for further information.

Some of our employees are unionized, represented by workers councils or are subject to local laws that are less favorable to employers than the laws of the U.S.

As of December 31, 2023, we had 12,410 employees globally. Approximately 15% of our 4,248 U.S.-based employees are unionized. In addition, a large number of our employees are employed in countries in which employment laws provide greater bargaining or other employment rights than the laws of the U.S. Such employment rights require us to work collaboratively with the legal representatives of the employees to effect any changes to labor agreements. Most of our employees in Europe are represented by workers councils and/or unions that must approve any changes in terms and conditions of employment, including potentially salaries and benefits. They may also impede efforts to restructure our workforce. Although we believe we have a good working relationship with our employees and their legal representatives, a strike, work stoppage, or slowdown by our employees could occur, resulting in a disruption of our operations or higher ongoing labor costs.

Risks Related to Our Indebtedness

Financing the M&M Acquisition significantly increased our indebtedness and interest expense, which could adversely affect us, decrease our business flexibility, diminish our ability to raise additional capital to fund our operations or refinance our existing indebtedness when it matures and limit our ability to react to changes in the economy or the chemicals industry.

See Note 11 - Debt in the accompanying consolidated financial statements for further information about our indebtedness. See Note 12 - Benefit Obligations, Note 13 - Environmental and Note 19 - Commitments and Contingencies in the accompanying consolidated financial statements for further information about our other obligations.

We incurred approximately $11.0 billion of indebtedness to finance the M&M Acquisition, bringing our total outstanding indebtedness to $13.7 billion at December 31, 2023, compared to $14.7 billion at December 31, 2022. Also, the amount of cash required to pay interest on our increased indebtedness, and thus the demands on our cash resources, has significantly increased as a result of the indebtedness to finance the M&M Acquisition.

We have allocated, and intend to continue to allocate, capital to repay and reduce our outstanding debt using cash from operations and proceeds from asset sales or dispositions in cases where we are able to do so on favorable terms. Our ability to reduce our level of indebtedness over time in line with our strategic goals depends on a number of factors including our business performance, macroeconomic and industry conditions, commercial and financing market conditions, and other factors described in these risk factors, and our inability to achieve these objectives could delay or alter our deleveraging plan, or could negatively impact the trading prices of our securities or our credit ratings.

Our higher level of indebtedness and other liabilities could have other important consequences, including:

- Increasing our vulnerability to general economic and industry conditions, including exacerbating the impact of any adverse business effects that could impact our ability to repay amounts due under existing senior credit agreements (the "Credit Agreements") or the indentures (the "Indentures") governing our outstanding senior unsecured notes (collectively, the "Senior Notes");

- Requiring a substantial portion of cash flow from operations to be dedicated to the payment of principal and interest on indebtedness and amounts payable in connection with the satisfaction of our other liabilities, therefore reducing our ability to use our cash flow to fund operations, capital expenditures and future business opportunities or pay dividends on our common stock, par value $0.0001 per share ("Common Stock");

- Reducing our flexibility to respond to changing business and economic conditions;

- Exposing us to the risk of increased interest rates as certain of our borrowings are at variable rates of interest;

- Exposing us to the risk of changes in currency exchange rates as certain of our borrowings are denominated in foreign currencies; and

- Limiting our ability to obtain additional financing for working capital, capital expenditures, product development, debt service requirements, acquisitions and general corporate or other purposes.

We may not be able to generate sufficient cash to service our indebtedness and may be forced to take other actions to satisfy obligations under our indebtedness, which may not be successful.

If our cash flows and capital resources are insufficient to fund our debt obligations, we may be forced to reduce or delay capital expenditures, sell assets on unfavorable terms, seek additional capital or restructure or refinance our indebtedness. These alternative measures may not be successful and may not permit us to meet our scheduled debt service and other obligations. In the absence of such operating results and resources, we could face substantial liquidity problems and might be required to dispose of material assets or operations to meet our debt service and other obligations. We may not be able to complete those dispositions or to obtain the proceeds that we could realize from them, and these proceeds may not be adequate to meet any debt service obligations then due.

Restrictive covenants in our debt agreements may limit our ability to engage in certain transactions and may diminish our ability to make payments on our indebtedness or pay dividends.

The Credit Agreements, the Indentures and the Receivables Purchase Agreement governing our receivables securitization facility each contain various covenants that limit our ability to engage in specified types of transactions. The Credit Agreements contain covenants including, but not limited to, restrictions on our and certain of our subsidiaries' ability to incur additional debt; incur liens securing debt; merge or consolidate with any other person; and sell, assign, transfer, lease, convey or otherwise dispose of all or substantially all of the Issuer's assets or the assets of certain subsidiaries. Additionally, the Credit Agreements require the maintenance of certain financial ratios. The Indentures contain covenants including, but not limited to, restrictions on our and certain of our subsidiaries' ability to incur liens securing debt; merge or consolidate with any other person; and sell, assign, transfer, lease, convey or otherwise dispose of all or substantially all of the Issuer's assets or the assets of certain subsidiaries.

The Receivables Purchase Agreement also contains covenants including, but not limited to, restrictions on CE Receivables LLC's, a wholly-owned, "bankruptcy remote" special purpose subsidiary of the Company, and certain other Company subsidiaries' ability to incur indebtedness; grant liens on assets; merge, consolidate, or sell assets; pay dividends or make other restricted payments; make investments; prepay or modify certain indebtedness; or engage in other businesses.

Such restrictions in the instruments governing our debt obligations could result in us having to obtain the consent of our lenders and holders of the Senior Notes in order to take certain actions. Disruptions in credit markets may prevent us from obtaining or

make it more difficult or more costly for us to obtain such consents. Our ability to expand our business or to address declines in our business may be limited if we are unable to obtain such consents.

A breach of any of these covenants could result in a default, which, if not cured or waived, could have a material adverse effect on our business, financial condition and results of operations. Furthermore, a default under any of the Credit Agreements could permit lenders to accelerate the maturity of our indebtedness under such Credit Agreement and to terminate any commitments to lend. If the lenders under any Credit Agreement accelerate the repayment of such indebtedness, we may not have sufficient liquidity to repay such amounts or our other indebtedness, including the Senior Notes. In such event, we could be forced into bankruptcy or liquidation.

Our credit ratings are subject to change and may not reflect all risks of investments in our securities.

Our credit ratings are an assessment by rating agencies of our ability to pay our debts when due. Consequently, real or anticipated changes in our credit ratings will generally affect the market value of our securities. These credit ratings may not reflect the potential impact of risks relating to our securities. Agency ratings are not a recommendation to buy, sell or hold any security, and may be revised or withdrawn at any time by the issuing organization. Each agency's rating should be evaluated independently of any other agency's rating. Any actual or anticipated negative changes or downgrades in our credit ratings or ratings outlook or watch, including any announcement that our ratings are under review for a downgrade, could increase our corporate borrowing costs and affect the market value of our securities.

Celanese and Celanese U.S. are holding companies and depend on subsidiaries to satisfy their obligations under the Senior Notes and the guarantee of Celanese U.S.'s obligations under the Senior Notes and the Credit Agreements by Celanese.

As holding companies, Celanese and Celanese U.S. conduct substantially all of their operations through their subsidiaries, which own substantially all of our consolidated assets. Consequently, the principal source of cash to pay Celanese and Celanese U.S.'s obligations, including obligations under the Senior Notes and the guarantee of Celanese U.S.'s obligations under the Credit Agreements and the Indentures by Celanese, is the cash that our subsidiaries generate from their operations. We cannot assure that our subsidiaries will be able to, or be permitted to, make distributions to enable Celanese U.S. and/or Celanese to make payments in respect of their obligations. Each of our subsidiaries is a distinct legal entity and, under certain circumstances, applicable country or state laws, regulatory limitations and terms of our debt instruments may limit our subsidiaries' ability to distribute cash to Celanese U.S. and Celanese. In the event Celanese U.S. and/or Celanese do not receive distributions from our subsidiaries, Celanese U.S. and/or Celanese may be unable to make required payments on the indebtedness under the Credit Agreements, the Indentures, the guarantee of Celanese U.S.'s obligations under the Credit Agreements and the Indentures by Celanese, or our other indebtedness.

Item 1B. ***Unresolved Staff Comments***

None.

Item 1C. ***Cybersecurity***

Cybersecurity Risk Management and Oversight

Strategy for Management of Cybersecurity Risk

Cybersecurity protection and data privacy are important to maintaining our proprietary information and the trust of our customers, suppliers and employees, and we recognize the importance of working to secure our data and information systems from potential cybersecurity and data privacy incidents. We are a large global manufacturer with sites around the world, and we identify and assess our cybersecurity risk through that lens. Securing the execution and control of our manufacturing operations, to the extent implemented through digital technology, is a primary area of focus. We also face risks encountered by substantially all large global companies such as the risks of intellectual property and information being compromised, fraud and violation of privacy or security laws.

We identify, assess, manage and mitigate cybersecurity risk through a risk management program based on the NIST Cybersecurity Framework that is regularly assessed by a third party cybersecurity consultant. As part of our processes, we perform routine scanning and have an established vulnerability management program and patching policy. We have in our learning management system a comprehensive cybersecurity awareness course that is mandatory for all employees with computers and covers key topics such as identifying workplace cybersecurity hazards and attacks, and our separate CyberSAFE and Data Privacy intranets provide content to help employees identify and avoid cybersecurity and data privacy risks. We also have data privacy educational tools, policies and procedures to help employees prevent, recognize and report data privacy

incidents. We perform penetration tests and vulnerability and breach assessments with third-party advisors to support our compliance with laws and regulations including those applicable to chemical manufacturing sites. We also have a third-party risk management program with a formal approach to evaluating and managing risks associated with third-party information technology solutions and software. We maintain cyber/information security insurance to protect against certain expenses and liabilities that may be incurred in the event of an incident.

Cybersecurity risk is managed as part of our broader enterprise risk management program. Specifically, a risk management workstream focused on our information technology function (including cybersecurity) is designed to assess, identify and manage cybersecurity-related risks and mitigation measures.

Our cybersecurity risk program also includes a documented incident response plan to be used in the event of a cybersecurity incident. The incident response plan provides for certain responses based on various factors of a cybersecurity incident.

Governance and Oversight

Primary responsibility for assessing and managing risks from cybersecurity threats resides with our management team, including a Chief Information Officer who has nearly 30 years of information technology experience including leadership roles at multiple large, global and/or publicly-traded companies, and a Chief Information Security Officer who has over 30 years of experience in cybersecurity with large international publicly-traded companies and who holds a Certified Information Systems Security Professional (CISSP) certification. These individuals, together with others on their teams, are informed about the monitoring, prevention, detection, mitigation, and remediation of cybersecurity incidents through their management of and participation in the cybersecurity risk management policies, processes and operations discussed above. They regularly report to and consult with the executive leadership team on such matters.

At the Board level, the full Board and its Environment, Health, Safety, Quality and Public Policy ("EHSQPP") Committee (which oversees many of our operational risks related to manufacturing) are both involved in oversight of the Company's management of cybersecurity risk. Management, including the Chief Information Officer and Chief Information Security Officer, updates our EHSQPP Committee and full Board on cybersecurity matters quarterly. We also have processes by which certain cybersecurity incidents are escalated within the Company and, where appropriate, reported in a timely manner to the Board.

Additional Information

For additional information on the risks we face related to cyber and information security threats, please see the risk factors in *Item 1A. Risk Factors* titled "Production at our manufacturing facilities, or at our suppliers', could be disrupted for a variety of reasons, which could prevent us from producing enough of our products to maintain our sales and satisfy our customers' demands" on page 19 and "We are subject to information or operational technology cybersecurity threats that could materially affect our business" on page 22.

Item 2. *Properties*

Description of Property

Our corporate headquarters is located in Irving, Texas and we also have administrative offices in Amsterdam, Netherlands; Asturias, Spain; Budapest, Hungary; Hyderabad, India; Kunshan, China; Mexico City, Mexico; Meyrin, Switzerland; Nanjing, China; Shanghai, China; and Sulzbach, Germany. We own or lease numerous production and manufacturing facilities throughout the world. We also own or lease other properties, including office buildings, warehouses, pipelines, research and development facilities and sales offices. We continuously review and evaluate our facilities as a part of our strategy to optimize our business portfolio. The following table sets forth our principal production and other facilities throughout the world as of December 31, 2023. These facilities are well-maintained, in good operating condition, are suitable and adequate for their use and have sufficient capacity for our current needs and expected near-term growth.

Geographic Region	Engineered Materials[1]		Acetyl Chain[1]		Corporate	
	Leased	Owned	Leased	Owned	Leased	Owned
North America	10	9	1	7	2	—
Europe and Africa	5	6	1	4	4	1
Asia-Pacific	4	8	3	—	4	—
South America	3	1	—	—	—	—
Total	22	24	5	11	10	1

(1) Certain geographic locations may contain sites used by multiple segments.

We have also entered into strategic ventures with partners in various locations around the world. See *Item 1. Business* for a discussion of our investments in affiliates and their respective site locations.

Item 3. ***Legal Proceedings***

The Company is involved in legal and regulatory proceedings, lawsuits, claims and investigations incidental to the normal conduct of its business, relating to such matters as product liability, land disputes, insurance coverage disputes, contracts, employment, antitrust and competition, intellectual property, personal injury and other actions in tort, workers' compensation, chemical exposure, asbestos exposure, taxes, trade compliance, acquisitions and divestitures, claims of legacy shareholders, past waste disposal practices and release of chemicals into the environment. The Company is actively defending those matters where it is named as a defendant. Due to the inherent subjectivity of assessments and unpredictability of outcomes of legal proceedings, the Company's litigation accruals and estimates of possible loss or range of possible loss may not represent the ultimate loss to the Company from legal proceedings. See Note 13 - Environmental and Note 19 - Commitments and Contingencies in the accompanying consolidated financial statements for a discussion of material environmental matters and material commitments and contingencies related to legal and regulatory proceedings. See *Item 1A. Risk Factors* for certain risk factors relating to these legal proceedings.

Item 4. ***Mine Safety Disclosures***

Not applicable.

Information about our Executive Officers

The names, ages and biographies of our executive officers as of February 23, 2024 are as follows:

Name	Age	Position
Lori J. Ryerkerk	61	Chair of the Board of Directors, Chief Executive Officer and President
Scott A. Richardson	47	Executive Vice President and Chief Operating Officer
Chuck B. Kyrish	52	Senior Vice President and Chief Financial Officer
Thomas F. Kelly	58	Senior Vice President, Engineered Materials
Mark C. Murray	53	Senior Vice President, Acetyls
Ashley B. Duffie	49	Senior Vice President and General Counsel

Lori J. Ryerkerk was named our Chief Executive Officer and President and a member of our Board of Directors effective May 2019. In April 2020, she was named Chair of the Board. Previously, Ms. Ryerkerk was the Executive Vice President of Global Manufacturing, the largest business in Shell Downstream Inc., where she led a team of 30,000 employees and contractors at refineries and chemical sites worldwide. Ms. Ryerkerk joined Shell in May 2010 as the Regional Vice President of Manufacturing in Europe and Africa, and was responsible for the operation of five Shell manufacturing facilities and five joint ventures. In October 2013, she was named Executive Vice President of Global Manufacturing, Shell Downstream Inc. Before joining Shell, she was Senior Vice President, Refining, Supply and Terminals at Hess Corporation, where she was responsible for refineries, terminals and a distribution network, and supply and trading. Prior to that, Ms. Ryerkerk spent 24 years with ExxonMobil where she started her career as a process technologist at a refinery in Baton Rouge, Louisiana. Throughout her tenure at ExxonMobil, she took on a variety of operational and senior leadership roles in Refining and Chemicals Manufacturing, Power Generation, and various other groups including Supply, Economics and Planning, HSSE and Public Affairs/Government Relations. Ms. Ryerkerk received a Chemical Engineering degree from Iowa State University. She

serves on the board of Eaton Corporation plc, a diversified power management company, and previously served on the board of directors of Axalta Coating Systems, a leading provider of liquid and powder coatings.

Scott A. Richardson was named Executive Vice President and Chief Operating Officer for Celanese Corporation in November 2023. He had previously served as Executive Vice President and Chief Financial Officer for Celanese Corporation since February 2018 after serving as Senior Vice President of the Engineered Materials business since December 2015, where he had global responsibility for strategy, product and business management, planning and portfolio development, and pipeline management. He was promoted to Executive Vice President in March 2020. Previously, Mr. Richardson served as Vice President and General Manager of the Acetyl Chain since 2011. Mr. Richardson has progressed through several Celanese roles including global commercial director, Acetyls; manager of Investor Relations; business analysis manager, Acetyls; and business line controller, Polyols and Solvents. He joined Celanese in 2005. Prior to joining Celanese, Mr. Richardson held various finance, operational and leadership roles at American Airlines. He earned a Bachelor of Arts in Accounting from Westminster College and a Master of Business Administration from Texas Christian University.

Chuck B. Kyrish has served as our Senior Vice President and Chief Financial Officer since November 2023. He previously served as Vice President of Corporate Finance from April 2022, with supervisory responsibility for the Company's finance areas including accounting, treasury, internal audit, and tax. He has held previous financial leadership roles at Celanese serving as CFO, Acetyl Chain from January 2020 to April 2022, leading Investor Relations from December 2018 to January 2020 and December 2015 through January 2017 and serving as Treasurer from February 2011 to November 2015 and January 2017 to January 2020. He joined Celanese in 2006 as Financial Risk Manager and was promoted to Assistant Treasurer in 2008. Prior to joining Celanese, he held financial roles at Sabre Corporation and ExxonMobil Corporation. Mr. Kyrish holds a Bachelor of Science degree from the University of Texas at Austin and a Master of Business Administration from Texas Christian University.

Thomas F. Kelly was named Senior Vice President, Engineered Materials in April 2020, leading the Engineered Materials business with global responsibility for product and business management, planning and portfolio development, and pipeline management. He had previously served as Vice President of Engineered Materials with Celanese since January 2019. He re-joined Celanese in January 2019 after serving with Cabot Microelectronics (now CMC Materials), a global supplier of consumable materials to semiconductor manufacturers and pipeline companies, from September 2016 to January 2019. At Cabot Microelectronics he held the roles of Vice President and Chief Commercial Officer and Vice President of Corporate Development. He was previously with Celanese from August 2012 to September 2016 as Director of Raw Materials, where he led a team responsible for sourcing strategic raw materials. Before joining Celanese, he had additional roles in supply chain, sales and manufacturing management with Chemtura, Cabot Microelectronics and Rohm & Haas. Mr. Kelly also served as a board member of Nucera Solutions, a provider of specialty polymer solutions, from June 2021 through August 2022, and of Vertellus Global Holdings LLC, a supplier of specialty chemical products, from August 2019 through December 2020. He holds a Master of Business Administration from Drexel University, and Master's and Bachelor's Degrees in Chemical Engineering from Villanova University.

Mark C. Murray was named Senior Vice President, Acetyls in February 2023 after having served as the interim leader of Celanese's Acetyls Business since November 2022. Before rejoining Celanese in June 2022 as Vice President of Business Strategy and Development, Mr. Murray served as Executive Vice President, Biomaterials and Advanced Technologies at Avantor, a global materials manufacturer and distributor. Mr. Murray previously served in senior commercial and business roles within the Acetyl Chain and Engineered Materials businesses at Celanese from November 2009 through June 2019 and from May 2002 to March 2007. Earlier in his career he served as a consultant with McKinsey & Co. Mr. Murray holds a Bachelor of Science degree in Chemical Engineering from the University of Texas at Austin and a Master of Business Administration from Northwestern University.

Ashley B. Duffie has served as Celanese's Senior Vice President and General Counsel since November 2023. She had previously served as Vice President and Chief Procurement Officer since June 2020, where she was responsible for leading the company's strategy and execution of materials and supply procurement as well as managing supplier relationships. Prior to that role, she has held legal and business leadership positions with Celanese including President and General Counsel of Asia Pacific and China (January 2019 to June 2020), Chief Administrative Officer and General Counsel of Asia Pacific and China (June 2018 to January 2019), Vice President of the Integration Management Office (June 2017 to June 2018) and Chief Compliance Officer (2013 to 2017). She joined Celanese in 2007 as Associate General Counsel, and previously practiced at the law firm of Haynes and Boone, LLP specializing in environmental law, internal corporate investigations, and litigation. She holds a law degree from Vermont Law School and a Bachelor of Business Administration from Southern Methodist University.

PART II

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

Market Information

Our common stock, par value $0.0001 per share ("Common Stock"), has traded on the New York Stock Exchange under the symbol "CE" since January 21, 2005.

Holders

As of February 9, 2024, there were 114 holders of record of our Common Stock. A substantially greater number of holders of our common stock are "street name" or beneficial holders, whose shares of record are held by banks, brokers and other financial institutions.

Dividend Policy

The amount available to us to pay cash dividends is not currently restricted by our existing senior credit facilities and our indentures governing our senior unsecured notes. Also, the general corporation law of the State of Delaware imposes restrictions on the payment of dividends by all Delaware corporations that do not currently limit our ability to pay our current and anticipated regular cash dividends. See Note 14 - Shareholders' Equity in the accompanying consolidated financial statements for further information.

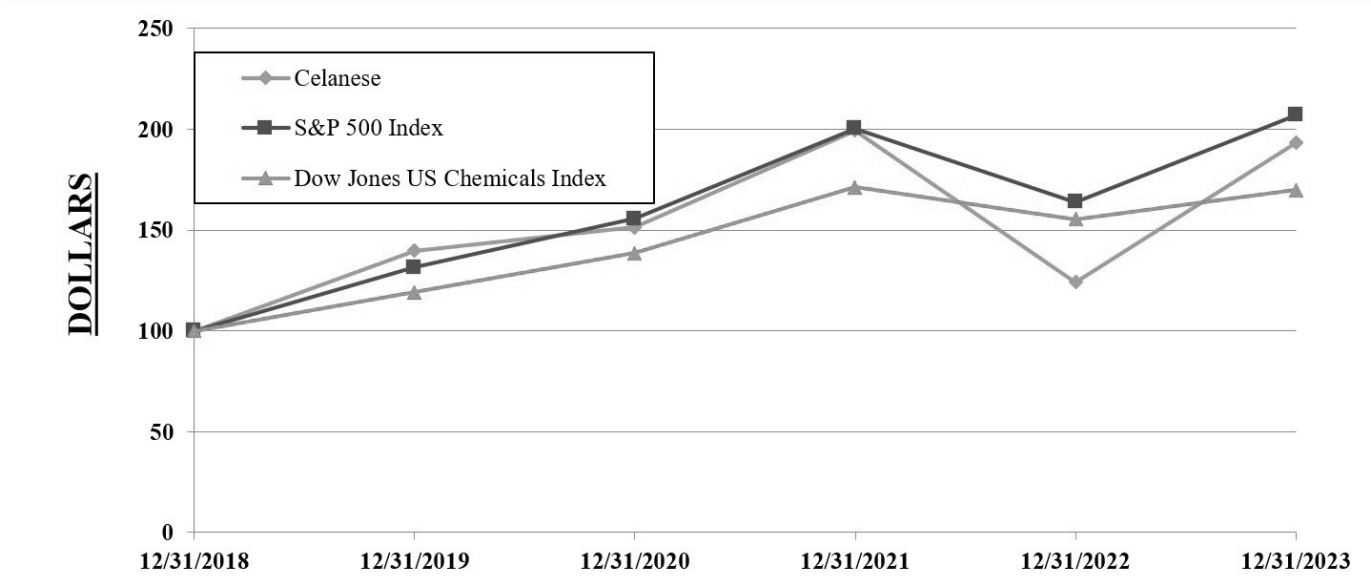
Celanese Purchases of its Equity Securities

We did not repurchase any Common Stock during the three months ended December 31, 2023. As of December 31, 2023, our Board of Directors had authorized the repurchase of $6.9 billion of our Common Stock since February 2008, with approximately $1.1 billion value of shares remaining that may be purchased under the program. See Note 14 - Shareholders' Equity in the accompanying consolidated financial statements for further information.

Performance Graph

The following performance graph compares the cumulative total return on Celanese Corporation Common Stock from December 31, 2018 through December 31, 2023 to that of the Standard & Poor's ("S&P") 500 Stock Index and the Dow Jones U.S. Chemicals Index. Cumulative total return represents the change in stock price and the amount of dividends received during the indicated period, assuming reinvestment of all dividends. The performance graph assumes an investment of $100 on December 31, 2018. The stock performance shown in the graph is included in response to SEC requirements and is not intended to forecast or to be indicative of future performance.

Comparison of Cumulative Total Return



Company Name / Index	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022	12/31/2023
Celanese	100	139.84	151.39	199.40	124.10	193.19
S&P 500 Index	100	131.47	155.65	200.29	163.98	207.04
Dow Jones US Chemicals Index	100	119.10	138.54	171.15	155.30	169.84

The above performance graph and related information shall not be deemed "soliciting material" or to be "filed" with the Securities and Exchange Commission, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that we specifically incorporate it by reference into such filing.

Recent Sales of Unregistered Securities

Our deferred compensation plan offers certain of our senior employees and directors the opportunity to defer a portion of their compensation in exchange for a future payment amount equal to their deferments plus or minus certain amounts based upon the market-performance of specified measurement funds selected by the participant. These deferred compensation obligations may be considered securities of Celanese. Participants were required to make deferral elections under the plan prior to January 1 of the year such deferrals will be withheld from their compensation. We relied on the exemption from registration provided by Section 4(a)(2) of the Securities Act in making this offer to a select group of employees, fewer than 35 of which were non-accredited investors under the rules promulgated by the Securities and Exchange Commission.

Item 6. ***Reserved***

This item is no longer required, as the Company adopted the amendment to Item 301 of Regulation S-K contained in SEC Release No. 33-10890, which became effective on February 10, 2021.

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

In this Annual Report on Form 10-K ("Annual Report"), the term "Celanese" refers to Celanese Corporation, a Delaware corporation, and not its subsidiaries. The terms the "Company," "we," "our" and "us," refer to Celanese and its subsidiaries on a consolidated basis. The term "Celanese U.S." refers to the Company's subsidiary, Celanese US Holdings LLC, a Delaware limited liability company, and not its subsidiaries.

The following discussion should be read in conjunction with the accompanying consolidated financial statements and notes to the consolidated financial statements, which are prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP").

Investors are cautioned that the forward-looking statements contained in this section and other parts of this Annual Report involve both risk and uncertainty. Several important factors could cause actual results to differ materially from those anticipated by these statements. Many of these statements are macroeconomic in nature and are, therefore, beyond the control of management. See "Forward-Looking Statements" below.

Forward-Looking Statements

Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") and other parts of this Annual Report contain certain forward-looking statements and information relating to us that are based on the beliefs of our management as well as assumptions made by, and information currently available to, us. Generally, words such as "believe," "expect," "intend," "estimate," "anticipate," "project," "plan," "may," "can," "could," "might," and "will," and similar expressions, as they relate to us are intended to identify forward-looking statements. These statements reflect our current views and beliefs with respect to future events at the time that the statements are made, are not historical facts or guarantees of future performance and involve risks and uncertainties that are difficult to predict and many of which are outside of our control. Further, certain forward-looking statements are based upon assumptions as to future events that may not prove to be accurate. See "*Special Note Regarding Forward-Looking Statements*" at the beginning of this Annual Report for further discussion. All forward-looking statements made in this Annual Report are made as of the date hereof, and the risk that actual results will differ materially from expectations expressed in this Annual Report will increase with the passage of time. We undertake no obligation, and disclaim any duty, to publicly update or revise any forward-looking statements, whether as a result of new information, future events, changes in our expectations or otherwise.

Risk Factors

Item 1A. Risk Factors of this Annual Report also contains a description of certain risk factors that you should consider which could significantly affect our financial results. In addition, the following factors, among others, could cause our actual results to differ materially from those results, performance or achievements that may be expressed or implied by such forward-looking statements:

- changes in general economic, business, political and regulatory conditions in the countries or regions in which we operate;
- the length and depth of product and industry business cycles particularly in the automotive, electrical, textiles, electronics and construction industries;
- volatility or changes in the price and availability of raw materials and energy, particularly changes in the demand for, supply of, and market prices of ethylene, methanol, natural gas, wood pulp and fuel oil and the prices for electricity and other energy sources;
- the ability to pass increases in raw material prices, logistics costs and other costs on to customers or otherwise improve margins through price increases;
- the possibility that we will not be able to timely or effectively continue to integrate the Mobility & Materials business (the "M&M Business") we acquired from DuPont de Nemours, Inc. (the "M&M Acquisition") in order to realize the anticipated benefits of the M&M Acquisition, including synergies and growth opportunities, whether as a result of difficulties arising from the operation of the M&M Business or other unanticipated delays, costs, inefficiencies or liabilities;
- increased commercial, legal or regulatory complexity of entering into, or expanding our exposure to, certain end markets and geographies;

- risks in the global economy and equity and credit markets and their potential impact on our ability to pay down debt in the future and/or refinance at suitable rates, in a timely manner, or at all;

- risks and costs associated with increased leverage from the M&M Acquisition, including increased interest expense and potential reduction of business and strategic flexibility;

- the ability to maintain plant utilization rates and to implement planned capacity additions, expansions and maintenance;

- the ability to reduce or maintain current levels of production costs and to improve productivity by implementing technological improvements to existing plants;

- increased price competition and the introduction of competing products by other companies;

- the ability to identify desirable potential acquisition or divestiture opportunities and to complete such transactions, including obtaining regulatory approvals, consistent with our strategy;

- market acceptance of our products and technology;

- compliance and other costs and potential disruption or interruption of production or operations due to accidents, interruptions in sources of raw materials, transportation, logistics or supply chain disruptions, cybersecurity incidents, terrorism or political unrest, public health crises (including, but not limited to, the COVID-19 pandemic), or other unforeseen events or delays in construction or operation of facilities, including as a result of geopolitical conditions, the direct or indirect consequences of acts of war or conflict (such as the Russia-Ukraine conflict or the Israel-Hamas conflict) or terrorist incidents or as a result of weather, natural disasters, or other crises;

- the ability to obtain governmental approvals and to construct facilities on terms and schedules acceptable to us;

- changes in applicable tariffs, duties and trade agreements, tax rates or legislation throughout the world including, but not limited to, adjustments, changes in estimates or interpretations or the resolution of tax examinations or audits that may impact recorded or future tax impacts and potential regulatory and legislative tax developments in the United States and other jurisdictions;

- changes in the degree of intellectual property and other legal protection afforded to our products or technologies, or the theft of such intellectual property;

- potential liability for remedial actions and increased costs under existing or future environmental, health and safety regulations, including those relating to climate change or other sustainability matters;

- potential liability resulting from pending or future claims or litigation, including investigations or enforcement actions, or from changes in the laws, regulations or policies of governments or other governmental activities, in the countries in which we operate;

- changes in currency exchange rates and interest rates; and

- various other factors, both referenced and not referenced in this Annual Report.

Many of these factors are macroeconomic in nature and are, therefore, beyond our control. Should one or more of these risks or uncertainties materialize, affect us in ways or to an extent that we currently do not expect or consider to be significant, or should underlying assumptions prove incorrect, our actual results, performance or achievements may vary materially from those described in this Annual Report as anticipated, believed, estimated, expected, intended, planned or projected. We neither intend nor assume any obligation to update these forward-looking statements, which speak only as of their dates.

Results of Operations

Financial Highlights

	Year Ended December 31,		
	2023	2022	Change
	(In $ millions, except percentages)		
Statement of Operations Data			
Net sales	10,940	9,673	1,267
Gross profit	2,603	2,380	223
Selling, general and administrative ("SG&A") expenses	(1,075)	(824)	(251)
Other (charges) gains, net	(68)	(8)	(60)
Gain (loss) on disposition of businesses and assets, net	505	5	500
Operating profit (loss)	1,687	1,378	309
Equity in net earnings (loss) of affiliates	102	220	(118)
Non-operating pension and other postretirement employee benefit (expense) income	(69)	17	(86)
Interest expense	(720)	(405)	(315)
Interest income	39	69	(30)
Dividend income - equity investments	126	133	(7)
Earnings (loss) from continuing operations before tax	1,183	1,421	(238)
Earnings (loss) from continuing operations	1,973	1,910	63
Earnings (loss) from discontinued operations	(9)	(8)	(1)
Net earnings (loss)	1,964	1,902	62
Net earnings (loss) attributable to Celanese Corporation	1,960	1,894	66
Other Data			
Depreciation and amortization	706	462	244
SG&A expenses as a percentage of Net sales	9.8 %	8.5 %	
Operating margin[(1)]	15.4 %	14.2 %	
Other (charges) gains, net			
Restructuring	(52)	(6)	(46)
Asset impairments	(15)	(14)	(1)
Plant/office closures	(1)	12	(13)
Total Other (charges) gains, net	(68)	(8)	(60)

(1) Defined as Operating profit (loss) divided by Net sales.

	As of December 31,	
	2023	2022
	(In $ millions)	
Balance Sheet Data		
Cash and cash equivalents	1,805	1,508
Short-term borrowings and current installments of long-term debt - third party and affiliates	1,383	1,306
Long-term debt, net of unamortized deferred financing costs	12,301	13,373
Total debt	13,684	14,679

Factors Affecting Business Segment Net Sales

The percentage increase (decrease) in Net sales attributable to each of the factors indicated for each of our business segments is as follows:

Year Ended December 31, 2023 Compared to Year Ended December 31, 2022

	Volume	Price	Currency	Total
		(In percentages)		
Engineered Materials	54	(1)	—	53
Acetyl Chain	2	(17)	—	(15)
Total Company	23	(10)	—	13

Consolidated Results

Year Ended December 31, 2023 Compared to Year Ended December 31, 2022

Net sales increased $1.3 billion, or 13%, for the year ended December 31, 2023 compared to the same period in 2022 primarily due to:

- higher volume, primarily in our Engineered Materials segment related to the M&M Acquisition and the KEPCO restructuring (see Note 4 - Acquisitions, Dispositions and Plant Closures in the accompanying consolidated financial statements for further information) and also in our Acetyl Chain segment due to increased demand for most of our products in Asia;

partially offset by:

- lower pricing, primarily in our Acetyl Chain segment as market and pricing conditions reverted from increased levels in the prior year and also in our Engineered Materials segment due to decreased energy surcharges, market considerations, and an unfavorable product mix; and

- lower volume in our Acetyl Chain segment due to decreased demand for vinyl acetate monomer ("VAM"), acid and emulsion polymers in the Western Hemisphere.

Operating profit increased $309 million, or 22%, for the year ended December 31, 2023 compared to the same period in 2022 primarily due to:

- higher Net sales in our Engineered Materials segment;

- a gain of $515 million in our Engineered Materials segment recognized on the formation of the Nutrinova joint venture (see Note 4 - Acquisitions, Dispositions and Plant Closures in the accompanying consolidated financial statements for further information); and

- lower raw material and sourcing costs in our Acetyl Chain segment, primarily for ethylene, methanol and acid;

partially offset by:

- higher raw material costs and spending in our Engineered Materials segment as a result of additional production capacity gained through the M&M Acquisition; and

- lower Net sales in our Acetyl Chain segment.

Non-operating pension and other postretirement employee expense increased $86 million for the year ended December 31, 2023 compared to the same period in 2022 primarily due to higher interest costs of $66 million and lower expected return on plan assets of $34 million, partially offset by a decrease in recognized actuarial loss of $15 million primarily as a result of a decrease in the weighted average discount rate used to determine benefit obligations from 4.9% to 4.5%. See Note 12 - Benefit Obligations in the accompanying consolidated financial statements for further information.

Our effective income tax benefit rate for the year ended December 31, 2023 was 67% compared to 34% for the year ended 2022. The higher effective income tax benefit rate for the year ended December 31, 2023 compared to the same period in 2022 was primarily due to the relocation of certain intangible assets to better align with the acquired M&M foreign operations, the realignment of our European headquarters and principal operations to Switzerland to achieve operational efficiencies, the release of valuation allowances on U.S. foreign tax credit carryforwards, and the excess of the U.S. GAAP gain over the tax gain from the formation of the Nutrinova joint venture. See Note 15 - Income Taxes in the accompanying consolidated financial statements for further information.

Discussion of our financial condition and results of operations for the year ended December 31, 2022 compared to the year ended December 31, 2021 and for the year ended December 31, 2021 compared to the year ended December 31, 2020, can be found in *Part II - Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations* in our Annual Reports for the years ended December 31, 2022 and December 31, 2021, respectively.

Business Segments

Engineered Materials

	Year Ended December 31,			%
	2023	2022	Change	Change
	(In $ millions, except percentages)			
Net sales	6,149	4,024	2,125	52.8 %
Net Sales Variance				
Volume	54 %			
Price	(1) %			
Currency	— %			
Operating profit (loss)	1,083	429	654	152.4 %
Operating margin	17.6 %	10.7 %		
Equity in net earnings (loss) of affiliates	83	202	(119)	(58.9)%
Depreciation and amortization	462	226	236	104.4 %

Year Ended December 31, 2023 Compared to Year Ended December 31, 2022

Net sales increased for the year ended December 31, 2023 compared to the same period in 2022 primarily due to:

- higher volume, primarily related to the M&M Acquisition and the KEPCO restructuring (see Note 4 - Acquisitions, Dispositions and Plant Closures in the accompanying consolidated financial statements for further information);

partially offset by:

- lower pricing for most of our products, primarily due to decreased energy surcharges, market considerations, and an unfavorable product mix, particularly in Asia and Europe.

Operating profit increased for the year ended December 31, 2023 compared to the same period in 2022 primarily due to:

- higher Net sales; and
- a gain of $515 million recognized on the formation of the Nutrinova joint venture (see Note 4 - Acquisitions, Dispositions and Plant Closures in the accompanying consolidated financial statements for further information);

partially offset by:

- higher raw material costs as a result of additional production capacity gained through the M&M Acquisition; and
- higher spending of $558 million as a result of the M&M Acquisition, which includes selling and administrative, distribution and operating costs.

Equity in net earnings (loss) of affiliates decreased for the year ended December 31, 2023 compared to the same period in 2022 primarily due to:

- losses from our DuPont Teijin Films strategic affiliates due to restructuring; and
- a decrease in equity investment in earnings of $35 million from our Ibn Sina strategic affiliate, primarily as a result of reduced oil prices.

Depreciation and amortization, which is included in Operating profit, increased for the year ended December 31, 2023 compared to the same period in 2022 primarily as a result of the M&M Acquisition.

Acetyl Chain

	Year Ended December 31,			%
	2023	2022	Change	Change
	(In $ millions, except percentages)			
Net sales	4,884	5,743	(859)	(15.0)%
Net Sales Variance				
Volume	2 %			
Price	(17) %			
Currency	— %			
Operating profit (loss)	1,109	1,447	(338)	(23.4)%
Operating margin	22.7 %	25.2 %		
Dividend income - equity investments	124	132	(8)	(6.1)%
Depreciation and amortization	217	213	4	1.9 %

Year Ended December 31, 2023 Compared to Year Ended December 31, 2022

Net sales decreased for the year ended December 31, 2023 compared to the same period in 2022 primarily due to:

- lower pricing for most of our products, primarily VAM, acid and emulsion polymers, as market and pricing conditions reverted from increased levels in the prior year particularly in Asia and Europe; and
- lower volume due to decreased demand for VAM, acid and emulsion polymers in the Western Hemisphere;

partially offset by:

- higher pricing for acetate tow; and
- higher volume due to increased demand for most of our products, primarily in Asia.

Operating profit decreased for the year ended December 31, 2023 compared to the same period in 2022 primarily due to:

- lower Net sales;

partially offset by:

- lower raw material and sourcing costs, primarily for ethylene, methanol and acid.

Other Activities

	Year Ended December 31,			%
	2023	2022	Change	Change
	(In $ millions, except percentages)			
Operating profit (loss)	(505)	(498)	(7)	(1.4)%
Non-operating pension and other postretirement employee benefit (expense) income	(68)	17	(85)	(500.0)%

Year Ended December 31, 2023 Compared to Year Ended December 31, 2022

Operating loss increased for the year ended December 31, 2023 compared to the same period in 2022 primarily due to:

- higher functional spending of $106 million, primarily related to additional sites and employees gained through the M&M Acquisition;

partially offset by:

- lower merger and acquisition project spending of $66 million; and
- a favorable currency impact of $33 million.

Non-operating pension and other postretirement employee expense increased for the year ended December 31, 2023 compared to the same period in 2022 primarily due to:

- higher interest costs of $66 million and lower expected return on plan assets of $34 million, partially offset by a decrease in recognized actuarial loss of $15 million primarily as a result of a decrease in the weighted average discount rate used to determine benefit obligations from 4.9% to 4.5%. See Note 12 - Benefit Obligations in the accompanying consolidated financial statements for further information.

Liquidity and Capital Resources

Our primary sources of liquidity are cash generated from operations, available cash and cash equivalents, dividends from our portfolio of strategic investments and available borrowings under our senior unsecured revolving credit facility. As of December 31, 2023, we have $1.75 billion available for borrowing under our senior U.S. unsecured revolving credit facility and $34 million available for borrowing under our separate China Revolving Credit Facility (defined below), if required, in meeting our working capital needs and other contractual obligations. In addition, we held cash and cash equivalents of $1.8 billion as of December 31, 2023. We are actively managing our business to maintain cash flow, and we believe that liquidity from the above-referenced sources will be sufficient to meet our operational and capital investment needs and financial obligations for the foreseeable future.

On October 31, 2023, we announced the planned closure of our Polyamide 66 ("PA66") and High-Performance Nylon ("HPN") polymerization units at our facility in Uentrop, Germany to optimize production costs across our global network. These operations are included in the Engineered Materials segment and we expect to complete the closure in 2024. We expect to incur additional exit and shutdown costs related to the closure of the PA66 and HPN polymerization units in Uentrop, Germany of approximately $70 million in 2024, inclusive of estimated employee termination costs.

On September 27, 2023, we formed a food ingredients joint venture with Mitsui & Co., Ltd. ("Mitsui") under the name Nutrinova. We contributed receivables, inventory, property, plant and equipment, certain other assets, liabilities, technology and employees of our food ingredients business while retaining a 30% interest in the joint venture. Mitsui acquired the remaining 70% interest in the food ingredients business for a purchase price of $503 million, subject to transaction adjustments. We accounted for our interest in the joint venture as an equity method investment, and our portion of the results will continue to be included in the Engineered Materials segment. For further information regarding the food ingredients joint venture, see Note 4 - Acquisitions, Dispositions and Plant Closures in the accompanying consolidated financial statements.

On November 1, 2022, we acquired a majority of the M&M Business for a purchase price of $11.0 billion, subject to transaction adjustments, in an all-cash transaction. For further information regarding the acquisition and related financing

transactions, see *Debt and Other Obligations* in this *Liquidity and Capital Resources* and Note 4 - Acquisitions, Dispositions and Plant Closures in the accompanying consolidated financial statements for further information.

Our incurrence of debt to finance the purchase price for the M&M Acquisition has increased our leverage and our ratio of indebtedness to consolidated EBITDA as set forth in our senior unsecured credit facilities. We believe that cash flows from our operations, together with synergy opportunities from the M&M Acquisition and cost reduction initiatives, will support our deleveraging efforts over the next few years. In furtherance of these deleveraging efforts, we have paused our share repurchase program and are in the process of evaluating additional cash generation opportunities which may also include, in addition to the food ingredients joint venture described above, additional opportunistic dispositions or monetization of other product or business lines or other assets. We are committed to rapid deleveraging and to maintaining our investment grade debt rating.

While our contractual obligations, commitments and debt service requirements over the next several years are significant, we continue to believe we will have available resources to meet our liquidity requirements, including debt service, for the next twelve months. If our cash flow from operations is insufficient to fund our debt service and other obligations, we may be required to use other means available to us such as increasing our borrowings, reducing or delaying capital expenditures, seeking additional capital or seeking to restructure or refinance our indebtedness. There can be no assurance, however, that we will continue to generate cash flows at or above current levels.

Total capital expenditures were $568 million for the year ended December 31, 2023. We continue to prioritize projects that drive growth and productivity in the near term and expect total capital expenditures to be approximately $400 million in 2024, primarily due to certain investments in growth opportunities and productivity improvements. In Engineered Materials, at our Nanjing, China facility, our expansions of (1) the compounding plant and (2) the new liquid crystal polymer ("LCP") plant are on schedule and in construction, and at our Bishop, Texas facility, our debottleneck of the ultra-high molecular weight polyethylene ("UHMW-PE") unit is on schedule and in detailed engineering design/construction. Our energy optimization productivity project at our polyoxymethylene ("POM") unit in Frankfurt, Germany is in detailed engineering design. In the Acetyl Chain, our planned expansion of our acetic acid unit at Clear Lake, Texas is on track to be commissioned and started in the first quarter of 2024. The other major projects that support the Acetyl Chain are in various stages of construction or commissioning and on schedule. These projects include our planned expansions of (1) our vinyl acetate ethylene ("VAE") emulsions units in Nanjing, China, and (2) our VAE emulsion plant in Frankfurt, Germany. The sustainable production of methanol ("MeOH") through carbon capture utilization at our Fairway joint venture MeOH unit in Clear Lake, Texas, using captured carbon dioxide as feedstock, was successfully commissioned and started in December 2023. The announced expansion of our vinyl acetate monomer ("VAM") plant in Bay City, Texas is on temporary hold. We continue to see the incremental capacity from investments made in recent years strengthen the growth and reliability of our manufacturing network reliability to best serve our customers.

We did not repurchase any Common Stock during the year ended December 31, 2023.

On a stand-alone basis, Celanese and its immediate 100% owned subsidiary, Celanese U.S., have no independent external operations of their own. Accordingly, they generally depend on the cash flow of their subsidiaries and their ability to pay dividends and make other distributions to Celanese and Celanese U.S. in order to meet their obligations, including their obligations under senior credit facilities and senior notes, and to pay dividends on our Common Stock.

We are subject to capital controls and exchange restrictions imposed by the local governments in certain jurisdictions where we operate, such as China, South Korea, India and Indonesia. Capital controls impose limitations on our ability to exchange currencies, repatriate earnings or capital, lend via intercompany loans or create cross-border cash pooling arrangements. Our largest exposure to a country with capital controls is in China. Pursuant to applicable regulations, foreign-invested enterprises in China may pay dividends only out of their accumulated profits, if any, determined in accordance with Chinese accounting standards and regulations. In addition, the Chinese government imposes certain currency exchange controls on cash transfers out of China, puts certain limitations on duration, purpose and amount of intercompany loans, and restricts cross-border cash pooling. While it is possible that future tightening of these restrictions or application of new similar restrictions could impact us, these limitations do not currently restrict our operations.

We remain in compliance with the covenants in the existing Global Credit Agreements (defined below, and as amended to date) and expect to remain in compliance based on our current expectation of future results of operations and planned cash generation activities. If the actual future results of our operations and cash generation activities differ materially from these expectations, we may be required to seek an amendment to or waiver of any impacted covenants, which may increase our borrowing costs under the existing Global Credit Agreements.

Cash Flows

Cash and cash equivalents increased $297 million to $1.8 billion as of December 31, 2023 compared to December 31, 2022. As of December 31, 2023, $1.5 billion of the $1.8 billion of cash and cash equivalents was held by our foreign subsidiaries. Under the Tax Cuts and Jobs Act, we have incurred a prior year charge associated with the deemed repatriation of previously unremitted foreign earnings, including foreign held cash. These funds are largely accessible without additional material tax consequences, if needed in the U.S., to fund operations. See Note 15 - Income Taxes in the accompanying consolidated financial statements for further information.

Year Ended December 31, 2023 Compared to Year Ended December 31, 2022

- ***Net Cash Provided by (Used in) Operating Activities***

Net cash provided by operating activities increased $80 million to $1.9 billion for the year ended December 31, 2023 compared to $1.8 billion for the same period in 2022, primarily due to:

- favorable trade working capital of $642 million, primarily related to inventory reduction due to aligning inventory and production levels to demand and lower raw materials and inventory costs, and the timing of settlement of trade payables and collections of trade receivables during the year ended December 31, 2023; and

- cash receipts of non-trade receivables of $346 million, primarily related to the receivable balances arising from the M&M Acquisition and other transaction activities;

partially offset by:

- an increase in cash interest paid of $639 million related primarily to the debt incurred to finance the M&M Acquisition; and

- a decrease in earnings performance, net of the gain recognized on the formation of the Nutrinova joint venture (see Note 4 - Acquisitions, Dispositions and Plant Closures in the accompanying consolidated financial statements for further information).

- ***Net Cash Provided by (Used in) Investing Activities***

Net cash used in investing activities decreased $11.0 billion to $134 million for the year ended December 31, 2023 compared to $11.1 billion for the same period in 2022, primarily due to:

- a cash outflow of $10.6 billion related to the M&M Acquisition in November 2022, which did not recur in the current year. See Note 4 - Acquisitions, Dispositions and Plant Closures in the accompanying consolidated financial statements for further information; and

- a cash inflow of $461 million related to the formation of the Nutrinova joint venture (see Note 4 - Acquisitions, Dispositions and Plant Closures in the accompanying consolidated financial statements for further information).

- ***Net Cash Provided by (Used in) Financing Activities***

Net cash used in financing activities increased $11.7 billion to $1.5 billion for the year ended December 31, 2023 compared to net cash provided by financing activities of $10.3 billion for the same period in 2022, primarily due to:

- a decrease in net proceeds of long-term debt, primarily due to the Tender Offer (defined below) of $2.25 billion, payment in full of the 3-year Term Loans (defined below) of $750 million, repayment at maturity of the 1.125% senior unsecured notes during the year ended December 31, 2023, and issuance of the Acquisition Notes (defined below), borrowings under the 3-year and 5-year Term Loans (defined below) during the year ended December 31, 2022 (see Note 11 - Debt in the accompanying consolidated financial statements for further information), which did not recur in the current year; and

- an increase in net payments on short-term debt, primarily as a result of payments on our revolving credit facilities and payment in full of the 364-day Term Loans (defined below);

partially offset by:

- an increase in net proceeds of long-term debt, primarily due to the 2023 Offering (defined below) of $3.0 billion in principal amount during the year ended December 31, 2023 and repayment at maturity of the 4.625% senior unsecured notes during the year ended December 31, 2022; and

- a decrease in net payments on short-term debt, primarily due to borrowings on our revolving credit facilities and China Working Capital Term Loan Agreement (defined below) during the year ended December 31, 2023 and borrowing under the senior unsecured revolving credit facility related to the M&M Acquisition in November 2022.

In addition, exchange rates had an unfavorable impact of $12 million on cash and cash equivalents and a favorable impact of $4 million on cash and cash equivalents for the years ended December 31, 2023 and 2022, respectively.

Debt and Other Obligations

- ***Senior Credit Facilities***

In March 2022, we entered into a term loan credit agreement (the "March 2022 U.S. Term Loan Credit Agreement"), pursuant to which lenders provided a tranche of delayed-draw term loans due 364 days from issuance in an amount equal to $500 million (the "364-day Term Loans") and a tranche of delayed-draw term loans due 5 years from issuance in an amount equal to $1.0 billion (the "5-year Term Loans"). In September 2022, we entered into an additional term loan credit agreement (the "September 2022 U.S. Term Loan Credit Agreement" and, together with the March 2022 U.S. Term Loan Credit Agreement, the "U.S. Term Loan Credit Agreements"), pursuant to which lenders have provided delayed-draw term loans due 3 years from issuance in an amount equal to $750 million (the "3-year Term Loans" and collectively with the 364-day Term Loans and the 5-year Term Loans, the "U.S. Term Loan Facility"). The U.S. Term Loan Facility was fully drawn during the three months ended December 31, 2022. The 364-day Term Loans and 3-year Term Loans have been fully repaid.

Also in March 2022, we entered into a new revolving credit agreement (the "U.S. Revolving Credit Agreement" and, together with the U.S. Term Loan Credit Agreements the "U.S. Credit Agreements") consisting of a $1.75 billion senior unsecured revolving credit facility (with a letter of credit sublimit), maturing in 2027. The proceeds of a $365 million borrowing under the new senior unsecured revolving credit facility were used to repay and terminate our then-existing revolving credit facility.

On February 21, 2023 and February 16, 2024, we amended certain covenants in the U.S. Credit Agreements, including financial ratio maintenance covenants.

On August 9, 2023, we amended certain covenants in the March 2022 U.S. Term Loan Credit Agreement to permit refinancing certain senior notes without requiring a mandatory prepayment under the March 2022 U.S. Term Loan Credit Agreement.

The March 2022 U.S. Term Loan Credit Agreement and the U.S. Revolving Credit Agreement are, and the September 2022 U.S. Term Loan Credit Agreement was, guaranteed by Celanese, Celanese U.S. and domestic subsidiaries together representing substantially all of the Company's U.S. assets and business operations (the "Subsidiary Guarantors").

On January 4, 2023, Celanese (Shanghai) International Trading Co., Ltd ("CSIT"), a fully consolidated subsidiary, entered into a restatement of an existing credit facility agreement (the "China Revolving Credit Agreement") to upsize and modify the facility thereunder to consist of an aggregate CNY1.75 billion uncommitted senior unsecured revolving credit facility available under two tranches (with overdraft, bank guarantee and documentary credit sublimits) (the "China Revolving Credit Facility"). Obligations bear interest at certain fixed and floating rates. The China Revolving Credit Agreement is guaranteed by Celanese U.S.

On January 6, 2023, CSIT entered into a senior unsecured working capital loan contract for CNY800 million (the "China Working Capital Term Loan Agreement," together with the China Revolving Credit Agreement, the "China Credit Agreements," and the China Credit Agreements together with the U.S. Credit Agreements, the "Global Credit Agreements"), payable 12 months from withdrawal date and bearing interest at 0.5% less than certain interbank rates. The loan under the China Working Capital Term Loan Agreement was fully drawn on January 10, 2023 and was supported by a letter of comfort from us. We expect the China Credit Agreements will facilitate our efficient repatriation of cash to the U.S. to repay debt and effectively redomicile a portion of our U.S. debt to China at a lower average interest rate.

- ***Senior Notes***

We have outstanding senior unsecured notes, issued in public offerings registered under the Securities Act of 1933 ("Securities Act"), as amended, as follows (collectively, the "Senior Notes"):

Senior Notes	Issue Date	Principal	Interest Rate	Interest Pay Dates		Maturity Date
		(In millions)	(In percentages)			
3.500% Notes	May 2019	$500	3.500	May 8	November 8	May 8, 2024
5.900% Notes	July 2022	$2,000	5.900	January 5	July 5	July 5, 2024
1.250% Notes	December 2017	€300	1.250	February 11		February 11, 2025
6.050% Notes	July 2022	$1,750	6.050	March 15	September 15	March 15, 2025
4.777% Notes	July 2022	€1,000	4.777	July 19		July 19, 2026
1.400% Notes	August 2021	$400	1.400	February 5	August 5	August 5, 2026
2.125% Notes	November 2018	€500	2.125	March 1		March 1, 2027
6.165% Notes	July 2022	$2,000	6.165	January 15	July 15	July 15, 2027
0.625% Notes	September 2021	€500	0.625	September 10		September 10, 2028
6.350% Notes	August 2023	$1,000	6.350	May 15	November 15	November 15, 2028
5.337% Notes	July 2022	€500	5.337	January 19		January 19, 2029
6.330% Notes	July 2022	$750	6.330	January 15	July 15	July 15, 2029
6.550% Notes	August 2023	$999	6.550	May 15	November 15	November 15, 2030
6.379% Notes	July 2022	$1,000	6.379	January 15	July 15	July 15, 2032
6.700% Notes	August 2023	$1,000	6.700	May 15	November 15	November 15, 2033

The Senior Notes were issued by Celanese U.S. and are guaranteed on a senior unsecured basis by Celanese and the Subsidiary Guarantors. Celanese U.S. may redeem some or all of each of the Senior Notes, prior to their respective maturity dates, at a redemption price of 100% of the principal amount, plus a "make-whole" premium as specified in the applicable indenture, plus accrued and unpaid interest, if any, to the redemption date.

In July 2022, Celanese U.S. completed an offering of $7.5 billion aggregate principal amount of notes of various maturities in a public offering registered under the Securities Act (the "Acquisition USD Notes"). Also in July 2022, Celanese U.S. completed an offering of €1.5 billion in aggregate principal amount of euro-denominated senior unsecured notes in a public offering registered under the Securities Act (collectively, the "Acquisition Euro Notes" and together with the Acquisition USD Notes, the "Acquisition Notes"). Fees and expenses of the offering of the Acquisition Notes, inclusive of underwriting discounts, were $65 million. Net proceeds from the sale of the Acquisition Notes were used to fund the purchase price for the M&M Acquisition, with any remaining proceeds being used for general corporate purposes.

The entry into the U.S. Term Loan Credit Agreements and the offerings of the Acquisition Notes reduced availability under the Bridge Facility to zero, and we terminated the Bridge Facility. During the year ended December 31, 2022, we paid $66 million in fees related to the Bridge Facility commitment, amortizing these fees to interest expense.

On August 24, 2023, Celanese U.S. completed an offering of $3.0 billion aggregate principal amount of senior unsecured notes of various maturities in a public offering registered under the Securities Act (the "2023 Offering"). Deferred financing costs related to the 2023 Offering, including underwriting discounts, were $26 million.

On August 25, 2023, Celanese U.S. completed a cash tender offer for $2.25 billion in aggregate principal amount (the "Tender Offer") as follows:

Maturity Date	Aggregate Principal Amount Tendered	Purchase price per $1,000 principal amount	Total Tender Offer Consideration	Accrued and Unpaid Interest
	(In $ millions)		(In $ millions)	
June 30, 2024	1,473	$ 999.92	1,473	12
March 15, 2025	750	$ 1,002.85	752	20
April 30, 2024	27	$ 983.95	27	—

The net proceeds from the 2023 Offering were used (i) to fund the Tender Offer and (ii) for the repayment of other outstanding indebtedness, including the payment in full of the 364-day Term Loans and the 3-year Term Loans.

- ***Accounts Receivable Securitization Facility***

On June 1, 2023, we entered into an amendment to the amended and restated receivables purchase agreement under our U.S. accounts receivable purchasing facility among certain of our subsidiaries, our wholly-owned, "bankruptcy remote" special purpose subsidiary ("SPE") and certain global financial institutions ("Purchasers"). We de-recognized $1.4 billion and $1.1 billion of accounts receivable under this agreement for the years ended December 31, 2023 and 2022, respectively, and collected $1.3 billion and $1.1 billion of accounts receivable sold under this agreement during the same periods. Unsold U.S. accounts receivable of $109 million were pledged by the SPE as collateral to the Purchasers as of December 31, 2023.

- ***Factoring and Discounting Agreements***

We have factoring agreements in Europe and Singapore with financial institutions. We de-recognized $423 million and $320 million of accounts receivable under these factoring agreements for the years ended December 31, 2023 and 2022, respectively, and collected $407 million and $325 million of accounts receivable sold under these factoring agreements during the same periods.

In March 2021, we entered into a letter of credit discounting agreement in Singapore with a financial institution. We de-recognized $8 million and $50 million of accounts receivable under this agreement for the years ended December 31, 2023 and 2022, respectively.

On December 15, 2023, we entered into a Master Discounting Agreement (the "Master Discounting Agreement") with a financial institution in China to discount, on a non-recourse basis, banker's acceptance drafts ("BADs"), classified as accounts receivable. We received $45 million from the accounts receivable transferred under the Master Discounting Agreement as of December 31, 2023. The impacts of discounting are not material to the Company's results of operations, cash flows or financial position.

Our material financing arrangements contain customary covenants, including the maintenance of certain financial ratios, events of default and change of control provisions. Failure to comply with these covenants, or the occurrence of any other event of default, could result in acceleration of the borrowings and other financial obligations. We are in compliance with all of the covenants related to our debt agreements as of December 31, 2023. On February 21, 2023 and February 16, 2024, we amended certain covenants, including the financial ratio covenant, included in the U.S. Credit Agreements.

See Note 11 - Debt in the accompanying consolidated financial statements for further information.

Guarantor Financial Information

We have outstanding senior unsecured notes, issued in public offerings registered under the Securities Act of 1933, as amended (collectively, the "Senior Notes"). The Senior Notes were issued by Celanese U.S. ("Issuer") and are guaranteed by Celanese Corporation ("Parent Guarantor") and the Subsidiary Guarantors (collectively the "Obligor Group"). See Note 11 - Debt in the accompanying consolidated financial statements for further information. The Issuer and Subsidiary Guarantors are 100% owned subsidiaries of the Parent Guarantor. The Subsidiary Guarantors are listed in Exhibit 22.1 to this Annual Report.

The Parent Guarantor and the Subsidiary Guarantors have guaranteed the Senior Notes on a full and unconditional, joint and several, senior unsecured basis. The guarantees are subject to certain customary release provisions, including that a Subsidiary Guarantor will be released from its respective guarantee in specified circumstances, including (i) the sale or transfer of all of its assets or capital stock; (ii) its merger or consolidation with, or transfer of all or substantially all of its assets to, another person; or (iii) its ceasing to be a majority-owned subsidiary of the Issuer in connection with any sale of its capital stock or other transaction. Additionally, a Subsidiary Guarantor will be released from its guarantee of the Senior Notes at such time that it ceases to guarantee the Issuer's obligations under the existing U.S. Credit Agreements (subject to the satisfaction of customary document delivery requirements). The obligations of the Subsidiary Guarantors under their guarantees are limited as necessary to prevent such guarantees from constituting a fraudulent conveyance or fraudulent transfer under applicable law.

The Parent Guarantor and the Issuer are holding companies that conduct substantially all of their operations through their subsidiaries, which own substantially all of our consolidated assets. The Parent Guarantor holds the stock of its immediate 100% owned subsidiary, the Issuer, but has no material consolidated assets. The principal source of cash to pay the Parent Guarantor's and the Issuer's obligations, including obligations under the Senior Notes and the guarantee of the Issuer's obligations under the existing U.S. Credit Agreements, is the cash that our subsidiaries generate from their operations. Each of the Subsidiary Guarantors and our non-guarantor subsidiaries is a distinct legal entity and, under certain circumstances, applicable country or state laws, regulatory limitations and terms of other debt instruments may limit our subsidiaries' ability to distribute cash to the Issuer and the Parent Guarantor.

For cash management purposes, we transfer cash among the Parent Guarantor, Issuer, Subsidiary Guarantors and non-guarantors through intercompany financing arrangements, contributions or declaration of dividends between the respective parent and its subsidiaries. While the non-guarantor subsidiaries do not guarantee the Issuer's obligations under our outstanding debt, the transfer of cash under these activities facilitates the ability of the recipient to make specified third-party payments for principal and interest on the Senior Notes, the existing U.S. Credit Agreements, other outstanding debt, Common Stock dividends and Common Stock repurchases.

The summarized financial information of the Obligor Group is presented below on a combined basis after the elimination of: (i) intercompany transactions among such entities and (ii) equity in earnings from and investments in the non-guarantor subsidiaries. Transactions with, and amounts due to or from, non-guarantor subsidiaries and affiliates are separately disclosed.

	Year Ended December 31, 2023
	(In $ millions)
Net sales to third parties	1,826
Net sales to non-guarantor subsidiaries	1,048
Total net sales	2,874
Gross profit	561
Earnings (loss) from continuing operations	1,464
Net earnings (loss)	1,456
Net earnings (loss) attributable to the Obligor Group	1,456

	As of December 31,	
	2023	2022
	(In $ millions)	
Receivables from non-guarantor subsidiaries	787	754
Other current assets	2,245	1,588
Total current assets	3,032	2,342
Goodwill	536	567
Other noncurrent assets	3,289	2,718
Total noncurrent assets	3,825	3,285
Current liabilities due to non-guarantor subsidiaries	2,993	2,100
Current liabilities due to affiliates	6	2
Other current liabilities	1,940	2,201
Total current liabilities	4,939	4,303
Noncurrent liabilities due to non-guarantor subsidiaries	3,365	3,400
Other noncurrent liabilities	13,007	13,842
Total noncurrent liabilities	16,372	17,242

Share Capital

On February 7, 2024, we declared a quarterly cash dividend of $0.70 per share on our Common Stock amounting to approximately $76 million. The cash dividend will be paid on March 5, 2024 to holders of record as of February 20, 2024.

Our Board of Directors has authorized the aggregate repurchase of $6.9 billion of our Common Stock since February 2008. These authorizations give management discretion in determining the timing and conditions under which shares may be repurchased. This repurchase program does not have an expiration date. During the year ended December 31, 2023, we did not repurchase any shares of our Common Stock. As of December 31, 2023, we had $1.1 billion remaining under authorizations by our Board of Directors.

See Note 14 - Shareholders' Equity in the accompanying consolidated financial statements for further information.

Contractual Obligations, Guarantees and Commitments

We calculated $3.3 billion of all future interest payments on debt and other obligations using the rate in effect on December 31, 2023 and $495 million of all future pension and other postretirement funding obligations. We have directly guaranteed various debt obligations under agreements with third parties related to certain equity affiliates. As of December 31, 2023, we have directly guaranteed $145 million and €31 million of such obligations.

We have not entered into any material off-balance sheet arrangements.

In the accompanying consolidated financial statements, see Note 10 - Current Other Liabilities for current asset retirement obligations, Note 11 - Debt for a description of the guarantees under our Senior Notes and Credit Agreement, Note 12 - Benefit Obligations for a description of the pension and other postretirement funding obligations, Note 13 - Environmental for a description of environmental obligations, Note 15 - Income Taxes for a description of uncertain tax positions, Note 16 - Leases for lease obligations and Note 19 - Commitments and Contingencies for a discussion of commitments and contingencies related to legal and regulatory proceedings.

Market Risks

See *Item 7A. Quantitative and Qualitative Disclosure about Market Risk* for further information.

Business Environment

We continued to experience destocking in addition to volatile underlying demand conditions across several end-markets in 2023. We continue to closely monitor the impact of, and responses to, geopolitical effects on demand conditions and the supply chain. Demand conditions and moderating raw material costs resulted in elevated industry competitive dynamics and continuing pricing pressure across end-markets. We expect demand challenges to persist and to pressure pricing, which effects we anticipate to be partially offset by improvement in input costs across the year.

Critical Accounting Policies and Estimates

Our consolidated financial statements are based on the selection and application of significant accounting policies. The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of net sales, expenses and allocated charges during the reporting period. Actual results could differ from those estimates. However, we are not currently aware of any reasonably likely events or circumstances that would result in materially different results.

We believe the following accounting policies and estimates are critical to understanding the financial reporting risks present in the current economic environment. These matters, and the judgments and uncertainties affecting them, are also essential to understanding our reported and future operating results. See Note 2 - Summary of Accounting Policies in the accompanying consolidated financial statements for further information.

- ***Purchase Accounting***

We recognize the identifiable tangible and intangible assets acquired and liabilities assumed based on their estimated fair values as of the acquisition date. The excess of purchase price over the aggregate fair values is recorded as goodwill. Intangible assets are valued using the relief from royalty, multi-period excess earnings and discounted cash flow methodologies, which are considered Level 3 measurements. The relief from royalty method estimates our theoretical royalty savings from ownership of the intangible asset. Key assumptions used in this method include discount rates, royalty rates, growth rates, sales projections and terminal value rates. Key assumptions used in the multi-period excess earnings method include discount rates, retention rates, growth rates, sales projections, expense projections and contributory asset charges. Key assumptions used in the discounted cash flow valuation model include discount rates, growth rates, tax rates, cash flow projections and terminal value rates. All of these methodologies require significant management judgment and, therefore, are susceptible to change. We calculate the fair value of the identifiable tangible and intangible assets acquired and liabilities assumed to allocate the purchase price at the acquisition date. We may use the assistance of third-party valuation consultants. See Note 4 - Acquisitions, Dispositions and Plant Closures in the accompanying consolidated financial statements for further information.

- ***Recoverability of Long-Lived Assets***

Recoverability of Goodwill and Indefinite-Lived Assets

We assess the recoverability of the carrying amount of our goodwill and other indefinite-lived intangible assets annually during the third quarter of our fiscal year using June 30 balances or whenever events or changes in circumstances indicate that the carrying amount of the asset may not be fully recoverable.

When assessing the recoverability of goodwill and other indefinite-lived intangible assets, we may first assess qualitative factors in determining whether it is more likely than not that the fair value of a reporting unit or another indefinite-lived intangible asset is less than its carrying amount. The qualitative evaluation is an assessment of multiple factors, including the current operating environment, financial performance and market considerations. We may elect to bypass the qualitative assessment for some or all of our reporting units or other indefinite-lived intangible assets and proceed directly to a quantitative analysis depending on the facts and circumstances.

In performing a quantitative analysis of goodwill, recoverability of goodwill for each reporting unit is measured using a discounted cash flow model incorporating discount rates commensurate with the risks involved. The key assumptions used in the discounted cash flow valuation model include discount rates, growth rates, tax rates, cash flow projections and terminal value rates. Discount rates, growth rates and cash flow projections are the most sensitive and susceptible to change as they require significant management judgment.

Management tests other indefinite-lived intangible assets quantitatively utilizing the relief from royalty method under the income approach to determine the estimated fair value for each indefinite-lived intangible asset. Key assumptions used in this model include discount rates, royalty rates, growth rates, tax rates, sales projections and terminal value rates. Discount rates, royalty rates, growth rates, tax rates and sales projections are the assumptions most sensitive and susceptible to change as they require significant management judgment.

Specific assumptions discussed above are updated at the date of each test to consider current industry and company-specific risk factors from the perspective of a market participant. The current business environment is subject to evolving market conditions and requires significant management judgment to interpret the potential impact to our assumptions. To the extent that changes in the current business environment result in adjusted management projections, impairment losses may occur in future periods.

See Note 9 - Goodwill and Intangible Assets, Net in the accompanying consolidated financial statements for further information.

- ***Benefit Obligations***

Various assumptions are used in the calculation of the actuarial valuation of the employee benefit plans. These key assumptions include the discount rate and expected long-term rates of return on plan assets. The actuarial assumptions used may differ materially from actual results due to changing market and economic conditions. These differences may result in a significant impact to the amount of net periodic benefit cost recorded in future periods.

Pension assumptions are reviewed annually in the fourth quarter of each fiscal year and whenever a plan is required to be remeasured. Assumptions are reviewed on a plan and country-specific basis by third-party actuaries and senior management. Such assumptions are adjusted as appropriate to reflect changes in market rates and outlook.

See Note 12 - Benefit Obligations in the accompanying consolidated financial statements for further information.

The estimated change in pension net periodic benefit cost and projected benefit obligations that would occur in 2024 from a change in the indicated assumptions are as follows:

	Change in Rate	Impact on Net Periodic Benefit Cost	Impact on Projected Benefit Obligations
		(In $ millions)	
U.S. Pension Benefits			
Decrease in the discount rate	0.5 %	(6)	84
Decrease in the long-term expected rate of return on plan assets[(1)]	0.5 %	10	N/A
Non-U.S. Pension Benefits			
Decrease in the discount rate	0.5 %	(1)	59
Decrease in the long-term expected rate of return on plan assets	0.5 %	3	N/A

(1) Excludes nonqualified pension plans.

- ***Income Taxes***

We regularly review our deferred tax assets for recoverability and establish a valuation allowance as needed. In forming our judgment regarding the recoverability of deferred tax assets related to deductible temporary differences and tax attribute carryforwards, we give weight to positive and negative evidence based on the extent to which the forms of evidence can be objectively verified.

The recoverability of deferred tax assets and the recognition and measurement of uncertain tax positions are subject to various assumptions and management judgment. If actual results differ from the estimates made by management in establishing or maintaining valuation allowances against deferred tax assets, the resulting change in the valuation allowance would generally impact earnings or Other comprehensive income depending on the nature of the respective deferred tax asset. In addition, the positions taken with regard to tax contingencies may be subject to audit and review by tax authorities, which may result in future taxes, interest and penalties.

See Note 15 - Income Taxes in the accompanying consolidated financial statements for further information.

Recent Accounting Pronouncements

See Note 3 - Recent Accounting Pronouncements in the accompanying consolidated financial statements for information regarding recent accounting pronouncements.

Item 7A. ***Quantitative and Qualitative Disclosures About Market Risk***

Market Risks

Our financial market risk consists principally of exposure to currency exchange rates, interest rates and commodity prices. Exchange rate and interest rate risks are managed with a variety of techniques, including use of derivatives. We have in place policies of hedging against changes in currency exchange rates, interest rates and commodity prices as described below.

See Note 2 - Summary of Accounting Policies in the accompanying consolidated financial statements for further information regarding our derivative and hedging instruments accounting policies related to financial market risk.

See Note 17 - Derivative Financial Instruments in the accompanying consolidated financial statements for further information regarding our market risk management and the related impact on our financial position and results of operations.

- ***Foreign Currency Forwards and Swaps***

A portion of our assets, liabilities, net sales and expenses are denominated in currencies other than the U.S. dollar. Fluctuations in the value of these currencies against the U.S. dollar can have a direct and material impact on the business and financial results. Our largest exposures are to the euro and Chinese yuan ("CNY"). A decline in the value of the euro and CNY versus the U.S. dollar results in a decline in the U.S. dollar value of our sales and earnings denominated in euros and CNYs. Likewise, an

increase in the value of the euro and CNY versus the U.S. dollar would result in an opposite effect. We estimate that a 10% change in the euro/U.S. dollar and CNY/U.S. dollar exchange rates would impact our earnings by $19 million and $31 million, respectively.

Item 8. ***Financial Statements and Supplementary Data***

The selected quarterly financial data is no longer required, as the Company adopted the amendment to Item 302 of Regulation S-K contained in SEC Release No. 33-10890, which became effective on February 10, 2021. There were no material retrospective changes to any quarters in the two most recent fiscal years that would require this disclosure.

Item 9. ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure***

None.

Item 9A. ***Controls and Procedures***

Under the supervision and with the participation of our management, including the Chief Executive Officer and Chief Financial Officer, we have evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended, as of the end of the period covered by this Annual Report. Based on that evaluation, as of December 31, 2023, the Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures are effective.

Changes in Internal Control Over Financial Reporting

During the three months ended December 31, 2023, there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Report of Management on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. Internal control over financial reporting is a process to provide reasonable assurance regarding the reliability of our financial reporting for external purposes in accordance with accounting principles generally accepted in the United States of America. Internal control over financial reporting includes maintaining records that in reasonable detail accurately and fairly reflect our transactions; providing reasonable assurance that transactions are recorded as necessary for preparation of our consolidated financial statements; providing reasonable assurance that receipts and expenditures of company assets are made in accordance with management authorization; and providing reasonable assurance that unauthorized acquisition, use or disposition of company assets that could have a material effect on our consolidated financial statements would be prevented or detected on a timely basis. Because of its inherent limitations, internal control over financial reporting is not intended to provide absolute assurance that a misstatement of our consolidated financial statements would be prevented or detected.

Management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that the Company's internal control over financial reporting was effective as of December 31, 2023. The Company's independent registered public accounting firm, KPMG LLP, has issued an audit report on the effectiveness of the Company's internal control over financial reporting. Their report follows on page 62.

Item 9B. ***Other Information***

(c) Trading Plans

During the quarter ended December 31, 2023, no director or Section 16 officer adopted or terminated any Rule 10b5-1 trading plans or "non-Rule 10b5-1 trading arrangements" as defined in Item 408 of Regulation S-K, except as described in the table below:

			Type of Trading Arrangement				
Name and Position	**Action**	**Applicable Date**	**Rule 10b5-1***	**Non-Rule 10b5-1****	**Aggregate Number of Shares of Common Stock to be Sold**	**Aggregate Number of Shares of Common Stock to be Purchased**	**Duration of Trading Arrangement[(1)]**
Scott A. Richardson, Executive Vice President and Chief Operating Officer	Adoption	December 13, 2023	x		4,000	–	March 14, 2024 - June 28, 2024

* Contract, instruction or written plan intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) under the Exchange Act.

** "Non-Rule 10b5-1 trading arrangement" as defined in Item 408(c) of Regulation S-K under the Exchange Act.

(1) The plan expires on June 28, 2024, or upon the earlier completion of all authorized transactions under the plan.

Item 9C. ***Disclosure Regarding Foreign Jurisdictions that Prevent Inspections***

Not applicable.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance***

The information required by this Item 10 is incorporated herein by reference from the subsections of "Governance," captioned "Item 1: Election of Directors," "Director Nominees," "Board and Committee Governance," "Additional Governance Matters" and the sections "Stock Ownership Information" and "Questions and Answers — Company Documents, Communications and Shareholder Proposals" sections of the Company's definitive proxy statement for the 2024 annual meeting of shareholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended (the "2024 Proxy Statement"). With regard to the information required by this Item regarding compliance with Section 16(a) of the Exchange Act, we will provide disclosure of delinquent Section 16(a) reports, if any, in the 2024 Proxy Statement under "Delinquent Section 16(a) Reports" and such disclosure, if any, is incorporated herein by reference. Information about executive officers of the Company is contained in Part I of this Annual Report.

Codes of Ethics

The Company has adopted a Business Conduct Policy for directors, officers and employees along with a Financial Code of Ethics for its principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. These codes are available on the corporate governance portal of the Company's investor relations website at investors.celanese.com. The Company intends to satisfy the disclosure requirements under Item 5.05 of Form 8-K regarding amendments to and waivers from these codes by posting such information on the same website.

Item 11. ***Executive Compensation***

The information required by this Item 11 is incorporated herein by reference from the section "Governance – Director Compensation" and the subsections of "Executive Compensation" captioned "Compensation Discussion and Analysis," "Compensation Risk Assessment," "Compensation and Management Development Committee Report," "Compensation Tables," "CEO Pay Ratio" and "Pay Versus Performance" of the 2024 Proxy Statement.

Item 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Shareholder Matters***

The information with respect to beneficial ownership and equity compensation plans required by this Item 12 is incorporated herein by reference from the subsections of "Stock Ownership Information" captioned "Principal Shareholders and Beneficial Owners" and "Securities Authorized for Issuance Under Equity Compensation Plans" in the 2024 Proxy Statement.

Item 13. ***Certain Relationships and Related Transactions, and Director Independence***

The information required by this Item 13 is incorporated herein by reference from the "Governance — Director Independence and Related Person Transactions" section of the 2024 Proxy Statement.

Item 14. ***Principal Accounting Fees and Services***

Our independent registered public accounting firm is KPMG LLP, Dallas, TX, Auditor Firm ID: 185.

The information required by this Item 14 is incorporated herein by reference from the "Audit Matters — Item 2: Ratification of Appointment of Independent Registered Public Accounting Firm" section of the 2024 Proxy Statement.

PART IV

Item 15. ***Exhibits and Financial Statement Schedules***

1. *Financial Statements.* The report of our independent registered public accounting firm and our consolidated financial statements are listed below and begin on page 62 of this Annual Report.

	Page Number
Report of Independent Registered Public Accounting Firm	62
Consolidated Statements of Operations	64
Consolidated Statements of Comprehensive Income (Loss)	65
Consolidated Balance Sheets	66
Consolidated Statements of Equity	67
Consolidated Statements of Cash Flows	68
Notes to the Consolidated Financial Statements	69

2. *Financial Statement Schedules.*

The financial statement schedules required by this item, if any, are included as Exhibits to this Annual Report.

3. *Exhibit List.*

INDEX TO EXHIBITS[(1)]

Exhibits will be furnished upon request for a nominal fee, limited to reasonable expenses.

Exhibit Number	Description
3.1	Second Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Quarterly Report on Form 10-Q filed with the SEC on October 18, 2016).
3.1(a)	Certificate of Amendment to the Second Amended and Restated Certificate of Incorporation of Celanese Corporation dated as of April 21, 2016 (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the SEC on April 22, 2016).
3.1(b)	Certificate of Amendment to the Second Amended and Restated Certificate of Incorporation of Celanese Corporation dated as of September 17, 2018 (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the SEC on September 17, 2018).
3.1(c)	Certificate of Amendment to the Second Amended and Restated Certificate of Incorporation of Celanese Corporation dated as of April 18, 2019 (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the SEC on April 23, 2019).
3.2	Seventh Amended and Restated By-laws, effective as of November 2, 2022 (incorporated by reference to Exhibit 3.1 to the Quarterly Report on Form 10-Q filed with the SEC on November 4, 2022).
4.1	Form of certificate of Common Stock (incorporated by reference to Exhibit 4.1 to the Registration Statement on Form 8-A/A filed with the SEC on September 18, 2018).
4.2	Indenture, dated May 6, 2011, by and between Celanese US Holdings LLC, Celanese Corporation and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K filed with the SEC on May 6, 2011).
4.3	Seventh Supplemental Indenture, dated as of December 11, 2017, among Celanese US Holdings LLC, Celanese Corporation, the subsidiary guarantors party thereto, Wells Fargo Bank, National Association, as trustee, and Deutsche Bank Trust Companies Americas, as paying agent, registrar and transfer agent (incorporated by reference to Exhibit 4.2 to the Form 8-K filed with the SEC on December 11, 2017).
4.4	Eighth Supplemental Indenture, dated as of November 5, 2018, among Celanese US Holdings LLC, Celanese Corporation, the subsidiary guarantors party thereto, Wells Fargo Bank, National Association, as trustee, and Deutsche Bank Trust Company Americas, as paying agent, registrar and transfer agent (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K filed with the SEC on November 5, 2018).

Exhibit Number	Description
4.5	Ninth Supplemental Indenture, dated as of May 8, 2019, among Celanese US Holdings LLC, Celanese Corporation, the subsidiary guarantors party thereto and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K filed with the SEC on May 8, 2019).
4.6	Tenth Supplemental Indenture, dated as of August 5, 2021, among Celanese US Holdings LLC, Celanese Corporation, the subsidiary guarantors party thereto and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.2 to the Current Report on From 8-K filed with the SEC on August 5, 2021).
4.7	Eleventh Supplemental Indenture, dated as of September 10, 2021, among Celanese US Holdings LLC, Celanese Corporation, the subsidiary guarantors party thereto and Wells Fargo Bank, National Association, as trustee, and Deutsche Bank Trust Company Americas, as paying agent, registrar and transfer agent (incorporated by reference to Exhibit 4.2 to the Current Report on From 8-K filed with the SEC on September 10, 2021).
4.8	Twelfth Supplemental Indenture, dated as of July 14, 2022, among Celanese US Holdings LLC, Celanese Corporation, the subsidiary guarantors party thereto, U.S. Bank Trust Company, National Association, as series trustee and Computershare Trust Company, N.A. (as successor trustee to Wells Fargo Bank, National Association), as base trustee (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K filed with the SEC on July 14, 2022).
4.9	Thirteenth Supplemental Indenture, dated as of July 19, 2022, among Celanese US Holdings LLC, Celanese Corporation, the subsidiary guarantors party thereto, U.S. Bank Trust Company, National Association, as series trustee, registrar and transfer agent, Computershare Trust Company, N.A. (as successor trustee to Wells Fargo Bank, National Association), as base trustee, and Elavon Financial Services DAC, UK Branch, as paying agent (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K filed with the SEC on July 19, 2022).
4.10	Fourteenth Supplemental Indenture, dated as of August 24, 2023, among Celanese US Holdings LLC, Celanese Corporation, the subsidiary guarantors party thereto, U.S. Bank Trust Company, National Association, as series trustee and Computershare Trust Company, N.A. (as successor trustee to Wells Fargo Bank, National Association), as base trustee (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K filed with the SEC on August 24, 2023).
4.11*	Description of the Company's Securities Registered Under Section 12 of the Securities Exchange Act of 1934.
10.1†	Credit Agreement, dated as of March 18, 2022, by and among Celanese Corporation, Celanese US Holdings LLC, Celanese Europe B.V., certain subsidiaries of Celanese US Holdings LLC from time to time party thereto as borrowers, each lender from time to time party thereto, Bank of America, N.A., as Administrative Agent, a Swing Line Lender and an L/C Issuer and other Swing Line Lenders and L/C Issuers party thereto (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K Filed with the SEC on March 24, 2022).
10.1(a)	First Amendment to Credit Agreement, dated as of February 21, 2023, by and among Celanese Corporation, Celanese US Holdings LLC, Celanese Europe B.V., the subsidiary guarantors party thereto, each lender party thereto, and Bank of America, N.A., as Administrative Agent, amending that certain Credit Agreement dated as of March 18, 2022 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on February 23, 2023).
10.1(b)	Second Amendment to Credit Agreement, dated as of February 16, 2024, by and among Celanese Corporation, Celanese US Holdings LLC, Celanese Europe B.V., the subsidiary guarantors party thereto, each lender party thereto, and Bank of America, N.A., as Administrative Agent, amending that certain Credit Agreement dated as of March 18, 2022 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on February 20, 2024).
10.2†	Term Loan Credit Agreement, dated as of March 18, 2022, by and among Celanese Corporation, Celanese US Holdings LLC, each lender from time to time party thereto, and Bank of America, N.A., as Administrative Agent, a Swing Line Lender and an L/C Issuer and other Swing Line Lenders and L/C Issuers party thereto (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K Filed with the SEC on March 24, 2022).
10.2(a)	First Amendment to Credit Agreement, dated as of February 21, 2023, by and among Celanese Corporation, Celanese US Holdings LLC, the subsidiary guarantors party thereto, each lender party thereto, and Bank of America, N.A., as Administrative Agent, amending that certain Term Loan Credit Agreement dated as of March 18, 2022 (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the SEC on February 23, 2023).

Exhibit Number	Description
10.2(b)	Second Amendment to Credit Agreement, dated as of August 9, 2023, by and among Celanese Corporation, Celanese US Holdings LLC, the subsidiary guarantors party thereto, each lender party thereto, and Bank of America, N.A., as Administrative Agent, amending that certain Term Loan Credit Agreement dated as of March 18, 2022 (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q file with the SEC on November 8, 2023).
10.2(c)	Third Amendment to Credit Agreement, dated as of February 16, 2024, by and among Celanese Corporation, Celanese US Holdings LLC, the subsidiary guarantors party thereto, each lender party thereto, and Bank of America, N.A., as Administrative Agent, amending that certain Term Loan Credit Agreement dated as of March 18, 2022 (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the SEC on February 20, 2024).
10.3‡	Celanese Corporation 2008 Deferred Compensation Plan (incorporated by reference to Exhibit 10.6 to the Annual Report on Form 10-K filed on February 29, 2008).
10.4(a)‡	Amendment Number One to Celanese Corporation 2008 Deferred Compensation Plan dated December 11, 2008 (incorporated by reference to Exhibit 10.2 to the Registration Statement on Form S-8 filed with the SEC on April 23, 2009).
10.4(b)‡	Amendment Number Two to Celanese Corporation 2008 Deferred Compensation Plan dated December 22, 2008 (incorporated by reference to Exhibit 10.4(b) to the Annual Report on Form 10-K filed with the SEC on February 7, 2014).
10.4(c)‡	Amendment Number Three to the Celanese Corporation 2008 Deferred Compensation Plan dated October 31, 2019 (incorporated by reference to Exhibit 10.4(c) to the Annual Report on Form 10-K filed with the SEC on February 6, 2020).
10.4(d)‡	Amendment Number Four to the Celanese Corporation Deferred Compensation Plan dated February 5, 2020 (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed with the SEC on April 28, 2020).
10.4(e)‡	Amendment Number Five to the Celanese Corporation Deferred Compensation Plan dated December 28, 2020 incorporated by reference to Exhibit 10.2(e) to the Annual Report on Form 10-K filed with the SEC on February 11, 2021).
10.5‡	Celanese Corporation 2009 Employee Stock Purchase Program (incorporated by reference to Exhibit 4.5 to the Registration Statement on Form S-8 filed on April 23, 2009).
10.6‡	Celanese Corporation Amended and Restated 2018 Global Incentive Plan, effective as of April 20, 2023 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the SEC on April 25, 2023).
10.7(a)‡	Form of 2021 Executive Officer Performance-Based Restricted Stock Unit Award Agreement (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed with the SEC on April 23, 2021).
10.7(b)‡	Form of 2021 Time-Based Restricted Stock Unit Award Agreement (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q filed with the SEC on April 23, 2021).
10.7(c)‡	Form of 2021 Time-Based Restricted Stock Unit Award Agreement(for non-employee directors (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed with the SEC on July 23, 2021).
10.7(d)‡	Form of 2022 Performance-Based Restricted Stock Unit Award Agreement (incorporated by reference to Exhibit 10.4 to the Quarterly Report on Form 10-Q filed with the SEC on April 29, 2022).
10.7(e)‡	Form of 2022 Performance-Based Restricted Stock Unit Award Agreement for Chief Executive Officer (incorporated by reference to Exhibit 10.5 to the Quarterly Report on Form 10-Q filed with the SEC on April 29, 2022).
10.7(f)‡	Form of 2022 Time-Based Restricted Stock Unit Award Agreement (incorporated by reference to Exhibit 10.6 to the Quarterly Report on Form 10-Q filed with the SEC on April 29, 2022).
10.7(g)‡	Form of 2022 Time-Based Restricted Stock Unit Award Agreement for Chief Executive Officer (incorporated by reference to Exhibit 10.7 to the Quarterly Report on Form 10-Q filed with the SEC on April 29, 2022).
10.7(h)‡	Form of 2022 Time-Based Restricted Stock Unit Award Agreement (for non-employee directors) (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed with the SEC on July 29, 2022).
10.7(i)‡	Form of 2023 Performance-Based Restricted Stock Unit Award Agreement (incorporated by reference to Exhibit 10.4 to the Quarterly Report on Form 10-Q filed with the SEC on May 10, 2023).

Exhibit Number	Description
10.7(j)‡	Form of 2023 Performance-Based Restricted Stock Unit Award Agreement for Chief Executive Officer (incorporated by reference to Exhibit 10.5 to the Quarterly Report on Form 10-Q filed with the SEC on May 10, 2023).
10.7(k)‡	Form of 2023 Time-Based Stock Option Award Agreement (incorporated by reference to Exhibit 10.6 to the Quarterly Report on Form 10-Q filed with the SEC on May 10, 2023).
10.7(l)‡	Form of 2023 Time-Based Stock Option Award Agreement for Chief Executive Officer (incorporated by reference to Exhibit 10.7 to the Quarterly Report on Form 10-Q filed with the SEC on May 10, 2023).
10.7(m)‡	Form of 2023 Time-Based Restricted Stock Unit Award Agreement (for non-employee directors) (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q filed with the SEC on August 8, 2023).
10.8(a)‡	Executive Severance Benefits Plan, amended effective February 6, 2013 (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the SEC on February 12, 2013).
10.8(b)‡	Executive Severance Benefits Plan, amended effective October 18, 2017 (incorporated by reference to Exhibit 10.9(b) the Annual Report on Form 10-K filed with the SEC on February 9, 2018).
10.8(c)‡	Executive Severance Benefits Plan, amended effective February 5, 2020 (incorporated by reference to Exhibit 10.5 to the Quarterly Report on Form 10-Q filed with the SEC on April 28, 2020).
10.9(a)*‡	Agreement and General Release, dated November 1, 2023 between Celanese Corporation and Anne L. Puckett.
10.9(b)‡	Amended and Restated Offer Letter, dated February 5, 2020, between Celanese Corporation and Lori J. Ryerkerk (incorporated by reference to Exhibit 10.6 to the Quarterly Report on Form 10-Q filed with the SEC on April 28, 2020).
10.9(c)‡	Settlement Agreement, dated February 13, 2023, between Celanese Corporation and John Fotheringham (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q filed with the SEC on August 8, 2023).
10.10(a)‡	Form of Amended and Restated Change in Control Agreement between Celanese Corporation and Lori J. Ryerkerk (incorporated by reference to Exhibit 10.7 to the Quarterly Report on Form 10-Q filed with the SEC on April 28, 2020).
10.10(b)‡	Form of Amended and Restated Change in Control Agreement between Celanese Corporation and participant, together with a schedule identifying each of the executive officers with substantially identical agreements (incorporated by reference to Exhibit 10.8 to the Quarterly Report on Form 10-Q filed with the SEC on April 28, 2020).
10.10(b).1*‡	Amended Schedule of Participants to Form of Non-CEO Amended and Restated Change in Control Agreement.
10.11‡	Form of Long-Term Incentive Claw-Back Agreement between Celanese Corporation and award recipient (incorporated by reference to Exhibit 10.4 to the Current Report on Form 8-K/A filed with the SEC on January 26, 2009).
10.12‡	Celanese Americas Supplemental Retirement Savings Plan, as amended and restated effective January 1, 2014 (incorporated by reference to Exhibit 10.14(a) to the Annual Report on Form 10-K filed with the SEC on February 6, 2015).
10.12(a)‡	Amendment Number One to the Celanese Americas Supplemental Retirement Savings Plan, as amended and restated effective January 1, 2014, dated December 28, 2020 (incorporated by reference to Exhibit 10.11(a) to the Annual Report on Form 10-K filed with the SEC on February 11, 2021).
10.13‡	Celanese Americas Supplemental Retirement Pension Plan, as amended and restated effective January 1, 2009 (incorporated by reference to Exhibit 10.15 to the Annual Report on Form 10-K filed with the SEC on February 6, 2020).
10.13(a)‡	First Amendment to the Celanese Americas Supplemental Retirement Pension Plan, as amended and restated effective January 1, 2009, dated as of July 22, 2013 (incorporated by reference to Exhibit 10.15(a) to the Annual Report on Form 10-K filed with the SEC on February 6, 2020).
10.13(b)‡	Amendment Number Two to the Celanese Americas Supplemental Retirement Pension Plan, as amended and restated effective January 1, 2009, dated as of February 5, 2020 (incorporated by reference to Exhibit 10.9 to the Quarterly Report on Form 10-Q filed with the SEC on April 28, 2020).
10.14*‡	Summary of Non-Employee Director Compensation.
21.1*	List of Subsidiaries of Celanese Corporation.

Exhibit Number	Description
22.1*	List of Guarantor Subsidiaries.
23.1*	Consent of Independent Registered Public Accounting Firm of Celanese Corporation, KPMG LLP.
24.1*	Power of Attorney (included on the signature page of this Annual Report on Form 10-K).
31.1*	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
97*	Celanese Corporation Incentive-Based Compensation Recoupment (Clawback) Policy.
101.INS*	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH*	Inline XBRL Taxonomy Extension Schema Document.
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104	The cover page from the Company's Annual Report on Form 10-K for the year ended December 31, 2023 has been formatted in Inline XBRL.

* Filed herewith.

‡ Indicates a management contract or compensatory plan or arrangement.

(1) The Company and its subsidiaries have in the past issued, and may in the future issue from time to time, long-term debt. The Company may not file with the applicable report copies of the instruments defining the rights of holders of long-term debt to the extent that the aggregate principal amount of the debt instruments of any one series of such debt instruments for which the instruments have not been filed has not exceeded or will not exceed 10% of the assets of the Company at any pertinent time. The Company hereby agrees to furnish a copy of any such instrument(s) to the SEC upon request.

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.

CELANESE CORPORATION

By:	/s/ LORI J. RYERKERK
Name:	Lori J. Ryerkerk
Title:	Chair of the Board of Directors, Chief Executive Officer and President
Date:	February 23, 2024

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Chuck B. Kyrish and Aaron M. McGilvray, and each of them, his or her true and lawful attorney-in-fact and agent, each with full power of substitution and resubstitution to sign in his or her name, place and stead, in any and all capacities, to do any and all things and execute any and all instruments that any such attorney-in-fact may deem necessary or advisable under the Securities Exchange Act of 1934 and any rules, regulations and requirements of the U.S. Securities and Exchange Commission in connection with the Annual Report on Form 10-K for the fiscal year ended December 31, 2023 and any and all amendments hereto, as fully for all intents and purposes as he or she might or could do in person, and hereby ratifies and confirms all that such said attorney-in-fact, acting alone, or his substitute or substitutes, may lawfully 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 the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ LORI J. RYERKERK Lori J. Ryerkerk	Chair of the Board of Directors, Chief Executive Officer and President (Principal Executive Officer)	February 23, 2024
/s/ CHUCK B. KYRISH Chuck B. Kyrish	Senior Vice President and Chief Financial Officer (Principal Financial Officer)	February 23, 2024
/s/ AARON M. MCGILVRAY Aaron M. McGilvray	Vice President, Finance, Controller and Chief Accounting Officer (Principal Accounting Officer)	February 23, 2024
/s/ JEAN S. BLACKWELL Jean S. Blackwell	Director	February 23, 2024
/s/ WILLIAM M. BROWN William M. Brown	Director	February 23, 2024
/s/ EDWARD G. GALANTE Edward G. Galante	Director	February 23, 2024
/s/ KATHRYN M. HILL Kathryn M. Hill	Director	February 23, 2024
/s/ DAVID F. HOFFMEISTER David F. Hoffmeister	Director	February 23, 2024

Signature	Title	Date
/s/ JAY V. IHLENFELD Jay V. Ihlenfeld	Director	February 23, 2024
/s/ DEBORAH J. KISSIRE Deborah J. Kissire	Director	February 23, 2024
/s/ MICHAEL KOENIG Michael Koenig	Director	February 23, 2024
/s/ GANESH MOORTHY Ganesh Moorthy	Director	February 23, 2024
/s/ KIM K.W. RUCKER Kim K.W. Rucker	Director	February 23, 2024

CELANESE CORPORATION AND SUBSIDIARIES
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Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Celanese Corporation:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of Celanese Corporation and subsidiaries (the Company) as of December 31, 2023 and 2022, the related consolidated statements of operations, comprehensive income (loss), equity, and cash flows for each of the years in the three-year period ended December 31, 2023, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of December 31, 2023, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2023, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2023 based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, 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 Report of Management on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (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 audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated 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 consolidated 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 consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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.

Critical Audit Matter

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

Evaluation of the Company's application of multinational income tax regulations

As discussed in Note 15 to the consolidated financial statements, the Company recorded $790 million of income tax benefit for the year ended December 31, 2023. Because of the multinational presence, the Company's effective income tax rate and related income tax attributes are significantly impacted by tax regulations in certain operating locations. As a result, the Company continuously monitors, evaluates, and responds to these impacts.

We identified the evaluation of the Company's ongoing assessment and application of multinational income tax regulations as a critical audit matter. This was due to the complex, subjective and evolving nature of tax regulations, the steps taken by the Company to interpret and respond to changes in the tax environment, and taxing authorities' collective impacts on the Company's consolidated income tax computations. As a result, a high degree of auditor judgment and the use of income tax professionals with specialized skills and knowledge were required to 1) evaluate significant income tax regulations, including changes thereto, 2) assess the application of the taxing authorities' regulations of the Company's business operations, and 3) evaluate the Company's accounting for income taxes pertaining to significant transactions and restructurings.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the critical audit matter. This included controls related to 1) the application of tax regulations, 2) the execution of certain significant transactions and restructurings, and 3) their collective impacts on consolidated income tax computations. We involved income tax professionals with specialized skills and knowledge, who assisted in evaluating the Company's interpretation and application of tax regulations, including tax regulation changes, and the associated income tax consequences. They also assisted in assessing certain significant transactions and restructurings, including reviewing the underlying documentation and evaluating the impact on the Company's global tax rate.

/s/ KPMG LLP

We have served as the Company's auditor since 2004.

Dallas, Texas
February 23, 2024

CELANESE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
	2023	2022	2021
	(In $ millions, except share and per share data)		
Net sales	10,940	9,673	8,537
Cost of sales	(8,337)	(7,293)	(5,855)
Gross profit	2,603	2,380	2,682
Selling, general and administrative expenses	(1,075)	(824)	(633)
Amortization of intangible assets	(164)	(62)	(25)
Research and development expenses	(146)	(112)	(86)
Other (charges) gains, net	(68)	(8)	3
Foreign exchange gain (loss), net	32	(1)	2
Gain (loss) on disposition of businesses and assets, net	505	5	3
Operating profit (loss)	1,687	1,378	1,946
Equity in net earnings (loss) of affiliates	102	220	146
Non-operating pension and other postretirement employee benefit (expense) income	(69)	17	106
Interest expense	(720)	(405)	(91)
Refinancing expense	(7)	—	(9)
Interest income	39	69	8
Dividend income - equity investments	126	133	147
Other income (expense), net	25	9	(5)
Earnings (loss) from continuing operations before tax	1,183	1,421	2,248
Income tax (provision) benefit	790	489	(330)
Earnings (loss) from continuing operations	1,973	1,910	1,918
Earnings (loss) from operation of discontinued operations	(12)	(9)	(27)
Income tax (provision) benefit from discontinued operations	3	1	5
Earnings (loss) from discontinued operations	(9)	(8)	(22)
Net earnings (loss)	1,964	1,902	1,896
Net (earnings) loss attributable to noncontrolling interests	(4)	(8)	(6)
Net earnings (loss) available to Celanese Corporation	1,960	1,894	1,890
Amounts attributable to Celanese Corporation			
Earnings (loss) from continuing operations	1,969	1,902	1,912
Earnings (loss) from discontinued operations	(9)	(8)	(22)
Net earnings (loss)	1,960	1,894	1,890
Earnings (loss) per common share - basic			
Continuing operations	18.09	17.55	17.19
Discontinued operations	(0.08)	(0.07)	(0.20)
Net earnings (loss) - basic	18.01	17.48	16.99
Earnings (loss) per common share - diluted			
Continuing operations	18.00	17.41	17.06
Discontinued operations	(0.08)	(0.07)	(0.20)
Net earnings (loss) - diluted	17.92	17.34	16.86
Weighted average shares - basic	108,848,962	108,380,082	111,224,017
Weighted average shares - diluted	109,379,664	109,235,376	112,084,412

See the accompanying notes to the consolidated financial statements.

CELANESE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

	Year Ended December 31,		
	2023	2022	2021
		(In $ millions)	
Net earnings (loss)	1,964	1,902	1,896
Other comprehensive income (loss), net of tax			
Foreign currency translation gain (loss)	(213)	(217)	(11)
Gain (loss) on derivative hedges	(6)	21	13
Pension and postretirement benefits	(7)	7	(3)
Total other comprehensive income (loss), net of tax	(226)	(189)	(1)
Total comprehensive income (loss), net of tax	1,738	1,713	1,895
Comprehensive (income) loss attributable to noncontrolling interests	(4)	(8)	(6)
Comprehensive income (loss) attributable to Celanese Corporation	1,734	1,705	1,889

See the accompanying notes to the consolidated financial statements.

CELANESE CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	As of December 31,	
	2023	2022
	(In $ millions, except share data)	
ASSETS		
Current Assets		
Cash and cash equivalents	1,805	1,508
Trade receivables - third party and affiliates	1,243	1,379
Non-trade receivables, net	541	675
Inventories	2,357	2,808
Other assets	272	241
Total current assets	6,218	6,611
Investments in affiliates	1,220	1,062
Property, plant and equipment (net of accumulated depreciation - 2023: $4,080; 2022: $3,687)	5,584	5,584
Operating lease right-of-use assets	422	413
Deferred income taxes	1,677	808
Other assets	524	547
Goodwill	6,977	7,142
Intangible assets, net	3,975	4,105
Total assets	26,597	26,272
LIABILITIES AND EQUITY		
Current Liabilities		
Short-term borrowings and current installments of long-term debt - third party and affiliates	1,383	1,306
Trade payables - third party and affiliates	1,510	1,518
Other liabilities	1,154	1,201
Income taxes payable	25	43
Total current liabilities	4,072	4,068
Long-term debt, net of unamortized deferred financing costs	12,301	13,373
Deferred income taxes	999	1,242
Uncertain tax positions	300	322
Benefit obligations	457	411
Operating lease liabilities	325	364
Other liabilities	591	387
Commitments and Contingencies		
Shareholders' Equity		
Preferred stock, $0.01 par value, 100,000,000 shares authorized (2023 and 2022: 0 issued and outstanding)	—	—
Common stock, $0.0001 par value, 400,000,000 shares authorized (2023: 170,476,740 issued and 108,906,426 outstanding; 2022: 170,135,425 issued and 108,473,932 outstanding)	—	—
Treasury stock, at cost (2023: 61,570,314 shares; 2022: 61,661,493 shares)	(5,488)	(5,491)
Additional paid-in capital	394	372
Retained earnings	12,929	11,274
Accumulated other comprehensive income (loss), net	(744)	(518)
Total Celanese Corporation shareholders' equity	7,091	5,637
Noncontrolling interests	461	468
Total equity	7,552	6,105
Total liabilities and equity	26,597	26,272

See the accompanying notes to the consolidated financial statements.

CELANESE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY

	Year Ended December 31,					
	2023		2022		2021	
	Shares	Amount	Shares	Amount	Shares	Amount
	(In $ millions, except share data)					
Common Stock						
Balance as of the beginning of the period	108,473,932	—	108,023,735	—	114,168,464	—
Stock option exercises	968	—	—	—	—	—
Purchases of treasury stock	—	—	—	—	(6,556,378)	—
Stock awards	431,526	—	450,197	—	411,649	—
Balance as of the end of the period	108,906,426	—	108,473,932	—	108,023,735	—
Treasury Stock						
Balance as of the beginning of the period	61,661,493	(5,491)	61,736,289	(5,492)	55,234,515	(4,494)
Purchases of treasury stock, including related fees	—	—	—	—	6,556,378	(1,000)
Issuance of treasury stock under stock plans	(91,179)	3	(74,796)	1	(54,604)	2
Balance as of the end of the period	61,570,314	(5,488)	61,661,493	(5,491)	61,736,289	(5,492)
Additional Paid-In Capital						
Balance as of the beginning of the period		372		333		257
Stock-based compensation, net of tax		22		39		76
Balance as of the end of the period		394		372		333
Retained Earnings						
Balance as of the beginning of the period		11,274		9,677		8,091
Net earnings (loss) attributable to Celanese Corporation		1,960		1,894		1,890
Common stock dividends		(305)		(297)		(304)
Balance as of the end of the period		12,929		11,274		9,677
Accumulated Other Comprehensive Income (Loss), Net						
Balance as of the beginning of the period		(518)		(329)		(328)
Other comprehensive income (loss), net of tax		(226)		(189)		(1)
Balance as of the end of the period		(744)		(518)		(329)
Total Celanese Corporation shareholders' equity		7,091		5,637		4,189
Noncontrolling Interests						
Balance as of the beginning of the period		468		348		369
Net earnings (loss) attributable to noncontrolling interests		4		8		6
Distributions/dividends to noncontrolling interests		(11)		(13)		(27)
Acquisition of noncontrolling interests		—		125		—
Balance as of the end of the period		461		468		348
Total equity		7,552		6,105		4,537

See the accompanying notes to the consolidated financial statements.

CELANESE CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2023	2022	2021
		(In $ millions)	
Operating Activities			
Net earnings (loss)	1,964	1,902	1,896
Adjustments to reconcile net earnings (loss) to net cash provided by (used in) operating activities			
Asset impairments	15	14	2
Depreciation, amortization and accretion	739	478	378
Pension and postretirement net periodic benefit cost	13	(85)	(136)
Pension and postretirement contributions	(49)	(48)	(51)
Actuarial (gain) loss on pension and postretirement plans	66	81	41
Pension curtailments and settlements, net	1	—	3
Deferred income taxes, net	(967)	(835)	13
(Gain) loss on disposition of businesses and assets, net	(501)	(8)	(5)
Stock-based compensation	40	60	95
Undistributed earnings in unconsolidated affiliates	55	(3)	(34)
Other, net	9	11	28
Operating cash provided by (used in) discontinued operations	(2)	(28)	15
Changes in operating assets and liabilities			
Trade receivables - third party and affiliates, net	105	218	(396)
Inventories	398	(253)	(367)
Other assets	277	(13)	(80)
Trade payables - third party and affiliates	20	(84)	353
Other liabilities	(284)	412	2
Net cash provided by (used in) operating activities	1,899	1,819	1,757
Investing Activities			
Capital expenditures on property, plant and equipment	(568)	(543)	(467)
Acquisitions, net of cash acquired	52	(10,589)	(1,142)
Proceeds from sale of businesses and assets, net	480	48	27
Proceeds from sale of marketable securities	—	—	516
Other, net	(98)	(57)	(53)
Net cash provided by (used in) investing activities	(134)	(11,141)	(1,119)
Financing Activities			
Net change in short-term borrowings with maturities of 3 months or less	(278)	36	206
Proceeds from short-term borrowings	452	500	—
Repayments of short-term borrowings	(603)	—	(6)
Proceeds from long-term debt	3,001	10,769	990
Repayments of long-term debt	(3,660)	(526)	(786)
Purchases of treasury stock, including related fees	—	(17)	(1,000)
Common stock dividends	(305)	(297)	(304)
Distributions/dividends to noncontrolling interests	(11)	(13)	(27)
Settlement of forward-starting interest rate swaps	—	—	(72)
Issuance cost of bridge facility	—	(63)	—
Other, net	(52)	(99)	(43)
Net cash provided by (used in) financing activities	(1,456)	10,290	(1,042)
Exchange rate effects on cash and cash equivalents	(12)	4	(15)
Net increase (decrease) in cash and cash equivalents	297	972	(419)
Cash and cash equivalents as of beginning of period	1,508	536	955
Cash and cash equivalents as of end of period	1,805	1,508	536

See the accompanying notes to the consolidated financial statements.

1. Description of the Company and Basis of Presentation

Description of the Company

Celanese Corporation and its subsidiaries (collectively, the "Company") is a global chemical and specialty materials company. The Company produces high performance engineered polymers that are used in a variety of high-value applications, as well as acetyl products, which are intermediate chemicals for nearly all major industries. The Company also engineers and manufactures a wide variety of products essential to everyday living. The Company's broad product portfolio serves a diverse set of end-use applications including automotive, chemical additives, construction, consumer and industrial adhesives, medical, consumer electronics, energy storage, filtration, paints and coatings, paper and packaging, industrial applications and textiles.

Definitions

In this Annual Report on Form 10-K ("Annual Report"), the term "Celanese" refers to Celanese Corporation, a Delaware corporation, and not its subsidiaries. The term "Celanese U.S." refers to the Company's subsidiary, Celanese US Holdings LLC, a Delaware limited liability company, and not its subsidiaries.

Basis of Presentation

The consolidated financial statements contained in this Annual Report were prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") for all periods presented and include the accounts of the Company, its majority owned subsidiaries over which the Company exercises control and, when applicable, variable interest entities in which the Company is the primary beneficiary. The consolidated financial statements and other financial information included in this Annual Report, unless otherwise specified, have been presented to separately show the effects of discontinued operations.

In the ordinary course of business, the Company enters into contracts and agreements relative to a number of topics, including acquisitions, dispositions, joint ventures, supply agreements, product sales and other arrangements. The Company endeavors to describe those contracts or agreements that are material to its business, results of operations or financial position. The Company may also describe some arrangements that are not material but in which the Company believes investors may have an interest or which may have been included in a Form 8-K filing. Investors should not assume the Company has described all contracts and agreements relative to the Company's business in this Annual Report.

For those consolidated ventures in which the Company owns or is exposed to less than 100% of the economics, the outside shareholders' interests are shown as noncontrolling interests.

2. Summary of Accounting Policies

Critical Accounting Policies

Purchase Accounting

The Company recognizes the identifiable tangible and intangible assets acquired and liabilities assumed based on their estimated fair values as of the acquisition date. The excess of purchase price over the aggregate fair values is recorded as goodwill. Intangible assets are valued using the relief from royalty, multi-period excess earnings and discounted cash flow methodologies, which are considered Level 3 measurements. The relief from royalty method estimates the Company's theoretical royalty savings from ownership of the intangible asset. Key assumptions used in this method include discount rates, royalty rates, growth rates, sales projections and terminal value rates. Key assumptions used in the multi-period excess earnings method include discount rates, retention rates, growth rates, sales projections, expense projections and contributory asset charges. Key assumptions used in the discounted cash flow valuation model include discount rates, growth rates, tax rates, cash flow projections and terminal value rates. All of these methodologies require significant management judgment and, therefore, are susceptible to change. The Company calculates the fair value of the identifiable tangible and intangible assets acquired and liabilities assumed to allocate the purchase price at the acquisition date. The Company may use the assistance of third-party valuation consultants.

Recoverability of Goodwill and Indefinite-Lived Assets

The Company assesses the recoverability of the carrying amount of its reporting unit goodwill and other indefinite-lived intangible assets either qualitatively or quantitatively annually during the third quarter of its fiscal year using June 30 balances or whenever events or changes in circumstances indicate that the carrying amount of the asset may not be fully recoverable. Recoverability of the carrying amount of goodwill is measured at the reporting unit level. The Company assesses the recoverability of finite-lived intangible assets in the same manner as for property, plant and equipment. Impairment losses are generally recorded in Other (charges) gains, net in the consolidated statements of operations.

When assessing the recoverability of goodwill and other indefinite-lived intangible assets, the Company may first assess qualitative factors in determining whether it is more likely than not that the fair value of a reporting unit, including goodwill, or another indefinite-lived intangible asset is less than its carrying amount. The qualitative evaluation is an assessment of multiple factors, including the current operating environment, financial performance and market considerations. The Company may elect to bypass this qualitative assessment for some or all of its reporting units or other indefinite-lived intangible assets and perform a quantitative test, based on management's judgment.

In performing a quantitative analysis of goodwill, the Company measures the recoverability of goodwill for each reporting unit using a discounted cash flow model incorporating discount rates commensurate with the risks involved, which is classified as a Level 3 fair value measurement. The key assumptions used in the discounted cash flow valuation model include discount rates, growth rates, tax rates, cash flow projections and terminal value rates. Discount rates, growth rates and cash flow projections are the most sensitive and susceptible to change as they require significant management judgment. Discount rates used are similar to the rates estimated by the weighted average cost of capital ("WACC") considering any differences in company-specific risk factors. The Company may engage third-party valuation consultants to assist with this process.

Management tests other indefinite-lived intangible assets for impairment quantitatively utilizing the relief from royalty method under the income approach to determine the estimated fair value for each indefinite-lived intangible asset, which is classified as a Level 3 fair value measurement. The relief from royalty method estimates the Company's theoretical royalty savings from ownership of the intangible asset. The key assumptions used in this model include discount rates, royalty rates, growth rates, tax rates, sales projections and terminal value rates. Discount rates, royalty rates, growth rates and sales projections are the assumptions most sensitive and susceptible to change as they require significant management judgment. Discount rates used are similar to the rates estimated by the WACC considering any differences in company-specific risk factors. Royalty rates are established by management and are periodically substantiated by third-party valuation consultants.

Pension and Other Postretirement Obligations

The Company recognizes a balance sheet asset or liability for each of its pension and other postretirement benefit plans equal to the plan's funded status as of a December 31 measurement date. The amounts recognized in the consolidated financial statements related to pension and other postretirement benefits are determined on an actuarial basis. Various assumptions are used in the calculation of the actuarial valuation of the employee benefit plans. These assumptions include the discount rate, compensation levels, expected long-term rates of return on plan assets and trends in health care costs. In addition, actuarial consultants use factors such as withdrawal and mortality rates to estimate the projected benefit obligation.

The Company applies the long-term expected rate of return to the fair value of plan assets and immediately recognizes in operating results the change in fair value of plan assets and net actuarial gains and losses annually in the fourth quarter of each fiscal year and whenever a plan is required to be remeasured. Events requiring a plan remeasurement will be recognized in the quarter in which such remeasurement event occurs. The remaining components of pension and other postretirement plan net periodic benefit costs are recorded on a quarterly basis.

The Company allocates the service cost and amortization of prior service cost (or credit) components of its pension and postretirement plans to its business segments. Interest cost, expected return on assets and net actuarial gains and losses are considered financing activities managed at the corporate level and are recorded to Other Activities. The Company believes the expense allocation appropriately matches the cost incurred for active employees to the respective business segment.

Other postretirement benefit plans provide medical and life insurance benefits to retirees who meet minimum age and service requirements. The key determinants of the accumulated postretirement benefit obligation are the discount rate and the health care cost trend rate.

- ***Discount Rate***

As of the measurement date, the Company determines the appropriate discount rate used to calculate the present value of future cash flows currently expected to be required to settle the pension and other postretirement benefit obligations. The discount rate is generally based on the yield on high-quality corporate fixed-income securities. The Company engages third-party consultants to assist with this process.

In the U.S., the rate used to discount pension and other postretirement benefit plan liabilities is based on a yield curve developed from market data of over 300 Aa-grade non-callable bonds at the measurement date. This yield curve has discount rates that vary based on the duration of the obligations. The estimated future cash flows for the pension and other benefit obligations were matched to the corresponding rates on the yield curve to derive a weighted average discount rate.

Outside of the U.S., a similar approach of discounting pension and other postretirement benefit plan liabilities is used based on the high quality corporate bonds available in each market. There are some exceptions to this methodology, namely in locations where there is a sparse corporate bond market, and in such cases the discount rate takes into account yields of government bonds at the appropriate duration.

- ***Expected Long-Term Rate of Return on Assets***

The Company determines the long-term expected rate of return on plan assets by considering the current target asset allocation, as well as the historical and expected rates of return on various asset categories in which the plans are invested. A single long-term expected rate of return on plan assets is then calculated for each plan as the weighted average of the target asset allocation and the long-term expected rate of return assumptions for each asset category within each plan. The expected rate of return is assessed annually.

- ***Investment Policies and Strategies***

The investment objectives for the Company's pension plans are to earn, over a moving 20-year period, a long-term expected rate of return, net of investment fees and transaction costs, sufficient to satisfy the benefit obligations of the plan, while at the same time maintaining adequate liquidity to pay benefit obligations and proper expenses, and meet any other cash needs, in the short- to medium-term.

The equity and debt securities objectives are to provide diversified exposure across the U.S. and global equity and fixed income markets, and to manage the risks and returns of the plans through the use of multiple managers and strategies. The fixed income strategies are designed to reduce liability-related interest rate risk by investing in bonds that match the duration and credit quality of the plan liabilities.

The financial objectives of the qualified pension plans are established in conjunction with a comprehensive review of each plan's liability structure. The Company's asset allocation policy is based on detailed asset/liability analysis. In developing investment policy and financial goals, consideration is given to each plan's demographics, the returns and risks associated with current and alternative investment strategies and the current and projected cash, expense and funding ratios of each plan. Investment policies must also comply with local statutory requirements as determined by each country. A formal asset/liability study of each plan is undertaken approximately every three to five years or whenever there has been a material change in plan demographics, benefit structure or funding status and investment market. The Company has adopted a long-term investment horizon such that the risk and duration of investment losses are weighed against the long-term potential for appreciation of assets. Although there cannot be complete assurance that these objectives will be realized, it is believed that the likelihood for their realization is reasonably high, based upon the asset allocation chosen and the historical and expected performance of the asset classes utilized by the plans. The intent is for investments to be broadly diversified across asset classes, investment styles, market sectors, investment managers, developed and emerging markets and securities in order to moderate portfolio volatility and risk. Investments may be in separate accounts, commingled trusts, mutual funds and other pooled asset portfolios provided they all conform to fiduciary standards.

External investment managers are hired to manage pension assets. Investment consultants assist with the screening process for each new manager hired. Over the long-term, the investment portfolio is expected to earn returns that exceed a composite of market indices that are weighted to match each plan's target asset allocation. The portfolio return should also (over the long-term) meet or exceed the return used for actuarial calculations in order to meet the future needs of each plan.

Income Taxes

The provision for income taxes is determined using the asset and liability approach of accounting for income taxes. Under this approach, deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes and net operating loss and tax credit carryforwards. The amount of deferred taxes on these temporary differences is determined using the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, as applicable, based on tax rates and laws in the respective tax jurisdiction enacted as of the balance sheet date.

The Company reviews its deferred tax assets for recoverability and establishes a valuation allowance based on historical taxable income, projected future taxable income, remaining carryforward periods, applicable tax strategies and the expected timing of the reversals of existing temporary differences. A valuation allowance is provided when it is more likely than not (likelihood of greater than 50%) that some portion or all of the deferred tax assets will not be realized.

The Company considers many factors when evaluating and estimating its tax positions and tax benefits, which may require periodic adjustments and which may not accurately anticipate actual outcomes. Tax positions are recognized only when it is more likely than not (likelihood of greater than 50%), based on technical merits, that the positions will be sustained upon examination. Tax positions that meet the more-likely-than-not threshold are measured using a probability weighted approach as the largest amount of tax benefit that is greater than 50% likely of being realized upon settlement. Whether the more-likely-than-not recognition threshold is met for a tax position is a matter of judgment based on the individual facts and circumstances of that position evaluated in light of all available evidence and technical authorities in the relevant jurisdiction.

The Company recognizes interest and penalties related to uncertain tax positions in Income tax (provision) benefit in the consolidated statements of operations.

Other Accounting Policies

Consolidation Principles

The consolidated financial statements have been prepared in accordance with U.S. GAAP for all periods presented and include the accounts of the Company and its majority owned subsidiaries over which the Company exercises control. All intercompany accounts and transactions have been eliminated in consolidation.

Estimates and Assumptions

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of net sales, expenses and allocated charges during the reporting period. Significant estimates pertain to impairments of goodwill, intangible assets and other long-lived assets, purchase price allocations, restructuring costs and other (charges) gains, net, income taxes, pension and other postretirement benefits, asset retirement obligations, environmental liabilities and loss contingencies, among others. Actual results could differ from those estimates.

Variable Interest Entities

The Company assesses whether it has a variable interest in legal entities in which it has a financial relationship and, if so, whether or not those entities are variable interest entities ("VIEs"). A VIE is an entity with insufficient equity at risk for the entity to finance its activities without additional subordinated financial support or in which equity investors lack the characteristics of a controlling financial interest. If an entity is determined to be a VIE, the Company evaluates whether it is the primary beneficiary. The primary beneficiary analysis is a qualitative analysis based on power and economics. The Company concludes that it is the primary beneficiary and consolidates the VIE if the Company has both (i) the power to direct the activities of the VIE that most significantly influence the VIE's economic performance, and (ii) the obligation to absorb losses of, or the right to receive benefits from, the VIE that could potentially be significant to the VIE.

The Company has a joint venture, Fairway Methanol LLC ("Fairway"), with Mitsui & Co., Ltd., of Tokyo, Japan ("Mitsui"), in which the Company owns 50% of Fairway, for the production of methanol at the Company's integrated chemical plant in Clear Lake, Texas. Fairway is a VIE in which the Company is the primary beneficiary. Accordingly, the Company consolidates the venture and records a noncontrolling interest for the share of the venture owned by Mitsui. Fairway is included in the Company's Acetyl Chain segment. As of December 31, 2023 and 2022, the carrying amount of the total assets associated with

Fairway included in the consolidated balance sheets were $626 million and $627 million, respectively, made up primarily of $529 million and $544 million, respectively, of property, plant and equipment.

The Company holds variable interests in entities that supply certain raw materials and services to the Company. The variable interests primarily relate to cost-plus contractual arrangements with the suppliers and recovery of capital expenditures for certain plant assets plus a rate of return on such assets. Liabilities for such supplier recoveries of capital expenditures have been recorded as finance lease obligations. The entities are not consolidated because the Company is not the primary beneficiary of the entities as it does not have the power to direct the activities of the entities that most significantly impact the entities' economic performance. The Company's maximum exposure to loss as a result of its involvement with these VIEs as of December 31, 2023 and 2022 were $208 million and $223 million, respectively, related primarily to the recovery of capital expenditures for certain property, plant and equipment.

Fair Value Measurements

The Company determines fair value based on the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities required to be recorded at fair value, the Company considers assumptions that market participants would use when pricing the asset or liability. Market participant assumptions are categorized by a three-tiered fair value hierarchy which prioritizes the inputs used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurement) and the lowest priority to unobservable inputs (Level 3 measurement). This hierarchy requires entities to maximize the use of observable inputs and minimize the use of unobservable inputs. If a financial instrument uses inputs that fall in different levels of the hierarchy, the instrument will be categorized based upon the lowest level of input that is significant to the fair value calculation. Valuations for fund investments, such as pooled-type investments and registered investment companies, which do not have readily determinable fair values, are typically estimated using a net asset value provided by a third party as a practical expedient.

The levels of inputs used to measure fair value are as follows:

Level 1 - unadjusted quoted prices for identical assets or liabilities in active markets accessible by the Company

Level 2 - inputs that are observable in the marketplace other than those inputs classified as Level 1

Level 3 - inputs that are unobservable in the marketplace and significant to the valuation

Cash and Cash Equivalents

All highly liquid investments with original maturities of three months or less are considered cash equivalents.

Inventories

Inventories, including stores and supplies, are stated at the lower of cost and net realizable value. Cost for inventories is determined using the first-in, first-out method. Cost includes raw materials, direct labor and manufacturing overhead. Cost for stores and supplies is primarily determined by the average cost method.

Investments in Affiliates

Investments in equity securities where the Company can exercise significant influence over operating and financial policies of an investee, which is generally considered when an investor owns 20% or more of the voting stock of an investee, are accounted for under the equity method of accounting. Investments in equity securities where the Company does not exercise significant influence are accounted for at fair value or, if such investments do not have a readily determinable fair value, an election may be made to measure them at cost after considering observable price changes for similar instruments, minus impairment, if any. The Company determined it cannot exercise significant influence over certain investments where the Company owns greater than a 20% interest due to local government investment in and influence over these entities, limitations on the Company's involvement in the day-to-day operations and the present inability of the entities to provide timely financial information prepared in accordance with U.S. GAAP. Further, these investments were determined not to have a readily determinable fair value. Accordingly, these investments are accounted for using the alternative measure described above.

In certain instances, the financial information of the Company's equity investees is not available on a timely basis. Accordingly, the Company records its proportional share of the investee's earnings or losses on a consistent lag of no more than one quarter.

When required to assess the recoverability of its investments in affiliates, the Company estimates fair value using a discounted cash flow model. The Company may engage third-party valuation consultants to assist with this process.

Property, Plant and Equipment, Net

Land is recorded at historical cost. Buildings, machinery and equipment, including capitalized interest, and property under finance lease agreements, are recorded at cost less accumulated depreciation. The Company records depreciation and amortization in its consolidated statements of operations as either Cost of sales, Selling, general and administrative expenses or Research and development expenses consistent with the utilization of the underlying assets. Depreciation is calculated on a straight-line basis over the following estimated useful lives of depreciable assets:

Land improvements	20 years
Buildings and improvements	30 years
Machinery and equipment	20 years

Leasehold improvements are amortized over 10 years or the remaining life of the respective lease, whichever is shorter.

Accelerated depreciation is recorded when the estimated useful life is shortened. Ordinary repair and maintenance costs, including costs for planned maintenance turnarounds, that do not extend the useful life of the asset are charged to earnings as incurred. Fully depreciated assets are retained in property and depreciation accounts until sold or otherwise disposed. In the case of disposals, assets and related depreciation are removed from the accounts, and the net amounts, less proceeds from disposal, are included in earnings.

The Company assesses the recoverability of the carrying amount of its property, plant and equipment whenever events or changes in circumstances indicate that the carrying amount of an asset or asset group may not be recoverable. An impairment loss would be assessed when estimated undiscounted future cash flows from the operation and disposition of the asset group are less than the carrying amount of the asset group. Asset groups have identifiable cash flows and are largely independent of other asset groups. Measurement of an impairment loss is based on the excess of the carrying amount of the asset group over its fair value. The Company calculates the fair value using a discounted cash flow model incorporating discount rates commensurate with the risks involved for the asset group, which is classified as a Level 3 fair value measurement. The key assumptions used in the discounted cash flow valuation model include discount rates, growth rates, tax rates, cash flow projections and terminal value rates. Discount rates, growth rates and cash flow projections involve significant judgment and are based on management's estimate of current and forecasted market conditions and cost structure. Impairment losses are generally recorded in Other (charges) gains, net in the consolidated statements of operations.

Definite-lived Intangible Assets

Customer-related intangible assets and other intangible assets with finite lives are amortized on a straight-line basis over their estimated useful lives, which range from six to 30 years.

Derivative and Hedging Instruments

The Company manages its exposures to interest rates, foreign exchange rates and commodity prices through a risk management program that includes the use of derivative financial instruments. The Company does not use derivative financial instruments for speculative trading purposes. The fair value of derivative instruments other than foreign currency forwards and swaps is recorded as an asset or liability on a net basis at the balance sheet date.

- ***Interest Rate Risk Management***

The Company entered into a forward-starting interest rate swap to mitigate the risk of variability in the benchmark interest rate for debt issued in 2021. The interest rate swap agreement was designated as a cash flow hedge. Accordingly, to the extent the cash flow hedges were effective, changes in the fair value of the interest rate swap were included in gain (loss) from cash flow hedges within Accumulated other comprehensive income (loss), net in the consolidated balance sheets.

- ***Foreign Exchange Risk Management***

Certain subsidiaries of the Company have assets and liabilities denominated in currencies other than their respective functional currencies, which creates foreign exchange risk. The Company also is exposed to foreign currency fluctuations on transactions with third-party entities as well as intercompany transactions. The Company minimizes its exposure to foreign currency fluctuations by entering into foreign currency forwards and swaps. These foreign currency forwards and swaps are generally not designated as hedges. Gains and losses on foreign currency forwards and swaps entered into to offset foreign exchange impacts on intercompany balances are included in Other income (expense), net in the consolidated statements of operations. Gains and losses on foreign currency forwards and swaps entered into to offset foreign exchange impacts on all other assets and liabilities are included in Foreign exchange gain (loss), net in the consolidated statements of operations.

The Company uses non-derivative financial instruments that may give rise to foreign currency transaction gains or losses to hedge the foreign currency exposure of net investments in foreign operations. Accordingly, the effective portion of gains and losses from remeasurement of the non-derivative financial instrument is included in foreign currency translation within Accumulated other comprehensive income (loss), net in the consolidated balance sheets. Gains and losses are reclassified to earnings in the period the hedged investment is sold or liquidated.

The Company entered into cross-currency swaps to synthetically convert certain USD borrowings to EUR borrowings in 2019 and 2022. The cross-currency swap agreements are designated as a net investment hedge. Accordingly, to the extent the net investment hedges are effective, changes in the fair value of the cross-currency swap are included in foreign currency translation within Accumulated other comprehensive income (loss), net in the consolidated balance sheets. Gains and losses are reclassified to earnings in the period the hedged investment is sold or liquidated.

The Company entered into cross-currency swaps to effectively convert certain USD borrowings to JPY and EUR borrowings in 2023. The cross-currency swap agreements were designated as fair value hedges. Accordingly, to the extent the fair value hedges are effective, changes in the fair value attributable to changes in the excluded components are included in gain (loss) from fair value hedges within Accumulated other comprehensive income (loss), net in the consolidated balance sheets. The value of the excluded components is recognized in earnings using a systematic and rational method by accruing the current-period swap settlements into earnings each reporting period.

- ***Commodity Risk Management***

The Company has exposure to the prices of commodities in its procurement of certain raw materials. The Company manages its exposure to commodity risk primarily through the use of long-term supply agreements, multi-year purchasing and sales agreements and forward purchase contracts. The Company regularly assesses its practice of using forward purchase contracts and other raw material hedging instruments in accordance with changes in economic conditions. Forward purchases and swap contracts for raw materials are principally settled through physical delivery of the commodity. For qualifying contracts, the Company has elected to apply the normal purchases and normal sales exception based on the probability at the inception and throughout the term of the contract that the Company would not net settle and the transaction would result in the physical delivery of the commodity. Accordingly, realized gains and losses on these contracts are included in the cost of the commodity upon the settlement of the contract.

The Company also uses commodity swaps to hedge the risk of fluctuating price changes in certain raw materials and in which physical settlement does not occur. These commodity swaps fix the variable fee component of the price of certain commodities. All or a portion of these commodity swap agreements may be designated as cash flow hedges. Accordingly, to the extent the cash flow hedges are effective, changes in the fair value of commodity swaps are included in gain (loss) from cash flow hedges within Accumulated other comprehensive income (loss), net in the consolidated balance sheets. Gains and losses are reclassified to earnings in the period that the hedged item affects earnings.

Asset Retirement Obligations

Periodically, the Company will conclude a site no longer has an indeterminate life based on long-lived asset impairment triggering events and decisions made by the Company. Accordingly, the Company will record asset retirement obligations associated with such sites. To measure the fair value of the asset retirement obligations, the Company will use the expected present value technique, which is classified as a Level 3 fair value measurement. The expected present value technique uses a set of cash flows that represent the probability-weighted average of all possible cash flows based on the Company's judgment. The Company uses the following inputs to determine the fair value of the asset retirement obligations based on the Company's experience with fulfilling obligations of this type and the Company's knowledge of market conditions: (a) labor costs; (b) allocation of overhead costs; (c) profit on labor and overhead costs; (d) effect of inflation on estimated costs and profits;

(e) risk premium for bearing the uncertainty inherent in cash flows, other than inflation; (f) time value of money represented by the risk-free interest rate commensurate with the timing of the associated cash flows; and (g) nonperformance risk relating to the liability, which includes the Company's own credit risk. The asset retirement obligations are accreted to their undiscounted values until the time at which they are expected to be settled.

The Company has identified but not recognized asset retirement obligations related to certain of its existing operating facilities. Examples of these types of obligations include demolition, decommissioning, disposal and restoration activities. Legal obligations exist in connection with the retirement of these assets upon closure of the facilities or abandonment of the existing operations. However, the Company currently plans on continuing operations at these facilities indefinitely and therefore, a reasonable estimate of fair value cannot be determined at this time. In the event the Company considers plans to abandon or cease operations at these sites, an asset retirement obligation will be reassessed at that time. If certain operating facilities were to close, the related asset retirement obligations could significantly affect the Company's results of operations and cash flows.

Environmental Liabilities

The Company manufactures and sells a diverse line of chemical products throughout the world. Accordingly, the Company's operations are subject to various hazards incidental to the production of industrial chemicals including the use, handling, processing, storage and transportation of hazardous materials. The Company recognizes losses and accrues liabilities relating to environmental matters if available information indicates that it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. Depending on the nature of the site, the Company accrues through 15 years, unless the Company has government orders or other agreements that extend beyond 15 years. The Company estimates environmental liabilities on a case-by-case basis using the most current status of available facts, existing technology, presently enacted laws and regulations and prior experience in remediation of contaminated sites. Recoveries of environmental costs from other parties are recorded as assets when their receipt is deemed probable.

An environmental liability related to cleanup of a contaminated site might include, for example, a provision for one or more of the following types of costs: site investigation and testing costs, cleanup costs, costs related to soil and water contamination resulting from tank ruptures and post-remediation monitoring costs. These undiscounted liabilities do not take into account any claims or recoveries from insurance. The measurement of environmental liabilities is based on the Company's periodic estimate of what it will cost to perform each of the elements of the remediation effort. The Company utilizes third parties to assist in the management and development of cost estimates for its sites. Changes to environmental regulations or other factors affecting environmental liabilities are reflected in the consolidated financial statements in the period in which they occur.

Loss Contingencies

When determinable, the Company accrues a liability for loss contingencies deemed probable of occurring for which an amount can be reasonably estimated. For certain potentially material loss contingencies, the Company is sometimes unable to estimate and accrue a loss deemed probable of occurring. For such matters, the Company discloses an estimate of the possible loss, range of loss or a statement that such estimate cannot be made.

Because the Company's evaluation and assessment of critical facts and circumstances surrounding a contingent loss often occurs well in advance of the matter's final determination, there is an inherent subjectivity and unpredictability involved in estimating, accounting for and reporting contingent losses. Generally, the less progress made in the resolution of a contingent loss matter or the broader the range of potential outcomes, the more difficult it is for the Company to estimate, accrue and report a loss. For example, the Company may disclose certain information about a plaintiff's legal claim against the Company that is alleged in the plaintiff's pleadings or otherwise publicly available. While information of this type may provide more insight into the potential magnitude of a matter, it may not necessarily be indicative of the Company's estimate of probable or possible loss. In addition, some of the Company's contingent loss exposures may be eligible for reimbursement under the provisions of its insurance coverage. The Company does not consider the potential availability of insurance coverage in determining its probable or possible loss estimates. As a result of these factors among others, the Company's ultimate contingent loss exposure may be higher or lower, and possibly materially so, than the Company's recorded probable loss accruals and disclosures of possible losses.

Revenue Recognition

Revenue is recognized when performance obligations under the terms of a contract with a customer are satisfied. The majority of the Company's contracts have a single performance obligation to transfer products. Accordingly, the Company recognizes revenue when title and risk of loss have been transferred to the customer, generally at the time of shipment of products. Revenue is measured as the amount of consideration the Company expects to receive in exchange for transferring products and is generally based upon a negotiated, formula, list or fixed price. The Company sells its products both directly to customers and through distributors generally under agreements with payment terms typically less than 90 days.

The Company has elected to account for shipping and handling as activities to fulfill the promise to transfer the good. As such, shipping and handling fees billed to customers in a sales transaction are recorded in Net sales and shipping and handling costs incurred are recorded in Cost of sales. The Company has elected to exclude from Net sales any value add, sales and other taxes which it collects concurrent with revenue-producing activities.

- ***Contract Estimates***

The nature of certain of the Company's contracts gives rise to variable consideration, which may be constrained, including retrospective volume-based rebates to certain customers. The Company issues retrospective volume-based rebates to customers when they purchase a certain volume level, and the rebates are applied retroactively to prior purchases. The Company also issues prospective volume-based rebates to customers when they purchase a certain volume level, and the rebates are applied to future purchases. Prospective volume-based rebates represent a material right within the contract and therefore are considered to be separate performance obligations. For both retrospective and prospective volume-based rebates, the Company estimates the level of volumes based on anticipated purchases at the beginning of the period and records a rebate accrual for each purchase toward the requisite rebate volume. These estimated rebates, which are reassessed each reporting period, are included in the transaction price of the Company's contracts with customers as a reduction to Net sales and are included in Current Other liabilities in the consolidated balance sheets (Note 10).

The majority of the Company's revenue is derived from contracts (i) with an original expected length of one year or less and (ii) contracts for which it recognizes revenue at the amount in which it has the right to invoice as product is delivered. The Company has elected the practical expedient not to disclose the value of remaining performance obligations associated with these types of contracts. However, the Company has certain contracts that represent take-or-pay revenue arrangements in which the Company's performance obligations extend over multiple years. As of December 31, 2023, the Company had $1.2 billion of remaining performance obligations related to take-or-pay contracts. The Company expects to recognize approximately $446 million of its remaining performance obligations as Net sales in 2024, $398 million in 2025, $152 million in 2026 and the balance thereafter.

The Company has certain contracts which contain performance obligations which are immaterial in the context of the contract with the customer. The Company has elected the practical expedient not to assess whether these promised goods or services are performance obligations.

- ***Contract Balances***

Contract liabilities primarily relate to advances or deposits received from the Company's customers before revenue is recognized. These amounts are recorded as deferred revenue and are included in Noncurrent Other liabilities in the consolidated balance sheets.

The Company does not have any material contract assets as of December 31, 2023.

Research and Development

The costs of research and development are charged as an expense in the period in which they are incurred.

Leases

The Company leases certain real estate, fleet assets, warehouses and equipment. Leases with an initial term of 12 months or less ("short-term leases") are not recorded on the consolidated balance sheet; the Company recognizes lease expense for these leases on a straight-line basis over the lease term. The Company determines if an arrangement is a lease at inception.

Operating lease right-of-use ("ROU") assets and operating lease liabilities are recognized based on the present value of lease payments over the lease term at commencement date. Because most of the Company's leases do not provide an implicit rate of

return, the Company uses its imputed collateralized rate based on the information available at commencement date in determining the present value of lease payments. The estimated rate is based on a risk-free rate plus a risk-adjusted margin. Operating lease ROU assets are comprised of the lease liability plus prepaid rents and are reduced by lease incentives or deferred rents. The Company has lease agreements with non-lease components which are not bifurcated.

Most leases include one or more options to renew, with renewal terms that can extend the lease term from one to 30 years. The exercise of a lease renewal option typically occurs at the discretion of both parties. Certain leases also include options to purchase the leased property. For purposes of calculating operating lease liabilities, lease terms are deemed not to include options to extend the lease termination until it is reasonably certain that the Company will exercise that option. Certain of the Company's lease agreements include payments adjusted periodically for inflation based on the consumer price index. The Company's lease agreements do not contain any material residual value guarantees or material restrictive covenants.

Functional and Reporting Currencies

For the Company's international operations where the functional currency is other than the U.S. dollar, assets and liabilities are translated using period-end exchange rates, while the statement of operations amounts are translated using the average exchange rates for the respective period. Differences arising from the translation of assets and liabilities in comparison with the translation of the previous periods or from initial recognition during the period are included as a separate component of Accumulated other comprehensive income (loss), net.

3. Recent Accounting Pronouncements

The following table provides a brief description of recent Accounting Standard Updates ("ASU") issued by the Financial Accounting Standards Board ("FASB"):

Standard	Description	Effective Date	Effect on the Financial Statements or Other Significant Matters
In December 2023, the FASB issued ASU 2023-09, *Improvements to Income Tax Disclosures.*	The new guidance requires an entity to disclose specific categories in the rate reconciliation and provide additional information for reconciling items that meet a quantitative threshold. Additionally, the guidance requires an entity to disclose annual income taxes paid (net of refunds received) disaggregated by federal (national), state and foreign taxes and disaggregate the information by jurisdiction based on a quantitative threshold. The guidance also requires an entity to disclose income (loss) from continuing operations before income tax expense (benefit) disaggregated between domestic and foreign and income tax expense (benefit) from continuing operations disaggregated by federal (national), state and foreign.	Effective for annual periods beginning after December 15, 2024. Early adoption is permitted.	The Company is currently evaluating the impact of the adoption on its financial statement disclosures.
In November 2023, the FASB issued ASU 2023-07, *Improvements to Reportable Segment Disclosures.*	The new guidance requires an entity to disclose, on an annual and interim basis, significant segment expenses that are regularly provided to the chief operating decision maker ("CODM") and included within segment profit or loss, as well as an amount of other segment items by reportable segment and a description of its composition. Additionally, the guidance requires an entity to disclose the title and position of the CODM and an explanation of how the CODM uses the reported measure(s) of segment profit or loss in assessing segment performance and deciding how to allocate resources. The update is required to be applied retrospectively to prior periods presented, based on the significant segment expense categories identified and disclosed in the period of adoption.	Effective for annual periods beginning after December 15, 2023, and for interim periods beginning after December 15, 2024. Early adoption is permitted.	The Company is currently evaluating the impact of the adoption on its financial statement disclosures.

4. Acquisitions, Dispositions and Plant Closures

Acquisitions

- ***Santoprene***

In December 2021, the Company acquired the Santoprene™ thermoplastic vulcanizates ("TPV") elastomers business of Exxon Mobil Corporation ("Santoprene") for a purchase price of $1.15 billion in an all-cash transaction. The Company acquired the Santoprene™, Dytron™ and Geolast™ trademarks and product portfolios, customer and supplier contracts and agreements, both production facilities producing TPV, the TPV intellectual property portfolio with associated technical and R&D assets and employees of the TPV elastomer business. The acquisition of Santoprene substantially strengthens the Company's existing elastomers portfolio, allowing the Company to bring a wider range of functionalized solutions into targeted growth areas including future mobility, medical and sustainability. The acquisition was accounted for as a business combination and the acquired operations are included in the Engineered Materials segment.

The Company allocated the purchase price of the acquisition to identifiable assets acquired and liabilities assumed based on their estimated fair values as of the acquisition date. The purchase price allocation was based upon preliminary information. During the measurement period, there were no adjustments that materially impacted the Company's goodwill initially recorded.

- ***Mobility & Materials***

In November 2022, the Company acquired 100% ownership of entities and assets consisting of a majority of the Mobility & Materials business ("M&M") of DuPont de Nemours, Inc. ("DuPont") (the "M&M Acquisition") for a purchase price of $11.0 billion, subject to transaction adjustments, in an all-cash transaction. The Company acquired a global production network of 29 facilities, including compounding and polymerization, customer and supplier contracts and agreements, an intellectual property portfolio, including approximately 850 patents with associated technical and R&D assets, and approximately 5,000 employees across the manufacturing, technical, and commercial organizations. This acquisition of M&M enhances the engineered materials product portfolio by adding new polymers, brands, product technology, and backward integration in critical polymers, allowing the Company to accelerate growth in high-value applications including future mobility, connectivity and medical. The acquisition was accounted for as a business combination and the acquired operations are included in the Engineered Materials segment.

The Company allocated the purchase price of the acquisition to identifiable assets acquired and liabilities assumed based on their estimated fair values as of the acquisition date. The excess of the purchase price over the aggregate fair values was recorded as goodwill. During the measurement period, there were no adjustments that materially impacted the Company's goodwill initially recorded.

The following unaudited pro forma financial information presents the consolidated results of operations as if the M&M Acquisition had occurred at the beginning of 2021. M&M's pre-acquisition results have been added to the Company's historical results. The pro forma results contained in the table below include adjustments for (i) increased depreciation expense as a result of acquisition date fair value adjustments, (ii) amortization of acquired intangibles, (iii) interest expense and amortization of debt issuance costs of $366 million and $674 million related to borrowings under the U.S. Term Loan Facility (defined below) and the issuance of Acquisition Notes (defined below) as if these had taken place at the beginning of 2021 for the years ended December 31, 2022 and 2021, respectively and (iv) net total inventory step up of inventory amortized to Cost of sales of $66 million for the years ended December 31, 2022 and 2021.

These pro forma results have been prepared for comparative purposes only and are not necessarily indicative of the results of operations as they would have been had the acquisition occurred on the assumed date, nor are they necessarily an indication of future operating results.

	Year Ended December 31,	
	2022	2021
	(In $ millions)	
Unaudited Consolidated Pro Forma Results		
Proforma Net sales	12,614	12,069
Proforma Earnings (loss) from continuing operations before tax	888	1,843

The amount of M&M Net sales and Earnings (loss) from continuing operations before tax consolidated by the Company since the acquisition date through December 31, 2022 were $430 million and $(80) million, respectively.

During the year ended December 31, 2022, transaction related costs of $117 million were expensed as incurred to Selling, general and administrative expenses in the consolidated statements of operations.

- ***Nutrinova Joint Venture***

On September 27, 2023, the Company formed a food ingredients joint venture with Mitsui under the name Nutrinova. The Company contributed receivables, inventory, property, plant and equipment, certain other assets, liabilities, technology and employees of its food ingredients business while retaining a 30% interest in the joint venture. Mitsui acquired the remaining 70% interest in the food ingredients business for a purchase price of $503 million, subject to transaction adjustments. The Company accounted for its interest in the joint venture as an equity method investment, and its portion of the results will continue to be included in the Engineered Materials segment. A gain on the transaction of $515 million is included in Gain

(loss) on disposition of businesses and assets, net in the consolidated statements of operations for the year ended December 31, 2023.

- ***Korea Engineering Plastics Co. Restructuring***

In April 2022, the Company completed the restructuring of Korea Engineering Plastics Co. ("KEPCO"), a joint venture owned 50% by the Company and 50% by Mitsubishi Gas Chemical Company, Inc. KEPCO was first formed in 1987 to manufacture and market polyoxymethylene ("POM") in Asia, with a particular focus on serving domestic demand in South Korea. KEPCO will now focus solely on manufacturing and supplying high quality products to its shareholders, who will independently market them globally. As part of the restructuring of KEPCO, the Company paid KEPCO $5 million and will have paid 5 equal annual installments of €24 million on October 1 of each year from 2022 to 2026. This resulted in an increase to the Company's investment in KEPCO of $134 million. The Company's joint venture partner has made and will make similar payments to KEPCO. The restructuring did not result in a change in ownership percentage of KEPCO, nor a change in control, and KEPCO will continue to be accounted for as an equity method investment.

Plant Closures

- ***Uentrop, Germany***

On October 31, 2023, the Company announced the planned closure of its Polyamide 66 ("PA66") and High-Performance Nylon ("HPN") polymerization units at its facility in Uentrop, Germany to optimize production costs across its global network. These operations are included in the Company's Engineered Materials segment. The Company expects to complete the closure in 2024.

The exit and shutdown costs related to the closure of the PA66 and HPN polymerization units in Uentrop, Germany were as follows:

	Year Ended December 31,
	2023
	(In $ millions)
Accelerated depreciation expense	14
Loss on disposition of assets, net	4
Total	18

The Company expects to incur additional exit and shutdown costs related to the closure of the PA66 and HPN polymerization units in Uentrop, Germany of approximately $70 million in 2024, inclusive of estimated employee termination costs.

5. Receivables, Net

	As of December 31,	
	2023	2022
	(In $ millions)	
Trade receivables - third party and affiliates	1,255	1,394
Allowance for doubtful accounts - third party and affiliates	(12)	(15)
Trade receivables - third party and affiliates, net	1,243	1,379

	As of December 31,	
	2023	2022
	(In $ millions)	
Non-income taxes receivable	270	334
Income taxes receivable	57	26
Other[1]	214	315
Non-trade receivables, net	541	675

[1] Includes $42 million and $193 million of non-trade receivables related to the M&M Acquisition as of December 31, 2023 and December 31, 2022, respectively.

6. Inventories

	As of December 31,	
	2023	2022
	(In $ millions)	
Finished goods	1,604	1,820
Work-in-process	160	202
Raw materials and supplies	593	786
Total	2,357	2,808

7. Investments in Affiliates

Entities in which the Company has an investment accounted for under the equity method of accounting or equity investments without readily determinable fair values are considered affiliates; any transactions or balances with such companies are considered affiliate transactions.

Equity Method

On September 27, 2023, the Company formed a food ingredients joint venture with Mitsui under the name Nutrinova. The Company accounted for its interest in the joint venture as an equity method investment. See Note 4 for additional information.

As a part of the M&M Acquisition, the Company acquired certain equity method investments and ownership interests.

The Company has ownership interests in 14 equity method investments ranging from 22% to 50% at December 31, 2023.

Equity method investments by business segment are as follows:

	Carrying Value as of December 31,		Share of Earnings (Loss) Year Ended December 31,			Dividends and Other Distributions Year Ended December 31,		
	2023	2022	2023	2022	2021	2023	2022	2021
				(In $ millions)				
Engineered Materials[1]	898	760	88	209	133	(145)	(204)	(98)
Other Activities	56	53	14	11	13	(12)	(13)	(14)
Total	954	813	102	220	146	(157)	(217)	(112)

[1] Engineered Materials includes an equity method investment with losses in excess of its carrying amount due to the Company's guarantee of various debt obligations under agreements with third parties related to an equity affiliate (Note 19). This equity method investment was recorded in Current Other liabilities (Note 10) as of December 31, 2023 and December 31, 2022.

Equity Investments Without Readily Determinable Fair Values

The Company has ownership interests in 4 equity investments without readily determinable fair values ranging from 8% to 31% at December 31, 2023.

Equity investments without readily determinable fair values by business segment are as follows:

	Carrying Value as of December 31,		Dividend Income for the Year Ended December 31,		
	2023	2022	2023	2022	2021
	(In $ millions)				
Acetyl Chain	165	165	125	132	146
Other Activities	5	5	1	1	1
Total	170	170	126	133	147

Transactions with Affiliates

The Company owns manufacturing facilities at the InfraServ location in Frankfurt am Main-Hoechst, Germany and has contractual agreements with the InfraServ Entities and certain other equity affiliates and investees accounted for at cost less impairment, adjusted for observable price changes for an identical or similar investment of the same issuer. These contractual agreements primarily relate to energy purchases, site services and purchases of product for consumption and resale.

Transactions and balances with affiliates are as follows:

	Year Ended December 31,		
	2023	2022	2021
		(In $ millions)	
Purchases	490	590	334
Sales and other credits	212	72	74

	As of December 31,	
	2023	2022
	(In $ millions)	
Trade receivables	7	8
Non-trade receivables	40	36
Current notes receivables	57	—
Total due from affiliates	104	44
Short-term borrowings[(1)]	23	—
Trade payables	52	36
Current Other liabilities	34	37
Total due to affiliates	109	73

(1) The Company has agreements with certain affiliates whereby excess affiliate cash is lent to and managed by the Company at variable interest rates governed by those agreements.

8. Property, Plant and Equipment, Net

	As of December 31,	
	2023	2022
	(In $ millions)	
Land	260	291
Land improvements	85	83
Buildings and building improvements	1,082	1,062
Machinery and equipment	7,157	6,897
Construction in progress	1,080	938
Gross asset value	9,664	9,271
Accumulated depreciation	(4,080)	(3,687)
Net book value	5,584	5,584

Assets under finance leases, net, included in the amounts above were $154 million and $176 million as of December 31, 2023 and 2022, respectively.

Capitalized interest costs and depreciation expense are as follows:

	Year Ended December 31,		
	2023	2022	2021
		(In $ millions)	
Capitalized interest	37	18	12
Depreciation expense	540	399	346

During 2023, 2022 and 2021, certain long-lived assets were impaired (Note 24).

9. Goodwill and Intangible Assets, Net

Goodwill

	Engineered Materials	Acetyl Chain	Total
		(In $ millions)	
As of December 31, 2021	1,030	382	1,412
Acquisitions (Note 4)	5,781	—	5,781
Exchange rate changes	(36)	(15)	(51)
As of December 31, 2022	6,775	367	7,142
Acquisitions (Note 4)	(107)	—	(107)
Dispositions[(1)]	(80)	—	(80)
Exchange rate changes	14	8	22
As of December 31, 2023[(2)]	6,602	375	6,977

(1) Related to the formation of the Nutrinova joint venture (Note 4).

(2) There were no accumulated impairment losses as of December 31, 2023.

In connection with the Company's annual goodwill impairment assessment, the Company did not record an impairment loss to goodwill during the nine months ended September 30, 2023, as the estimated fair value for each of the Company's reporting units exceeded the carrying amount of the underlying assets by a substantial margin (Note 2). No events or changes in circumstances occurred during the three months ended December 31, 2023 that indicated the carrying amount of the assets may not be fully recoverable. Accordingly, no additional impairment analysis was performed during that period.

Intangible Assets, Net

Finite-lived intangible assets are as follows:

	Licenses	Customer-Related Intangible Assets	Developed Technology	Covenants Not to Compete and Other	Total
			(In $ millions)		
Gross Asset Value					
As of December 31, 2021	45	996	45	55	1,141
Acquisitions[(1)]	—	1,509	550	—	2,059
Disposition	—	(2)	—	—	(2)
Accumulated impairment losses	—	(4)	—	—	(4)
Exchange rate changes	(3)	(44)	6	—	(41)
As of December 31, 2022	42	2,455	601	55	3,153
Disposition[(2)]	—	(60)	(1)	—	(61)
Exchange rate changes	(1)	42	1	—	42
As of December 31, 2023	41	2,437	601	55	3,134
Accumulated Amortization					
As of December 31, 2021	(41)	(543)	(42)	(39)	(665)
Amortization	(1)	(51)	(9)	(1)	(62)
Disposition	—	2	—	—	2
Accumulated impairment losses	—	2	—	—	2
Exchange rate changes	3	23	1	—	27
As of December 31, 2022	(39)	(567)	(50)	(40)	(696)
Amortization	—	(120)	(43)	(1)	(164)
Disposition[(2)]	—	59	1	—	60
Exchange rate changes	1	(11)	(3)	(1)	(14)
As of December 31, 2023	(38)	(639)	(95)	(42)	(814)
Net book value	3	1,798	506	13	2,320

(1) Primarily related to $1.5 billion of customer-related intangible assets and $550 million of developed technology acquired as part of the M&M Acquisition with weighted average amortization periods of 20 years and 13 years, respectively, and 18 years in total (Note 4).

(2) Primarily related to the formation of the Nutrinova joint venture (Note 4).

Indefinite-lived intangible assets are as follows:

	Trademarks and Trade Names
	(In $ millions)
As of December 31, 2021	259
Acquisitions (Note 4)	1,400
Exchange rate changes	(11)
As of December 31, 2022	1,648
Dispositions[(1)]	(14)
Exchange rate changes	21
As of December 31, 2023	1,655

(1) Related to the formation of the Nutrinova joint venture (Note 4).

In connection with the Company's annual indefinite-lived intangible assets impairment assessment, the Company did not record an impairment loss during the nine months ended September 30, 2023, as the estimated fair value for each of the Company's indefinite-lived intangible assets exceeded the carrying value of the underlying asset by a substantial margin (Note 2). No events or changes in circumstances occurred during the three months ended December 31, 2023 that indicated the carrying amount of the assets may not be fully recoverable. Accordingly, no additional impairment analysis was performed during that period.

During the year ended December 31, 2023, the Company did not renew or extend any intangible assets.

Estimated amortization expense for the succeeding five fiscal years is as follows:

	(In $ millions)
2024	161
2025	161
2026	160
2027	160
2028	160

10. Current Other Liabilities

	As of December 31,	
	2023	2022
	(In $ millions)	
Benefit obligations (Note 12)	25	25
Customer rebates	96	101
Derivatives (Note 17)	90	63
Interest (Note 11)	246	265
Legal (Note 19)	34	21
Operating leases (Note 16)	89	83
Restructuring (Note 24)	18	6
Salaries and benefits	175	151
Sales and use tax/foreign withholding tax payable	128	108
Investment in affiliates (Note 7)	96	79
Other[(1)]	157	299
Total	1,154	1,201

(1) Includes $18 million and $166 million payable to DuPont related to the M&M Acquisition and transition activities as of December 31, 2023 and December 31, 2022, respectively.

11. Debt

	As of December 31,	
	2023	2022
	(In $ millions)	
Short-Term Borrowings and Current Installments of Long-Term Debt - Third Party and Affiliates		
Current installments of long-term debt	1,025	506
Short-term borrowings, including amounts due to affiliates[1]	146	500
Revolving credit facility[2]	212	300
Total	1,383	1,306

(1) The weighted average interest rate was 2.9% and 5.8% as of December 31, 2023 and 2022, respectively.

(2) The weighted average interest rate was 3.4% and 5.8% as of December 31, 2023 and 2022, respectively.

	As of December 31,	
	2023	2022
	(In $ millions)	
Long-Term Debt		
Senior unsecured notes due 2023, interest rate of 1.125%	—	480
Senior unsecured notes due 2024, interest rate of 3.500%	473	499
Senior unsecured notes due 2024, interest rate of 5.900%	527	2,000
Senior unsecured notes due 2025, interest rate of 1.250%	331	320
Senior unsecured notes due 2025, interest rate of 6.050%	1,000	1,750
Senior unsecured term loan due 2025[1]	—	750
Senior unsecured notes due 2026, interest rate of 1.400%	400	400
Senior unsecured notes due 2026, interest rate of 4.777%	1,105	1,067
Senior unsecured notes due 2027, interest rate of 2.125%	551	531
Senior unsecured notes due 2027, interest rate of 6.165%	2,000	2,000
Senior unsecured term loan due 2027[1]	880	1,000
Senior unsecured notes due 2028, interest rate of 0.625%	552	533
Senior unsecured notes due 2028, interest rate of 6.350%	1,000	—
Senior unsecured notes due 2029, interest rate of 5.337%	552	533
Senior unsecured notes due 2029, interest rate of 6.330%	750	750
Senior unsecured notes due 2030, interest rate of 6.550%	999	—
Senior unsecured notes due 2032, interest rate of 6.379%	1,000	1,000
Senior unsecured notes due 2033, interest rate of 6.700%	1,000	—
Pollution control and industrial revenue bonds due at various dates through 2030[2]	127	164
Bank loans due at various dates through 2030[3]	5	4
Obligations under finance leases due at various dates through 2054	148	172
Subtotal	13,400	13,953
Unamortized deferred financing costs[4]	(74)	(74)
Current installments of long-term debt	(1,025)	(506)
Total	12,301	13,373

(1) The interest rate was 6.943% and 5.934% as of December 31, 2023 and 2022, respectively.

(2) Interest rates range from 4.05% to 5.00%.

(3) The weighted average interest rate was 2.6% and 1.3% as of December 31, 2023 and 2022, respectively.

(4) Related to the Company's long-term debt, excluding obligations under finance leases.

Senior Credit Facilities

In connection with the M&M Acquisition, in February 2022, the Company entered into a bridge facility commitment letter with Bank of America, N.A. ("Bank of America") pursuant to which Bank of America committed to provide, subject to the terms and conditions set forth therein, a 364-day $11.0 billion senior unsecured bridge term loan facility (the "Bridge Facility"). Subsequently, commitments in respect of the Bridge Facility were syndicated to additional financial institutions as contemplated thereby.

In March 2022, Celanese, Celanese U.S. and certain subsidiaries entered into a term loan credit agreement (the "March 2022 U.S. Term Loan Credit Agreement"), pursuant to which lenders provided a tranche of delayed-draw term loans due 364 days from issuance in an amount equal to $500 million (the "364-day Term Loans") and a tranche of delayed-draw term loans due 5 years from issuance in an amount equal to $1.0 billion (the "5-year Term Loans"). In September 2022, Celanese, Celanese U.S. and certain subsidiaries entered into an additional term loan credit agreement (the "September 2022 U.S. Term Loan Credit Agreement" and, together with the March 2022 U.S. Term Loan Credit Agreement, the "U.S. Term Loan Credit Agreements"), pursuant to which lenders provided delayed-draw term loans due 3 years from issuance in an amount equal to $750 million (the "3-year Term Loans" and collectively with the 364-day Term Loans and the 5-year Term Loans, the "U.S. Term Loan Facility"). The U.S. Term Loan Facility was fully drawn during the three months ended December 31, 2022.

Amounts outstanding under the 5-year Term Loans of the U.S. Term Loan Facility will accrue interest at a rate equal to Secured Overnight Financing Rate with an interest period of one or three months ("Term SOFR") plus a margin of 1.125% to 2.125% per annum, or the base rate plus a margin of 0.125% to 1.125%, in each case, based on the Company's senior unsecured debt rating. The 364-day Term Loans and 3-year Term Loans have been fully repaid.

The entry into the U.S. Term Loan Credit Agreements and offerings of USD- and euro-denominated notes (as described below) reduced availability under the Bridge Facility to zero and the Company terminated the Bridge Facility.

Also in March 2022, Celanese, Celanese U.S. and certain subsidiaries entered into a new revolving credit agreement (the "U.S. Revolving Credit Agreement" and, together with the March 2022 U.S. Term Loan Credit Agreement, the "U.S. Credit Agreements") consisting of a $1.75 billion senior unsecured revolving credit facility (with a letter of credit sublimit), maturing in 2027 (the "U.S. Revolving Credit Facility"). The margin for borrowings under the U.S. Revolving Credit Facility was 1.00% to 2.00% above certain interbank rates at current Company credit ratings. The proceeds of a $365 million borrowing under the new senior unsecured revolving credit facility were used to repay and terminate the Company's existing revolving credit facility.

During the year ended December 31, 2022, the Company paid $66 million in fees related to the Bridge Facility commitment, amortizing these fees to interest expense in the year ended December 31, 2022.

On February 21, 2023 and February 16, 2024, the Company amended certain covenants in the U.S. Credit Agreements, including financial ratio maintenance covenants.

On August 9, 2023, the Company amended certain covenants in the March 2022 U.S. Term Loan Credit Agreement to permit refinancing certain senior notes without requiring a mandatory prepayment under the March 2022 U.S. Term Loan Credit Agreement.

The March 2022 U.S. Term Loan Credit Agreement and the U.S. Revolving Credit Agreement are, and the September 2022 U.S. Term Loan Credit Agreement was, guaranteed by Celanese, Celanese U.S. and domestic subsidiaries together representing substantially all of the Company's U.S. assets and business operations (the "Subsidiary Guarantors"). The Subsidiary Guarantors are listed in Exhibit 22.1 to this Annual Report.

On January 4, 2023, Celanese (Shanghai) International Trading Co., Ltd ("CSIT"), a fully consolidated subsidiary, entered into a restatement of an existing credit facility agreement (the "China Revolving Credit Agreement") to upsize and modify the facility thereunder to consist of an aggregate CNY1.75 billion uncommitted senior unsecured revolving credit facility available under two tranches (with overdraft, bank guarantee and documentary credit sublimits) (the "China Revolving Credit Facility"). Obligations bear interest at certain fixed and floating rates. The China Revolving Credit Agreement is guaranteed by Celanese U.S.

On January 6, 2023, CSIT entered into a senior unsecured working capital loan contract for CNY800 million (the "China Working Capital Term Loan Agreement," together with the China Revolving Credit Agreement, the "China Credit Agreements," and the China Credit Agreements together with the U.S. Credit Agreements, the "Global Credit Agreements"), payable 12 months from withdrawal date and bearing interest at 0.5% less than certain interbank rates. The loan under the China Working Capital Term Loan Agreement was fully drawn on January 10, 2023 and was supported by a letter of comfort from the Company. The Company expects that the China Credit Agreements will facilitate its efficient repatriation of cash to the U.S. to repay debt and effectively redomicile a portion of its U.S. debt to China at a lower average interest rate.

The Company's debt balances and amounts available for borrowing under its senior unsecured revolving credit facilities are as follows:

	As of December 31, 2023
	(In $ millions)
Revolving Credit Facility	
Borrowings outstanding	—
Available for borrowing	1,750
China Revolving Credit Facility	
Borrowings outstanding	212
Available for borrowing	34

Senior Notes

The Company has outstanding senior unsecured notes, issued in public offerings registered under the Securities Act of 1933, as amended (the "Securities Act") (collectively, the "Senior Notes"). The Senior Notes were issued by Celanese U.S. and are guaranteed on a senior unsecured basis by Celanese and the Subsidiary Guarantors. Celanese U.S. may redeem some or all of each of the Senior Notes, prior to their respective maturity dates, at a redemption price of 100% of the principal amount, plus a "make-whole" premium as specified in the applicable indenture, plus accrued and unpaid interest, if any, to the redemption date.

In July 2022, Celanese U.S. completed a public offering of senior unsecured notes registered under the Securities Act as follows (collectively, the "Acquisition Notes"):

Maturity Date	Aggregate Principal Amount Issued	Discount to Par	Interest Rate
	(In millions)		
July 5, 2024	$ 2,000	99.987%	5.900%
March 15, 2025	$ 1,750	99.993%	6.050%
July 19, 2026	€ 1,000	100.000%	4.777%
July 15, 2027	$ 2,000	100.000%	6.165%
January 19, 2029	€ 500	99.996%	5.337%
July 15, 2029	$ 750	100.000%	6.330%
July 15, 2032	$ 1,000	100.000%	6.379%

Fees and expenses related to the offering of the Acquisition Notes, including underwriting discounts, were $65 million for the year ended December 31, 2022 and are being amortized to Interest expense in the consolidated statements of operations over the terms of the applicable notes.

On August 24, 2023, Celanese U.S. completed a public offering of senior unsecured notes registered under the Securities Act as follows (collectively, the "2023 Offering"):

Maturity Date	Aggregate Principal Amount Issued	Discount to Par	Interest Rate
	(In $ millions)		
November 15, 2028	1,000	99.986%	6.350%
November 15, 2030	999	99.950%	6.550%
November 15, 2033	1,000	99.992%	6.700%

Fees and expenses related to the 2023 Offering, including underwriting discounts, were $26 million for the year ended December 31, 2023 and are being amortized to Interest expense in the consolidated statements of operations over the terms of the applicable notes.

On August 25, 2023, Celanese U.S. completed a cash tender offer for $2.25 billion in aggregate principal amount (the "Tender Offer") as follows:

Maturity Date	Aggregate Principal Amount Tendered	Purchase price per $1,000 principal amount	Total Tender Offer Consideration	Accrued and Unpaid Interest
	(In $ millions)		(In $ millions)	
June 30, 2024	1,473	$ 999.92	1,473	12
March 15, 2025	750	$ 1,002.85	752	20
April 30, 2024	27	$ 983.95	27	—

The net proceeds from the 2023 Offering were used (i) to fund the Tender Offer and (ii) for the repayment of other outstanding indebtedness, including the payment in full of the 364-day Term Loans and the 3-year Term Loans.

Principal payments scheduled to be made on the Company's debt, including short-term borrowings, are as follows:

	(In $ millions)
2024	1,383
2025	1,395
2026	1,527
2027	3,449
2028	1,567
Thereafter	4,437
Total	13,758

Accounts Receivable Purchasing Facility

On June 1, 2023, the Company entered into an amendment to the amended and restated receivables purchase agreement (the "Amended Receivables Purchase Agreement") under its U.S. accounts receivable purchasing facility among certain of the Company's subsidiaries, its wholly-owned, "bankruptcy remote" special purpose subsidiary ("SPE") and certain global financial institutions ("Purchasers"). The Amended Receivables Purchase Agreement extends the term of the accounts receivable purchasing facility such that the SPE may sell certain receivables until June 18, 2025. Under the Amended Receivables Purchase Agreement, transfers of U.S. accounts receivable from the SPE are treated as sales and are accounted for as a reduction in accounts receivable because the agreement transfers effective control over and risk related to the U.S. accounts receivable to the SPE. The Company and related subsidiaries have no continuing involvement in the transferred U.S. accounts receivable, other than collection and administrative responsibilities and, once sold, the U.S. accounts receivable are no longer available to satisfy creditors of the Company or the related subsidiaries. These sales are transacted at 100% of the face value of the relevant U.S. accounts receivable, resulting in derecognition of the U.S. accounts receivables from the Company's consolidated balance sheet. The Company de-recognized $1.4 billion and $1.1 billion of accounts receivable under this agreement for the years ended December 31, 2023 and 2022, respectively, and collected $1.3 billion and $1.1 billion of accounts receivable sold under this agreement during the same periods. Unsold U.S. accounts receivable of $109 million were pledged by the SPE as collateral to the Purchasers as of December 31, 2023.

Factoring and Discounting Agreements

The Company has factoring agreements in Europe and Singapore with financial institutions to sell 100% and 90% of certain accounts receivable, respectively, on a non-recourse basis. These transactions are treated as sales and are accounted for as reductions in accounts receivable because the agreements transfer effective control over and risk related to the receivables to the buyer. The Company has no continuing involvement in the transferred receivables, other than collection and administrative responsibilities and, once sold, the accounts receivable are no longer available to satisfy creditors in the event of bankruptcy. The Company de-recognized $423 million and $320 million of accounts receivable under these factoring agreements for the years ended December 31, 2023 and 2022, respectively, and collected $407 million and $325 million of accounts receivable sold under these factoring agreements during the same periods.

In March 2021, the Company entered into an agreement in Singapore with a financial institution to discount, on a non-recourse basis, documentary credits or other documents recorded as accounts receivable. These transactions are treated as a sale and are accounted for as a reduction in accounts receivable because the agreement transfers effective control over and risk related to the receivables to the buyer. The Company has no continuing involvement in the transferred receivables and, once sold, the accounts receivable are no longer available to satisfy creditors in the event of bankruptcy. The Company de-recognized $8 million and $50 million of accounts receivable under this agreement for the years ended December 31, 2023 and 2022, respectively.

On December 15, 2023, the Company entered into a Master Discounting Agreement (the "Master Discounting Agreement") with a financial institution in China to discount, on a non-recourse basis, banker's acceptance drafts ("BADs"), classified as accounts receivable. Under the Master Discounting Agreement, the transfer of BADs are treated as sales and are accounted for as a reduction in accounts receivable because the Master Discounting Agreement transfers effective control over and risk related to the transferred BADs to the financial institution. The Company has no continuing involvement in the transferred BADs and the BADs are no longer available to satisfy creditors in the event of a bankruptcy. The Company received $45 million from the accounts receivable transferred under the Master Discounting Agreement as of December 31, 2023. The impacts of discounting are not material to the Company's results of operations, cash flows or financial position.

Covenants

The Company's material financing arrangements contain customary covenants, such as events of default and change of control provisions, and in the case of the existing U.S. Credit Agreements the maintenance of certain financial ratios (subject to adjustment following certain qualifying acquisitions and dispositions, as set forth in the existing U.S. Credit Agreements, as amended). Failure to comply with these covenants, or the occurrence of any other event of default, could result in acceleration of the borrowings and other financial obligations. The Company is in compliance with the covenants in its material financing arrangements as of December 31, 2023.

12. Benefit Obligations

Pension Obligations

The Company sponsors defined benefit pension plans in North America, Europe and Asia. Independent trusts or insurance companies administer the majority of these plans. Pension obligations are established for benefits payable in the form of retirement, disability and surviving dependent pensions. The commitments result from participation in defined contribution and defined benefit plans, primarily in the U.S. Benefits are dependent on years of service and the employee's compensation. Supplemental retirement benefits provided to certain employees are nonqualified for U.S. tax purposes. Separate nonqualified trusts have been established for certain U.S. nonqualified plan obligations. Pension costs under the Company's retirement plans are actuarially determined.

Other Postretirement Obligations

Certain retired employees receive postretirement health care and life insurance benefits under plans sponsored by the Company, which has the right to modify or terminate these plans at any time. The cost for coverage is shared between the Company and the retiree. The cost of providing retiree health care and life insurance benefits is actuarially determined and accrued over the service period of the active employee group. The Company's policy is to fund benefits as claims and premiums are paid. The U.S. postretirement health care plan was closed to new participants effective January 1, 2006.

Defined Contribution Plans

The Company sponsors various defined contribution plans in North America, Europe and Asia covering certain employees. Employees may contribute to these plans and the Company will match these contributions in varying amounts. The Company's matching contribution to the defined contribution plans are based on specified percentages of employee contributions.

The amount of costs recognized for the Company's defined contribution plans are as follows:

	Year Ended December 31,		
	2023	2022	2021
		(In $ millions)	
Defined contribution plans	83	62	47

Summarized information on the Company's pension and postretirement benefit plans is as follows:

	Pension Benefits As of December 31,		Postretirement Benefits As of December 31,	
	2023	2022	2023	2022
	(In $ millions)			
Change in Projected Benefit Obligation				
Projected benefit obligation as of beginning of period	2,858	3,488	38	51
Service cost	11	12	—	1
Interest cost	132	67	2	1
Net actuarial (gain) loss[1]	144	(662)	2	(10)
Acquisitions[2]	—	198	—	—
Divestiture[3]	(4)	—	—	—
Settlements	(16)	—	—	—
Benefits paid	(226)	(220)	(3)	(3)
Exchange rate changes	24	(25)	1	(2)
Projected benefit obligation as of end of period	2,923	2,858	40	38
Change in Plan Assets				
Fair value of plan assets as of beginning of period	2,625	3,183	—	—
Actual return on plan assets	213	(588)	—	—
Employer contributions	46	45	3	3
Acquisitions[2]	—	211	—	—
Divestiture[3]	(2)	—	—	—
Settlements	(16)	—	—	—
Benefits paid[4]	(226)	(220)	(3)	(3)
Exchange rate changes	12	(6)	—	—
Fair value of plan assets as of end of period	2,652	2,625	—	—
Funded status as of end of period	(271)	(233)	(40)	(38)
Amounts Recognized in the Consolidated Balance Sheets Consist of:				
Noncurrent Other assets	166	160	—	—
Current Other liabilities	(22)	(21)	(3)	(3)
Benefit obligations	(415)	(372)	(37)	(35)
Net amount recognized	(271)	(233)	(40)	(38)
Amounts Recognized in Accumulated Other Comprehensive Income Consist of:				
Net actuarial (gain) loss[5]	24	13	—	—
Prior service (benefit) cost	—	—	(1)	(1)
Net amount recognized	24	13	(1)	(1)

(1) Primarily relates to changes in discount rates.

(2) Represents plan obligations and assets related to the M&M Acquisition (Note 4).

(3) Represents plan obligations and assets contributed to the Nutrinova joint venture (Note 4).

(4) Includes benefit payments to nonqualified pension plans of $20 million and $20 million as of December 31, 2023 and 2022, respectively.

(5) Relates to the pension plans of the Company's equity method investments.

The percentage of U.S. and international projected benefit obligation at the end of the period is as follows:

	Pension Benefits As of December 31,		Postretirement Benefits As of December 31,	
	2023	2022	2023	2022
	(In percentages)			
U.S. plans	71	73	37	50
International plans	29	27	63	50
Total	100	100	100	100

The percentage of U.S. and international fair value of plan assets at the end of the period is as follows:

	Pension Benefits As of December 31,	
	2023	2022
	(In percentages)	
U.S. plans	75	77
International plans	25	23
Total	100	100

Pension plans with projected benefit obligations in excess of plan assets are as follows:

	As of December 31,	
	2023	2022
	(In $ millions)	
Projected benefit obligation	788	669
Fair value of plan assets	352	277

Pension plans with accumulated benefit obligations in excess of plan assets are as follows:

	As of December 31,	
	2023	2022
	(In $ millions)	
Accumulated benefit obligation	738	649
Fair value of plan assets	329	270

Other postretirement plans with accumulated postretirement benefit obligations in excess of plan assets are as follows:

	As of December 31,	
	2023	2022
	(In $ millions)	
Accumulated postretirement benefit obligation	40	38

The accumulated benefit obligation for all defined benefit pension plans is as follows:

	As of December 31,	
	2023	2022
	(In $ millions)	
Accumulated benefit obligation	2,882	2,837

The components of net periodic benefit cost are as follows:

	Pension Benefits Year Ended December 31,			Postretirement Benefits Year Ended December 31,		
	2023	2022	2021	2023	2022	2021
	(In $ millions)					
Service cost	11	12	13	—	1	1
Interest cost	132	67	54	2	1	1
Expected return on plan assets	(132)	(166)	(205)	—	—	—
Recognized actuarial (gain) loss	63	91	47	3	(10)	(6)
Settlement (gain) loss	1	—	3	—	—	—
Total	75	4	(88)	5	(8)	(4)

The Company maintains nonqualified pension plans funded with nonqualified trusts for certain U.S. employees as follows:

	As of December 31,	
	2023	2022
	(In $ millions)	
Nonqualified Trust Assets		
Marketable securities	5	5
Noncurrent Other assets, consisting of insurance contracts	21	22
Nonqualified Pension Obligations		
Current Other liabilities	18	18
Benefit obligations	149	152

(Income) expense relating to the nonqualified pension plans included in net periodic benefit cost, excluding returns on the assets held by the nonqualified trusts, is as follows:

	Year Ended December 31,		
	2023	2022	2021
	(In $ millions)		
Total	16	(34)	3

Valuation

The principal weighted average assumptions used to determine benefit obligation are as follows:

	Pension Benefits As of December 31,		Postretirement Benefits As of December 31,	
	2023	2022	2023	2022
	(In percentages)			
Discount Rate Obligations				
U.S. plans	5.1	5.5	5.1	5.4
International plans	3.1	3.4	4.1	4.7
Combined	4.5	4.9	4.5	5.1
Rate of Compensation Increase				
U.S. plans	N/A	N/A		
International plans	2.8	2.7		
Combined	2.8	2.7		

The principal weighted average assumptions used to determine net periodic benefit cost are as follows:

	Pension Benefits Year Ended December 31,			Postretirement Benefits Year Ended December 31,		
	2023	2022	2021	2023	2022	2021
	(In percentages)					
Discount Rate Obligations						
U.S. plans	5.5	2.8	2.4	5.4	2.7	2.2
International plans	3.4	1.4	1.0	4.7	2.4	1.9
Combined	4.9	2.5	2.1	5.1	2.5	2.1
Discount Rate Service Cost						
U.S. plans	N/A	N/A	N/A	5.9	3.5	N/A
International plans	3.5	1.5	1.1	4.4	2.1	1.9
Combined	3.5	1.5	1.1	4.5	2.1	1.9
Discount Rate Interest Cost						
U.S. plans	5.4	2.2	1.7	5.3	2.0	1.5
International plans	3.4	1.2	0.7	4.7	2.1	1.5
Combined	4.8	2.0	1.4	5.0	2.1	1.5
Expected Return on Plan Assets						
U.S. plans	5.5	5.5	6.5			
International plans	4.4	4.9	4.8			
Combined	5.2	5.4	6.3			
Rate of Compensation Increase						
U.S. plans	N/A	N/A	N/A			
International plans	2.8	2.5	2.5			
Combined	2.8	2.5	2.5			
Interest Crediting Rate						
U.S. plans	4.3	1.9	1.4			
International plans	1.0	1.0	1.0			
Combined	4.3	1.9	1.4			

The Company's health care cost trend assumptions for U.S. postretirement medical plan's net periodic benefit cost are as follows:

	As of December 31,		
	2023	2022	2021
	(In percentages, except year)		
Health care cost trend rate assumed for next year	7.3	7.5	7.3
Health care cost trend ultimate rate	5.0	5.0	5.0
Health care cost trend ultimate rate year	2032	2032	2031

Plan Assets

The weighted average target asset allocations for the Company's pension plans in 2023 are as follows:

	U.S. Plans	International Plans
	(In percentages)	
Bonds - domestic to plans	84	36
Equities - domestic to plans	8	21
Equities - international to plans	8	8
Other	—	35
Total	100	100

On average, the actual return on the U.S. qualified defined pension plans' assets over the long-term (20 years) has exceeded the expected long-term rate of asset return assumption. The U.S. qualified defined benefit plans' actual return on assets for the year ended December 31, 2023 was 8.8% versus an expected long-term rate of asset return assumption of 5.5%. The expected long-term rate of asset return assumption used to determine 2024 net periodic benefit cost is 5.5% for the U.S. qualified defined benefit plans.

The Company's defined benefit plan assets are measured at fair value on a recurring basis (Note 2) as follows:

Cash and Cash Equivalents: Foreign and domestic currencies as well as short-term securities are valued at cost plus accrued interest, which approximates fair value.

Equity securities, treasuries and corporate debt: Valued at the closing price reported on the active market in which the individual securities are traded. Automated quotes are provided by multiple pricing services and validated by the plan custodian. These securities are traded on exchanges as well as in the over the counter market.

Registered Investment Companies: Composed of various mutual funds and other investment companies whose diversified portfolio is comprised of foreign and domestic equities, fixed income securities and short-term investments. Investments are valued at the net asset value of units held by the plan at year-end.

Pooled-type investments: Composed of various funds whose diversified portfolio is comprised of foreign and domestic equities, fixed income securities, and short-term investments. Investments are valued at the net asset value of units held by the plan at year-end.

Derivatives: Derivative financial instruments are valued in the market using discounted cash flow techniques. These techniques incorporate Level 1 and Level 2 fair value measurement inputs such as interest rates and foreign currency exchange rates. These market inputs are utilized in the discounted cash flow calculation considering the instrument's term, notional amount, discount rate and credit risk. Significant inputs to the derivative valuation for interest rate swaps, foreign currency forwards and swaps, and options are observable in the active markets and are classified as Level 2 in the fair value measurement hierarchy.

Mortgage backed securities: Fair value is estimated based on valuations obtained from third-party pricing services for identical or comparable assets. Mortgage backed securities are traded in the over the counter broker/dealer market.

Insurance contracts: Valued at contributions made, plus earnings, less participant withdrawals and administrative expenses, which approximates fair value.

Short-term investment funds: Composed of various funds whose portfolio is comprised of foreign and domestic currencies as well as short-term securities. Investments are valued at the net asset value of units held by the plan at year-end.

Other: Composed of real estate investment trust common stock valued at closing price as reported on the active market in which the individual securities are traded.

	Fair Value Measurement					
	Quoted Prices in Active Markets for Identical Assets (Level 1)		Significant Other Observable Inputs (Level 2)		Total	
	As of December 31,					
	2023	2022	2023	2022	2023	2022
	(In $ millions)					
Assets						
Cash and cash equivalents	7	7	—	—	7	7
Derivatives						
Swaps	—	—	60	4	60	4
Equity securities						
U.S. companies	21	26	—	—	21	26
International companies	148	135	—	—	148	135
Fixed income						
Corporate debt	—	—	686	662	686	662
Treasuries, other debt	87	162	1,013	968	1,100	1,130
Mortgage backed securities	—	—	13	12	13	12
Insurance contracts	—	—	104	98	104	98
Other	3	4	19	21	22	25
Total investments, at fair value[(1)]	266	334	1,895	1,765	2,161	2,099
Liabilities						
Derivatives						
Swaps	—	—	60	4	60	4
Total liabilities	—	—	60	4	60	4
Total net assets[(2)]	266	334	1,835	1,761	2,101	2,095

(1) Certain investments that are measured at fair value using the NAV per share practical expedient have not been classified in the fair value hierarchy. Total investments, at fair value, for the year ended December 31, 2023 excludes investments in pooled-type investments, registered investment companies and short-term investment funds with fair values of $460 million, $43 million and $31 million, respectively. Total investments, at fair value, for the year ended December 31, 2022 excludes investments in pooled-type investments, registered investment companies and short-term investment funds with fair values of $441 million, $41 million and $41 million, respectively.

(2) Total net assets excludes non-financial plan receivables and payables of $22 million and $5 million, respectively, as of December 31, 2023 and $17 million and $10 million, respectively, as of December 31, 2022. Non-financial items include due to/from broker, interest receivables and accrued expenses.

Benefit obligation funding is as follows:

	Total Expected 2024
	(In $ millions)
Cash contributions to defined benefit pension plans	29
Benefit payments to nonqualified pension plans	19
Benefit payments to other postretirement benefit plans	3

The Company's estimates of its U.S. defined benefit pension plan contributions reflect the provisions of the Pension Protection Act of 2006.

Pension and postretirement benefits expected to be paid are as follows:

	Pension Benefit Payments[1]	Company Portion of Postretirement Benefit Cost[2]
	(In $ millions)	
2024	238	3
2025	234	3
2026	232	3
2027	226	3
2028	224	2
2029-2033	1,044	11

(1) Payments are expected to be made primarily from plan assets.

(2) Payments are expected to be made primarily from Company assets.

13. Environmental

The Company is subject to environmental laws and regulations worldwide that impose limitations on the discharge of pollutants into the air and water, establish standards for the treatment, storage and disposal of solid and hazardous wastes, and impose record keeping and notification requirements. Failure to timely comply with these laws and regulations may expose the Company to penalties. The Company believes that it is in substantial compliance with all applicable environmental laws and regulations and engages in an ongoing process of updating its controls to mitigate compliance risks. The Company is also subject to retained environmental obligations specified in various contractual agreements arising from the divestiture of certain businesses by the Company or one of its predecessor companies.

The components of environmental remediation liabilities are as follows:

	As of December 31,	
	2023	2022
	(In $ millions)	
Demerger obligations (Note 19)	14	20
Divestiture obligations (Note 19)	13	14
Active sites	25	21
U.S. Superfund sites	8	10
Other environmental remediation liabilities	2	2
Total	62	67

Remediation

Due to its industrial history and through retained contractual and legal obligations, the Company has the obligation to remediate specific areas on its own sites as well as on divested, demerger, orphan or U.S. Superfund sites (defined below). In addition, as part of the demerger agreement between the Company and Hoechst AG ("Hoechst"), a specified portion of the responsibility for environmental liabilities from a number of Hoechst divestitures was transferred to the Company (Note 19). Certain of these sites, at which the Company maintains continuing involvement, were and continue to be designated as discontinued operations when closed. The Company provides for such obligations when the event of loss is probable and reasonably estimable. The Company believes that environmental remediation costs will not have a material adverse effect on the financial position of the Company, but may have a material adverse effect on the results of operations or cash flows in any given period.

The Company did not record any insurance recoveries during 2023 or have any receivables for insurance recoveries related to these matters as of December 31, 2023.

German InfraServ Entities

The Company's InfraServ Entities (Note 7) are liable for any residual contamination and other pollution because they own the real estate on which the individual facilities operate. In addition, Hoechst, and its legal successors, as the responsible party under German public law, is liable to third parties for all environmental damage that occurred while it was still the owner of the plants and real estate (Note 19). The contribution agreements entered into in 1997 between Hoechst and the respective operating companies, as part of the divestiture of these companies, provide that the operating companies will indemnify Hoechst, and its legal successors, against environmental liabilities resulting from the transferred businesses. Additionally, the InfraServ Entities have agreed to indemnify Hoechst, and its legal successors, against any environmental liability arising out of or in connection with environmental pollution of any site.

The InfraServ partnership agreements provide that, as between the partners, each partner is responsible for any contamination caused predominantly by such partner. Any liability, which cannot be attributed to an InfraServ partner and for which no third party is responsible, is required to be borne by the InfraServ partnership. Also, under lease agreements entered into by an InfraServ partner as landlord, the tenants agreed to pay certain remediation costs on a pro rata basis.

If an InfraServ partner defaults on its respective indemnification obligations to eliminate residual contamination, the owners of the remaining participation in the InfraServ companies have agreed to fund such liabilities, subject to a number of limitations. To the extent that any liabilities are not satisfied by either the InfraServ Entities or their owners, these liabilities are to be borne by the Company in accordance with the demerger agreement. However, Hoechst, and its legal successors, will reimburse the Company for two-thirds of any such costs. Likewise, in certain circumstances the Company could be responsible for the elimination of residual contamination on several sites that were not transferred to InfraServ companies, in which case Hoechst, and its legal successors, must also reimburse the Company for two-thirds of any costs so incurred.

The Company's ownership interest and environmental liability participation percentages for such liabilities, which cannot be attributed to an InfraServ partner are as follows:

	As of December 31, 2023		
	Ownership	Liability	Reserves[(1)]
	(In percentages)		(In $ millions)
InfraServ GmbH & Co. Gendorf KG	30	10	8
InfraServ GmbH & Co. Hoechst KG	31	40	65
Yncoris GmbH & Co. KG	22	22	1

(1) Gross reserves maintained by the respective entity.

U.S. Superfund Sites

In the U.S., the Company may be subject to substantial claims brought by U.S. federal or state regulatory agencies or private individuals pursuant to statutory authority or common law. In particular, the Company has a potential liability under the U.S. Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, and related state laws (collectively referred to as "Superfund") for investigation and cleanup costs at certain sites. At most of these sites, numerous companies, including the Company, or one of its predecessor companies, have been notified that the U.S. Environmental Protection Agency ("EPA"), state governing bodies or private individuals consider such companies to be potentially responsible parties ("PRP") under Superfund or related laws. The proceedings relating to these sites are in various stages. The cleanup process has not been completed at most sites, and the status of the insurance coverage for some of these proceedings is uncertain. Consequently, the Company cannot accurately determine its ultimate liability for investigation or cleanup costs at these sites.

As events progress at each site for which it has been named a PRP, the Company accrues any probable and reasonably estimable liabilities. In establishing these liabilities, the Company considers the contaminants of concern, the potential impact thereof, the relationship of the contaminants of concern to its current and historic operations, its shipment of waste to a site, its percentage of total waste shipped to the site, the types of wastes involved, the conclusions of any studies, the magnitude of any remedial actions that may be necessary and the number and viability of other PRPs. Often the Company joins with other PRPs to sign joint defense agreements that settle, among PRPs, each party's percentage allocation of costs at the site. Although the ultimate liability may differ from the estimate, the Company routinely reviews the liabilities and revises the estimate, as appropriate, based on the most current information available.

One such site is the Diamond Alkali Superfund Site, which is comprised of a number of sub-sites, including the Lower Passaic River Study Area ("LPRSA"), which is the lower 17-mile stretch of the Passaic River ("Lower Passaic River Site"), and the Newark Bay Study Area. The Company and 70 other companies are parties to a May 2007 Administrative Order on Consent with the EPA to perform a Remedial Investigation/Feasibility Study ("RI/FS") at the Lower Passaic River Site in order to identify the levels of contaminants and potential cleanup actions, including the potential migration of contaminants between the LPRSA and the Newark Bay Study Area.

In March 2016, the EPA issued its final Record of Decision concerning the remediation of the lower 8.3 miles of the Lower Passaic River Site ("Lower 8.3 Miles"). Pursuant to the EPA's Record of Decision, the Lower 8.3 Miles must be dredged bank to bank and an engineered cap must be installed at an EPA estimated cost of approximately $1.4 billion. In September 2021, the EPA issued a Record of Decision selecting an interim remedial plan for the upper 9 miles of the Lower Passaic River ("Upper 9 Miles"). Pursuant to the EPA's Record of Decision, targeted dredging will be conducted in the Upper 9 Miles to address surface sediments with elevated contamination followed by the installation of an engineered cap at an EPA estimated cost of $441 million.

The Company owned and/or operated facilities in the vicinity of the Lower 8.3 Miles, but has found no evidence that it contributed any of the contaminants of concern to the Passaic River. In June 2018, Occidental Chemical Corporation ("OCC"), the successor to the Diamond Alkali Company, sued a subsidiary of the Company and 119 other parties alleging claims for joint and several damages, contribution and declaratory relief under Section 107 and 113 of Superfund for costs to clean up the LPRSA portion of the Diamond Alkali Superfund Site, Occidental Chemical Corporation v. 21st Century Fox America, Inc., et al, No. 2:18-CV-11273 (MCA) (LDW) (U.S. District Court New Jersey) (the "2018 OCC Lawsuit"), alleging that each of the defendants owned or operated a facility that contributed contamination to the LPRSA. With respect to the Company, the 2018 OCC lawsuit is limited to the former Celanese facility that Essex County, New Jersey has agreed to indemnify the Company for and does not change the Company's estimated liability for LPRSA cleanup costs.

Separately, the United States lodged a Consent Decree in U.S. District Court for the District of New Jersey on December 16, 2022 that will resolve the Company's liability (and that of more than 80 other settling defendants) to the EPA for costs to clean up both the Lower 8.3 Miles and Upper 9 Miles of the Lower Passaic River Site in exchange for a collective payment of $150 million, United States v. Alden Leeds, Inc., No. 2:22-7326 (MCA) (LDW) (U.S. District Court New Jersey) ("Consent Decree Action"). The Consent Decree also will provide the Company protection from contribution claims by others for costs incurred to clean up both the Lower 8.3 Miles and Upper 9 Miles of the Lower Passaic River Site. The Company's proposed payment toward the $150 million collective settlement payment is not material to the Company's results of operations, cash flows or financial position. The Consent Decree is still subject to public comment and court approval.

On March 7, 2023, the U.S. District Court for the District of New Jersey entered an order staying and administratively terminating the 2018 OCC Lawsuit, pending resolution of the request for judicial approval of the Consent Decree in the Consent Decree Action. On March 24, 2023, OCC filed a new lawsuit against 40 parties, including a subsidiary of the

Company, seeking to recover costs for remedial design work the EPA has ordered OCC to undertake for a portion of the LPRSA at an estimated cost of $71 million, Occidental Chemical Corporation v. Givaudan Fragrances Corporation, No. 2:23-cv-1699 (U.S. District Court New Jersey) (the "2023 OCC Lawsuit"). Like the earlier lawsuit, the 2023 OCC Lawsuit concerns the facility Essex County, New Jersey purchased and for which Essex County, New Jersey has agreed to defend and indemnify the Company. This new lawsuit does not change the Company's estimated liability for LPRSA cleanup costs.

In the interim, the Company continues to vigorously defend these matters and continues to believe that its ultimate allocable share of the cleanup costs with respect to the Lower Passaic River Site, previously estimated at less than 1%, will not be material.

Other Environmental Matters

In April 2022, a methanol leak on a pipeline to the Company's Bishop, Texas facility was discovered. The release has been contained, the leak has been repaired and the pipeline has resumed operation. The Company promptly disclosed the incident to state and federal authorities, including the Texas Commission on Environmental Quality and the EPA, and remediation activities are now completed. While the Company has not received a notice of violation nor been assessed any fines or penalties to date, the Company recorded a reserve in Other current liabilities based on anticipated clean-up costs and possible penalties to state or federal authorities. The Company does not believe that resolution of this matter will have a material impact on its financial condition or results of operations.

14. Shareholders' Equity

Common Stock

The Company's Board of Directors follows a policy of declaring, subject to legally available funds, a quarterly cash dividend on each share of the Company's Common Stock, par value $0.0001 per share ("Common Stock"), unless the Company's Board of Directors, in its sole discretion, determines otherwise. The amount available to the Company to pay cash dividends is not currently restricted by its existing Global Credit Agreements and its indentures governing its senior unsecured notes. Any decision to declare and pay dividends in the future will be made at the discretion of the Company's Board of Directors and will depend on, among other things, the results of operations, cash requirements, financial condition, contractual restrictions and other factors that the Company's Board of Directors may deem relevant.

The Company declared a quarterly cash dividend of $0.70 per share on its Common Stock on February 7, 2024, amounting to approximately $76 million. The cash dividend will be paid on March 5, 2024 to holders of record as of February 20, 2024.

Treasury Stock

The Company's Board of Directors authorizes repurchases of Common Stock from time to time. These authorizations give management discretion in determining the timing and conditions under which shares may be repurchased. This repurchase program does not have an expiration date.

The share repurchase activity pursuant to this authorization is as follows:

	Year Ended December 31,			Total From February 2008 Through December 31, 2023
	2023	2022	2021	
Shares repurchased	—	—	6,556,378	69,324,429
Average purchase price per share	$ —	$ —	$ 152.53	$ 83.71
Amount spent on repurchased shares (in $ millions)	$ —	$ —	$ 1,000	$ 5,803
Aggregate Board of Directors repurchase authorizations during the period (in $ millions)	$ —	$ —	$ 1,000	$ 6,866

The purchase of treasury stock reduces the number of shares outstanding. The repurchased shares may be used by the Company for compensation programs utilizing the Company's stock and other corporate purposes. The Company accounts for treasury stock using the cost method and includes treasury stock as a component of shareholders' equity.

Other Comprehensive Income (Loss), Net

	Year Ended December 31,								
	2023			2022			2021		
	Gross Amount	Income Tax (Provision) Benefit	Net Amount	Gross Amount	Income Tax (Provision) Benefit	Net Amount	Gross Amount	Income Tax (Provision) Benefit	Net Amount
					(In $ millions)				
Foreign currency translation	(275)	62	(213)	(240)	23	(217)	20	(31)	(11)
Gain (loss) on derivative hedges	(12)	6	(6)	26	(5)	21	34	(21)	13
Pension and postretirement benefits gain (loss)	(8)	1	(7)	7	—	7	(3)	—	(3)
Total	(295)	69	(226)	(207)	18	(189)	51	(52)	(1)

Adjustments to Accumulated other comprehensive income (loss), net, are as follows:

	Foreign Currency Translation Gain (Loss)	Gain (Loss) on Derivative Hedges (Note 17)	Pension and Postretirement Benefits Gain (Loss) (Note 12)	Accumulated Other Comprehensive Income (Loss), Net
		(In $ millions)		
As of December 31, 2020	(260)	(56)	(12)	(328)
Other comprehensive income (loss) before reclassifications	20	34	(3)	51
Income tax (provision) benefit	(31)	(21)	—	(52)
As of December 31, 2021	(271)	(43)	(15)	(329)
Other comprehensive income (loss) before reclassifications	(240)	43	7	(190)
Amounts reclassified from accumulated other comprehensive income (loss)	—	(17)	—	(17)
Income tax (provision) benefit	23	(5)	—	18
As of December 31, 2022	(488)	(22)	(8)	(518)
Other comprehensive income (loss) before reclassifications	(275)	(3)	(8)	(286)
Amounts reclassified from accumulated other comprehensive income (loss)	—	(9)	—	(9)
Income tax (provision) benefit	62	6	1	69
As of December 31, 2023	(701)	(28)	(15)	(744)

15. Income Taxes

In December 2017, the Tax Cuts and Jobs Act (the "TCJA") was enacted and was effective January 1, 2018. The U.S. Treasury has issued various notices and final and proposed regulatory packages supplementing the TCJA provisions since 2018. In December 2021, the U.S. Treasury issued final foreign tax credit regulations clarifying certain items in the TCJA and prior guidance related to disallowance of foreign income taxes related to income exempt from U.S. taxation, treatment of debt between foreign affiliates for expense apportionment purpose, allocation and apportionment of foreign income taxes and the definition of creditable foreign income taxes. The regulations were published in the federal register in January 2022 and became effective in March 2022. In November 2022, the U.S. Treasury released proposed foreign tax credit regulations addressing the eligibility of foreign taxes for credit by clarifying the cost recovery requirements, attribution requirements for withholding taxes on royalties and attribution definitions regarding allocation and apportionment of foreign taxes. The Company does not expect the final or the proposed regulations to have a material impact to current or future income tax expense.

In August 2022, the Inflation Reduction Act (the "IRA") was enacted and included a 1% excise tax on share repurchases in excess of $1 million, and a corporate minimum tax of 15% on adjusted book earnings. The corporate minimum tax paid is creditable in future years to the extent regular tax liability exceeds the minimum tax in any given year. The Company does not expect these provisions will have a material impact to future income tax expense. The IRA also provides various beneficial credits for energy efficient related manufacturing, transportation and fuels, hydrogen/carbon recapture and renewable energy, which the Company is evaluating in regard to planned projects.

The Company will continue to monitor the expected impacts of any new guidance on the Company's filing positions and will record the impacts as discrete income tax expense adjustments in the period the guidance is finalized or becomes effective.

In December 2021, the Organization for Economic Co-operation and Development ("OECD") issued final Model Rules for Pillars One and Two of its Base Erosion and Profit Shifting ("BEPS") project. In general, Pillar One addresses nexus concerns and the allocation of profits among companies in which a multinational enterprise ("MNE") conducts its business. Pillar Two aims to ensure that all MNEs pay an effective tax rate of no less than 15% on their adjusted net income in each of the jurisdictions in which they have operations. Pillar Two is more impactful to the Company as it allows for assessment even if the individual countries do not enact its minimum tax provisions. In effect, Pillar Two allows any country within which an MNE operates to levy tax upon that MNE to the extent it determines that the MNE is paying less than a 15% effective tax rate on its adjusted net income. The taxes levied may then be allocated among the jurisdictions that conform to the OECD rules. In December 2022, the member states of the European Union ("EU") unanimously voted to adopt the OECD's minimum tax which was agreed to by consensus of the BEPS 2.0 (Pillars One and Two) signatory jurisdictions. Under the EU's minimum tax directive, member states are to adopt domestic legislation implementing the minimum tax rules effective for periods beginning on or after December 31, 2023, with Pillar Two's "under-taxed profit rule" to take effect for periods beginning on or after December 31, 2024. The EU effective dates are January 1, 2024, and January 1, 2025, for different aspects of the directive. Legislatures in multiple countries outside of the EU have also drafted legislation to implement the OECD's minimum tax proposals.

On July 17, 2023, the OECD published Administrative Guidance proposing certain safe harbor provisions, including an effective rate test and a routine profits test, which if satisfied effectively delay effective dates of Pillar Two to January 1, 2027. The EU and a significant number of other countries are expected to implement the safe harbor in local legislation. Based on these safe harbor provisions, the Company currently expects that several material jurisdictions, including the U.S., Netherlands, Switzerland, Germany, China, Singapore and Canada, will qualify for the safe harbor effectively extending the application of the global minimum tax until January 1, 2027.

The Company will continue to monitor the developments and implementation of the OECD BEPS projects. Currently the Company does not meet the requirements for the application of Pillar One. After an initial assessment of the application of the safe harbor provisions, the Company is currently not expecting a material impact from the local adoption of the OECD Pillar Two proposals in 2024, but is continuing to model the effect of these provisions on its future effective tax rate and cash taxes.

Income Tax Provision

Earnings (loss) from continuing operations before tax by jurisdiction are as follows:

	Year Ended December 31,		
	2023	2022	2021
		(In $ millions)	
U.S.	(163)	(292)	202
International	1,346	1,713	2,046
Total	1,183	1,421	2,248

The income tax provision (benefit) consists of the following:

	Year Ended December 31,		
	2023	2022	2021
	(In $ millions)		
Current			
U.S.	8	54	—
International	162	306	323
Total	170	360	323
Deferred			
U.S.	(178)	(261)	(16)
International	(782)	(588)	23
Total	(960)	(849)	7
Total	(790)	(489)	330

A reconciliation of the significant differences between the U.S. federal statutory tax rate of 21% and the effective income tax rate on income from continuing operations is as follows:

	Year Ended December 31,		
	2023	2022	2021
	(In $ millions, except percentages)		
Income tax provision computed at U.S. federal statutory tax rate	248	298	472
Change in valuation allowance	(150)	(15)	(50)
Equity income and dividends	(27)	(47)	(29)
(Income) expense not resulting in tax impact, net	(9)	2	(53)
U.S. tax effect of foreign earnings and dividends	384	162	332
Foreign tax credits	(73)	(120)	(328)
Other foreign tax rate differentials	(108)	(43)	(66)
Legislative changes	(44)	—	(8)
State income taxes, net of federal benefit	(8)	(2)	6
Recognition of basis differences in investments in affiliates	—	6	—
Asset transfers between wholly owned foreign affiliates	(839)	(816)	—
Other, net	(164)	86	54
Income tax provision (benefit)	(790)	(489)	330
Effective income tax rate	(67) %	(34) %	15 %

In December 2022, as part of its integration efforts for the M&M Acquisition (see Note 4) and to simplify future cash flows for purposes of acquisition debt repayment, the Company reorganized its foreign legal entity holding structure and relocated certain of its intangible assets to align with the acquired M&M foreign operations. The transfer of these assets between wholly owned foreign affiliates, generated a net deferred tax benefit of approximately $800 million. The contractual provisions for these asset transfers provided for adjustments to the purchase price for business events occurring within the succeeding twelve months, and as a result, the Company recorded an additional deferred tax benefit of approximately $190 million in 2023.

In 2023, in furtherance of its integration strategy for the M&M Acquisition, the Company continued to relocate certain intangible assets to better align with the acquired M&M foreign operations. In addition, in late 2023, as part of its overall integration approach, the Company initiated a strategy to realign its European headquarters and principal operations to Switzerland to achieve operational efficiencies by leveraging an acquired site for future growth and improved alignment of ownership of intangible assets with future technology and innovation efforts to be conducted locally. These operational efficiencies are expected to include, (i) centralized regional manufacturing, sales and operational planning, procurement and business leadership and (ii) cost and facility savings.

The headquarters and principal operations realignment strategy, and the relocation of intangible assets to wholly owned foreign affiliates, generated a net deferred tax benefit of approximately $725 million. In addition, the relocation of these intangible assets resulted in the utilization of approximately $230 million of the Company's existing U.S. foreign tax credit carryforwards. These carryforwards had previously been offset by a full valuation allowance.

Included in the Other, net line in the effective income tax rate reconciliation above are the U.S. GAAP gain in excess of the tax gain related to the formation of the Nutrinova joint venture (see Note 4) of $102 million for the year ended December 31, 2023 and charges of approximately $20 million related to transaction costs for the M&M Acquisition for the year ended December 31, 2022. In addition, included in the Other, net line in the effective income tax rate reconciliation above are U.S. benefits of foreign derived intangible income of $72 million, $0 million, and $10 million; and changes in uncertain tax positions of $5 million, $63 million and $65 million for the years ended December 31, 2023, 2022 and 2021, respectively.

Deferred Income Taxes

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the consolidated deferred tax assets and liabilities are as follows:

	As of December 31,	
	2023	2022
	(In $ millions)	
Deferred Tax Assets		
Pension and postretirement obligations	61	61
Accrued expenses	56	80
Inventory	(13)	(11)
Net operating loss carryforwards	783	528
Tax credit carryforwards	135	359
Intangibles and other	737	400
Subtotal	1,759	1,417
Valuation allowance[(1)]	(656)	(781)
Total	1,103	636
Deferred Tax Liabilities		
Depreciation and amortization	152	743
Investments in affiliates	188	171
Other	85	156
Total	425	1,070
Net deferred tax assets (liabilities)	678	(434)

(1) Includes deferred tax asset valuation allowances for the Company's deferred tax assets in Luxembourg, the U.S., Spain, China, the United Kingdom, France, Mexico, Singapore, Canada and Germany. These valuation allowances relate primarily to net operating loss carryforward benefits, foreign tax credit carryforwards and other net deferred tax assets, all of which may not be realizable.

As a result of the TCJA, U.S. federal and state income taxes have been recorded on undistributed foreign earnings accumulated from 1986 through 2017. The Company's previously taxed income for its foreign subsidiaries significantly exceeds its offshore cash balances. The Company has not recorded a deferred tax liability for foreign withholding or other foreign local tax that would be due when cash is actually repatriated to the U.S. because those foreign earnings are considered permanently reinvested in the business or may be remitted substantially free of any additional local taxes. The determination of the amount of the unrecognized deferred tax liability related to the undistributed earnings is not practicable.

Tax Carryforwards

- ***Net Operating Loss and Capital Loss Carryforwards***

As of December 31, 2023, the Company had available U.S. federal net operating loss carryforwards of $20 million that are subject to limitation. These net operating loss carryforwards begin to expire in 2025. As of December 31, 2023, the Company also had available state net operating loss carryforwards, net of federal tax impact, of $42 million, $27 million of which are offset by a valuation allowance due to uncertain recoverability. The Company also has foreign net operating loss carryforwards available as of December 31, 2023 of $4.0 billion primarily for Malta, Luxembourg, Spain, the United Kingdom, Singapore, Switzerland, Hong Kong and China with various expiration dates. Net operating loss carryforwards of $17 million in China began to expire in 2023 and are scheduled to continue to expire through 2028. Net operating losses in most other foreign jurisdictions do not have an expiration date. The Company acquired capital loss carryforwards of $173 million as part of the M&M Acquisition (Note 4) that are subject to annual limitation due to the ownership change. The Company fully offset these capital loss carryforwards with a valuation allowance due to uncertain recoverability.

- ***Tax Credit Carryforwards***

The Company had available $112 million of foreign tax credit carryforwards, which are fully offset by a valuation allowance due to uncertain recoverability and $18 million of alternative minimum tax credit carryforwards in the U.S. The foreign tax credit carryforwards are subject to a ten-year carryforward period and begin to expire in 2027. The alternative minimum tax credits are subject to annual limitation due to prior ownership changes but have an unlimited carryforward period and can be used to offset federal tax liability in future years.

The Company evaluates its deferred tax assets on a quarterly basis to determine whether a valuation allowance is necessary. Realization of deferred tax assets ultimately depends on the existence of sufficient taxable income of the appropriate character in the applicable carryback or carryforward periods. Changes in the Company's estimates of future taxable income and prudent and feasible tax planning strategies will affect the estimate of the realization of the tax benefits of these foreign tax credit carryforwards. As such, the Company is currently evaluating tax planning strategies to enable use of the foreign tax credit carryforwards that may decrease the Company's effective tax rate in future periods as the valuation allowance is reversed.

Uncertain Tax Positions

Activity related to uncertain tax positions is as follows:

	Year Ended December 31,		
	2023	2022	2021
		(In $ millions)	
As of the beginning of the year	275	218	165
Increases in tax positions for the current year	10	8	33
Increases in tax positions for prior years	9	102	28
Decreases in tax positions for prior years	(35)	(45)	(11)
Increases (decreases) due to settlements	(35)	(8)	3
As of the end of the year	224	275	218
Total uncertain tax positions that if recognized would impact the effective tax rate	244	274	224
Total amount of interest expense (benefit) and penalties recognized in the consolidated statements of operations[(1)]	22	10	2
Total amount of interest expense and penalties recognized in the consolidated balance sheets	71	59	52

(1) This amount reflects interest on uncertain tax positions and release of tax positions due to changes in assessment, statute lapses or audit closures that were reflected in the consolidated statements of operations.

The increase in uncertain tax positions for the year ended December 31, 2022 was primarily due to increases in foreign tax positions related to ongoing tax examinations, partially offset by releases due to completed examinations and statute closures.

The Company's tax returns have been under audit for the years 2013 through 2015 by the United States, Netherlands and Germany (the "Authorities"). In September 2021, the Company received a draft joint audit report proposing adjustments to transfer pricing and the reallocation of income between the related jurisdictions. The Authorities also proposed to apply these adjustments to open tax years through 2019. The Company and the Authorities were unable to reach an agreement jointly and therefore the audits continued on a separate jurisdictional basis. In the fourth quarter of 2022, the Company concluded settlement discussions with the Dutch tax authorities. The Company is engaged in continuing discussions with the other Authorities and is currently evaluating all additional potential remedies regarding the ongoing examinations.

As of December 31, 2023, the Company believes that an adequate provision for income taxes has been made for all open tax years related to the examinations by the Authorities. However, the outcome of tax audits cannot be predicted with certainty. If any issues raised by the Authorities are resolved in a manner inconsistent with the Company's expectations or the Company is unsuccessful in defending its position, the Company could be required to adjust its provision for income taxes in the period such resolution occurs. If required, any such adjustments could be material to the statements of operations and cash flows in the period(s) recorded.

In addition, the Company's income tax returns in Mexico are under audit for the year 2018, and in Canada for the years 2016 through 2022. In August 2023, the Company negotiated a partial settlement with the Mexico tax authorities for its audit for the year 2018. The partial settlement did not have a material impact on income tax expense in the consolidated statements of operations for the year ended December 31, 2023. In September 2023, the Canadian tax authorities opened tax audits for the years 2019 through 2022, and the audits are in the preliminary stages. The Company is in ongoing discussions regarding the audit findings with the Canadian tax authorities for the years 2016 through 2018 and does not expect a material impact to income tax expense.

16. Leases

The components of lease expense are as follows:

	Year Ended December 31,			
	2023	2022	2021	Statement of Operations Classification
		(In $ millions)		
Lease Cost				
Operating lease cost	99	66	40	Cost of sales / Selling, general and administrative expenses
Short-term lease cost	19	19	18	Cost of sales / Selling, general and administrative expenses
Variable lease cost	13	15	12	Cost of sales / Selling, general and administrative expenses
Finance lease cost				
Amortization of leased assets	21	19	19	Cost of sales
Interest on lease liabilities	10	11	13	Interest expense
Sublease income	—	2	—	Other income (expense), net
Total net lease cost	162	132	102	

Supplemental consolidated balance sheet information related to leases is as follows:

	As of December 31,		
	2023	2022	Balance Sheet Classification
	(In $ millions)		
Leases			
Assets			
Operating lease assets	422	413	Operating lease ROU assets
Finance lease assets	154	176	Property, plant and equipment, net
Total leased assets	576	589	
Liabilities			
Current			
Operating	89	83	Current Other liabilities
Finance	24	25	Short-term borrowings and current installments of long-term debt
Noncurrent			
Operating	325	364	Operating lease liabilities
Finance	124	147	Long-term debt
Total lease liabilities	562	619	

	As of December 31,	
	2023	2022
Weighted-Average Remaining Lease Term (years)		
Operating leases	8.6	9.0
Finance leases	7.8	8.3
Weighted-Average Discount Rate		
Operating leases	3.5 %	3.0 %
Finance leases	6.2 %	6.4 %

Supplemental consolidated cash flow information related to leases is as follows:

	Year Ended December 31,		
	2023	2022	2021
		(In $ millions)	
Cash paid for amounts included in the measurement of lease liabilities			
Operating cash flows from operating leases	92	52	37
Operating cash flows from finance leases	10	11	13
Financing cash flows from finance leases	24	25	29
ROU assets obtained in exchange for finance lease liabilities (Note 20)	2	28	—
ROU assets obtained in exchange for operating lease liabilities	58	93	52

Maturities of lease liabilities are as follows:

	As of December 31, 2023	
	Operating Leases	Finance Leases
	(In $ millions)	
2024	102	32
2025	87	28
2026	68	26
2027	36	21
2028	28	18
Later years	148	75
Total lease payments	469	200
Less amounts representing interest	(55)	(52)
Total lease obligations	414	148

17. Derivative Financial Instruments

Information regarding changes in the fair value of the Company's derivative and non-derivative instruments is as follows:

	Gain (Loss) Recognized in Other Comprehensive Income (Loss)			Gain (Loss) Recognized in Earnings (Loss)			
	Year Ended December 31,			Year Ended December 31,			Statement of Operations Classification
	2023	2022	2021	2023	2022	2021	
	(In $ millions)						
Designated as Cash Flow Hedges							
Commodity swaps	(5)	39	25	2	23	3	Cost of sales
Interest rate swaps	—	—	10	(7)	(7)	(3)	Interest expense
Foreign currency forwards	5	2	(1)	5	1	—	Cost of sales
Total	—	41	34	—	17	—	
Designated as Fair Value Hedges							
Cross-currency swaps[1]	(1)	—	—	9	—	—	Foreign exchange gain (loss), net
Designated as Net Investment Hedges[2]							
Foreign currency denominated debt (Note 11)	(106)	(22)	107	—	—	—	N/A
Cross-currency swaps (Note 11)	(174)	(92)	27	—	—	—	N/A
Total	(280)	(114)	134	—	—	—	
Not Designated as Hedges							
Foreign currency forwards and swaps	—	—	—	(19)	(2)	(13)	Foreign exchange gain (loss), net; Other income (expense), net

(1) In conjunction with the 2023 Offering (Note 11) in August 2023, the Company entered into a cross-currency swap to effectively convert $500 million of the issued notes into a Japanese yen-denominated borrowing at prevailing yen interest rates, maturing on July 15, 2029. The swap qualifies and has been designated as a fair value hedge of the Company's foreign currency exchange rate exposure on the long-term debt of its Japanese yen-denominated subsidiary.

Additionally, in conjunction with the 2023 Offering (Note 11) in August 2023, the Company entered into cross-currency swaps to effectively convert $1.0 billion of the issued notes into 5-year and 7-year euro-denominated borrowings at prevailing euro interest rates, maturing on November 15, 2028 and November 15, 2030, respectively. The swaps qualify and have been designated as fair value hedges of the Company's foreign currency exchange rate exposure on the long-term debt of its euro-denominated subsidiary.

(2) Concurrently with offering of the Acquisition USD Notes in July 2022 (Note 11), the Company entered into cross-currency swaps to effectively convert $2.0 billion and $500 million of the Acquisition USD Notes into a euro-denominated borrowing at prevailing euro interest rates, maturing on July 15, 2027 and July 15, 2032, respectively. The swaps and €1.5 billion of the Acquisition Euro Notes qualify and have been designated as net investment hedges of the Company's foreign currency exchange rate exposure on the net investments of certain of its euro-denominated subsidiaries.

See Note 18 for additional information regarding the fair value of the Company's derivative instruments.

Certain of the Company's commodity swaps, interest rate swaps, cross-currency swaps and foreign currency forwards and swaps permit the Company to net settle all contracts with the counterparty through a single payment in an agreed upon currency in the event of default or early termination of the contract, similar to a master netting arrangement.

Derivatives Not Designated As Hedges

Foreign Currency Forwards and Swaps

Each of the contracts included in the table below will have approximately offsetting effects from actual underlying payables, receivables, intercompany loans or other assets or liabilities subject to foreign exchange remeasurement. The total U.S. dollar equivalents of net foreign exchange exposure related to (short) long foreign exchange forward contracts outstanding by currency are as follows:

	2024 Maturity (In $ millions)
Currency	
Brazilian real	(43)
British pound sterling	53
Canadian dollar	23
Chinese yuan	383
Euro	148
Hungarian forint	18
Indian rupee	(27)
Indonesian rupiah	(9)
Japanese yen	(38)
Korean won	197
Mexican peso	109
Singapore dollar	21
Swedish krona	(7)
Swiss franc	(156)
Total	672

Information regarding the gross amounts of the Company's derivative instruments and the amounts offset in the consolidated balance sheets is as follows:

	As of December 31,	
	2023	2022
	(In $ millions)	
Derivative Assets		
Gross amount recognized	183	169
Gross amount offset in the consolidated balance sheets	—	—
Net amount presented in the consolidated balance sheets	183	169
Gross amount not offset in the consolidated balance sheets	40	16
Net amount	143	153

	As of December 31,	
	2023	2022
	(In $ millions)	
Derivative Liabilities		
Gross amount recognized	440	189
Gross amount offset in the consolidated balance sheets	—	—
Net amount presented in the consolidated balance sheets	440	189
Gross amount not offset in the consolidated balance sheets	40	16
Net amount	400	173

18. Fair Value Measurements

The Company's financial assets and liabilities are measured at fair value on a recurring basis (Note 2) as follows:

Derivative financial instruments include interest rate swaps, commodity swaps, cross-currency swaps and foreign currency forwards and swaps and are valued in the market using discounted cash flow techniques. These techniques incorporate Level 1 and Level 2 fair value measurement inputs such as interest rates and foreign currency exchange rates. These market inputs are utilized in the discounted cash flow calculation considering the instrument's term, notional amount, discount rate and credit risk. Significant inputs to the derivative valuation for interest rate swaps, commodity swaps, cross-currency swaps and foreign currency forwards and swaps are observable in the active markets and are classified as Level 2 in the fair value measurement hierarchy.

			Fair Value Measurement			
			Significant Other Observable Inputs (Level 2)			
			Other assets		Other liabilities	
	Notional Amount		Current	Noncurrent	Current	Noncurrent
	(In millions)		(In $ millions)			
As of December 31, 2023						
Derivatives Designated as Cash Flow Hedges						
Commodity swaps	$	67	5	36	2	—
Designated as Fair Value Hedges						
Cross-currency swaps	$	1,500	40	—	11	61
Derivatives Designated as Net Investment Hedges						
Cross-currency swaps	€	5,712	93	—	61	281
Derivatives Not Designated as Hedges						
Foreign currency forwards and swaps	$	1,954	9	—	16	8
Total			147	36	90	350
As of December 31, 2022						
Derivatives Designated as Cash Flow Hedges						
Commodity swaps	$	82	9	39	2	—
Foreign currency forwards and swaps	$	49	—	—	—	—
Derivatives Designated as Net Investment Hedges						
Cross-currency swaps	€	5,639	99	13	58	126
Derivatives Not Designated as Hedges						
Foreign currency forwards and swaps	$	1,265	9	—	3	—
Total			117	52	63	126

Carrying values and fair values of financial instruments that are not carried at fair value are as follows:

			Fair Value Measurement					
	Carrying Amount		Significant Other Observable Inputs (Level 2)		Unobservable Inputs (Level 3)		Total	
	As of December 31,							
	2023	2022	2023	2022	2023	2022	2023	2022
	(In $ millions)							
Equity investments without readily determinable fair values	170	170	—	—	—	—	—	—
Insurance contracts in nonqualified trusts	21	22	21	23	—	—	21	23
Long-term debt, including current installments of long-term debt	13,400	13,953	13,514	13,247	148	172	13,662	13,419

In general, the equity investments included in the table above are not publicly traded and their fair values are not readily determinable. The Company believes the carrying values approximate fair value. Insurance contracts in nonqualified trusts consist of long-term fixed income securities, which are valued using independent vendor pricing models with observable inputs in the active market and therefore represent a Level 2 fair value measurement. The fair value of long-term debt is based on valuations from third-party banks and market quotations and is classified as Level 2 in the fair value measurement hierarchy. The fair value of obligations under finance leases, which are included in long-term debt in the consolidated balance sheets, is based on lease payments and discount rates, which are not observable in the market and therefore represents a Level 3 fair value measurement.

As of December 31, 2023 and 2022, the fair values of cash and cash equivalents, receivables, trade payables, short-term borrowings and the current installments of long-term debt approximate carrying values due to the short-term nature of these instruments. These items have been excluded from the table with the exception of the current installments of long-term debt.

19. Commitments and Contingencies

Commitments

Guarantees

Equity Affiliates

The Company has directly guaranteed various debt obligations under agreements with third parties related to certain equity affiliates. At December 31, 2023, the Company had directly guaranteed $145 million and €31 million of such obligations. These amounts represent the maximum potential amount of future (undiscounted) payments that the Company could be required to make under the guarantees. The Company would be required to perform on these guarantees in the event of default by the guaranteed party.

Maximum future payments under these obligations are $145 million and €31 million for bank borrowings and the guarantee will remain in force until all guaranteed obligations are paid and the underlying debt agreements entered into by certain equity affiliates are terminated.

Environmental and Other Liabilities

The Company has agreed to guarantee or indemnify third parties for environmental and other liabilities pursuant to a variety of agreements, including asset and business divestiture agreements, leases, settlement agreements and various agreements with affiliated companies. Although many of these obligations contain monetary and/or time limitations, others do not provide such limitations.

The Company has accrued for all probable and reasonably estimable losses associated with all known matters or claims. These known obligations include the following:

- ***Demerger Obligations***

In connection with the Hoechst demerger, the Company agreed to indemnify Hoechst, and its legal successors, for various liabilities under the demerger agreement, including for environmental liabilities associated with contamination arising either from environmental damage in general ("Category A") or under 19 divestiture agreements entered into by Hoechst prior to the demerger ("Category B") (Note 13).

The Company's obligation to indemnify Hoechst, and its legal successors, is capped under Category B at €250 million. If and to the extent the environmental damage should exceed €750 million in aggregate, the Company's obligation to indemnify Hoechst and its legal successors applies, but is then limited to 33.33% of the remediation cost without further limitations. Cumulative payments under the divestiture agreements as of December 31, 2023 are $114 million. Though the Company is significantly under its obligation cap under Category B, most of the divestiture agreements have become time barred and/or any notified environmental damage claims have been partially settled.

The Company has also undertaken in the demerger agreement to indemnify Hoechst and its legal successors for (i) 33.33% of any and all Category A liabilities that result from Hoechst being held as the responsible party pursuant to public law or current or future environmental law or by third parties pursuant to private or public law related to contamination and (ii) liabilities that Hoechst is required to discharge, including tax liabilities, which are associated with businesses that were included in the demerger but were not demerged due to legal restrictions on the transfers of such items. These indemnities do not provide for any monetary or time limitations. The Company has not been requested by Hoechst to make any payments in connection with this indemnification. Accordingly, the Company has not made any payments to Hoechst and its legal successors.

Based on the Company's evaluation of currently available information, including the lack of requests for indemnification, the Company cannot estimate the remaining demerger obligations, if any, in excess of amounts accrued.

- ***Divestiture Obligations***

The Company and its predecessor companies agreed to indemnify third-party purchasers of former businesses and assets for various pre-closing conditions, as well as for breaches of representations, warranties and covenants. Such liabilities also include environmental liability, product liability, antitrust and other liabilities. These indemnifications and guarantees represent standard contractual terms associated with typical divestiture agreements and, other than environmental liabilities, the Company does not believe that they expose the Company to significant risk (Note 13).

The Company has divested numerous businesses, investments and facilities through agreements containing indemnifications or guarantees to the purchasers. Many of the obligations contain monetary and/or time limitations, which extend through 2037. The aggregate amount of outstanding indemnifications and guarantees provided for under these agreements is $116 million as of December 31, 2023. Other agreements do not provide for any monetary or time limitations.

Based on the Company's evaluation of currently available information, including the number of requests for indemnification or other payment received by the Company, the Company cannot estimate the remaining divestiture obligations, if any, in excess of amounts accrued.

Purchase Obligations

In the normal course of business, the Company enters into various purchase commitments for goods and services. The Company maintains a number of "take-or-pay" contracts for purchases of raw materials, utilities and other services. Certain of the contracts contain a contract termination buy-out provision that allows for the Company to exit the contracts for amounts less than the remaining take-or-pay obligations. Additionally, the Company has other outstanding commitments representing maintenance and service agreements, energy and utility agreements, consulting contracts and software agreements. As of December 31, 2023, the Company had unconditional purchase obligations of $4.0 billion, of which $683 million will be paid in 2024, $565 million in 2025, $452 million in 2026, $369 million in 2027, $230 million in 2028 and the balance thereafter through 2042.

Contingencies

The Company is involved in legal and regulatory proceedings, lawsuits, claims and investigations incidental to the normal conduct of business, relating to such matters as product liability, land disputes, insurance coverage disputes, contracts, employment, antitrust or competition, intellectual property, personal injury and other actions in tort, workers' compensation, chemical exposure, asbestos exposure, taxes, trade compliance, acquisitions and divestitures, claims of current and legacy shareholders, past waste disposal practices and release of chemicals into the environment. The Company is actively defending those matters where the Company is named as a defendant and, based on the current facts, does not believe the outcomes from these matters would be material to the Company's results of operations, cash flows or financial position.

As previously reported, in July 2020, the Company settled a European Commission competition law investigation involving certain of its subsidiaries and three other companies related to certain past ethylene purchases. Shell Chemicals Europe and another group of corporate claimants have filed claims for damages with the District Court of Amsterdam against four companies, including Celanese, arising from those activities, and the first court hearing was held in late September 2023. The Company intends to vigorously defend itself against these claims. While it is possible that additional parties could assert demands or claims related to this matter, based on information available at this time, the Company does not expect ultimate resolution of this matter to have a material impact on its financial condition or results of operations.

20. Supplemental Cash Flow Information

	Year Ended December 31,		
	2023	2022	2021
		(In $ millions)	
Interest paid, net of amounts capitalized	780	122	105
Taxes paid, net of refunds	237	273	215
Noncash Investing and Financing Activities			
Accrued treasury stock repurchases	—	(17)	—
Finance lease obligations (Note 16)	2	28	—
Accrued capital expenditures	(26)	40	23
Asset retirement obligations	11	3	3

21. Segment Information

Business Segments

The Company operates through business segments according to the nature and economic characteristics of its products and customer relationships, as well as the manner in which the information is used internally by the Company's key decision maker, who is the Company's Chief Executive Officer.

Effective December 31, 2022, the Company reorganized its operating and reportable segments to align with recent structural and management reporting changes. The change reflects the resegmentation of the former Acetate Tow operating and reportable segment into the Acetyl Chain operating and reportable segment. This reorganization reflects the culmination of a shift in operating strategy and organizational hierarchy, with a focus on integration, collaboration and maximization of value creation through its global optionality and integrated chain model of the underlying businesses. The historical segment information has been recast to conform with the reorganized segments.

The Company's business segments are as follows:

- ***Engineered Materials***

The Company's Engineered Materials segment includes the engineered materials business and certain strategic affiliates. The engineered materials business develops, produces and supplies a broad portfolio of high performance specialty polymers for automotive and medical applications, as well as industrial products and consumer electronics. Together with its strategic affiliates, the Company's engineered materials business is a leading participant in the global specialty polymers industry. The primary products of Engineered Materials are used in a broad range of end-use products including fuel system components, automotive safety systems, medical applications, electronics, appliances, industrial products, battery separators, conveyor belts, filtration equipment, coatings, and electrical applications and products.

- ***Acetyl Chain***

The Company's Acetyl Chain segment includes the integrated chain of intermediate chemistry, emulsion polymers, ethylene vinyl acetate ("EVA") polymers, redispersible powders ("RDP"), and acetate tow businesses. The Company's intermediate chemistry business produces and supplies acetyl products, including acetic acid, vinyl acetate monomer, acetic anhydride and acetate esters. These products are generally used as starting materials for colorants, paints, adhesives, coatings and pharmaceuticals. It also produces organic solvents and intermediates for pharmaceutical, agricultural and chemical products. The Company's emulsion polymers business is a leading global producer of vinyl acetate-based emulsions and develops products and application technologies to improve performance, create value and drive innovation in applications such as paints and coatings, adhesives, construction, glass fiber, textiles and paper. The Company's EVA polymers business is a leading North American manufacturer of a full range of specialty EVA resins and compounds, as well as select grades of low-density polyethylene. The Company's EVA polymers products are used in many applications, including flexible packaging films, lamination film products, hot melt adhesives, automotive parts and carpeting. The Company's RDP business is a leading producer of products that have applications in a number of building and construction applications including flooring, plasters, insulation, tiling and waterproofing. The Company's acetate tow business serves consumer-driven applications and is a leading global producer and supplier of acetate tow and acetate flake, primarily used in filter products applications.

- ***Other Activities***

Other Activities primarily consists of corporate center costs, including administrative activities such as finance, information technology and human resource functions, interest income and expense associated with financing activities and results of the Company's captive insurance companies. Other Activities also includes the components of net periodic benefit cost (interest cost, expected return on assets and net actuarial gains and losses) for the Company's defined benefit pension plans and other postretirement plans not allocated to the Company's business segments.

The business segment management reporting and controlling systems are based on the same accounting policies as those described in the summary of significant accounting policies (Note 2).

Sales transactions between business segments are generally recorded at values that approximate third-party selling prices.

	Engineered Materials	Acetyl Chain	Other Activities	Eliminations	Consolidated
			(In $ millions)		
			Year Ended December 31, 2023		
Net sales	6,149	4,884 [1]	—	(93)	10,940
Other (charges) gains, net (Note 24)	(56)	(4)	(8)	—	(68)
Operating profit (loss)	1,083 [2]	1,109	(505)	—	1,687
Equity in net earnings (loss) of affiliates	83	6	13	—	102
Depreciation and amortization	462	217	27	—	706
Capital expenditures	237	207	98	—	542 [3]
			As of December 31, 2023		
Goodwill and intangible assets, net	10,525	427	—	—	10,952
Total assets	17,930	5,538	3,129	—	26,597
			Year Ended December 31, 2022		
Net sales	4,024	5,743 [1]	—	(94)	9,673
Other (charges) gains, net (Note 24)	(7)	—	(1)	—	(8)
Operating profit (loss)	429	1,447	(498)	—	1,378
Equity in net earnings (loss) of affiliates	202	7	11	—	220
Depreciation and amortization	226	213	23	—	462
Capital expenditures	178	352	53	—	583 [3]
			As of December 31, 2022		
Goodwill and intangible assets, net	10,826	421	—	—	11,247
Total assets	20,611	5,471	190	—	26,272
			Year Ended December 31, 2021		
Net sales	2,718	5,894 [1]	—	(75)	8,537
Other (charges) gains, net (Note 24)	6	1	(4)	—	3
Operating profit (loss)	411	1,875	(340)	—	1,946
Equity in net earnings (loss) of affiliates	126	7	13	—	146
Depreciation and amortization	144	210	17	—	371
Capital expenditures	154	311	25	—	490 [3]

[1] Includes intersegment sales of $93 million, $94 million and $75 million for the years ended December 31, 2023, 2022 and 2021, respectively.

[2] Includes a $515 million gain related to the formation of the Nutrinova joint venture included in Gain (loss) on disposition of businesses and assets, net in the consolidated statements of operations (Note 4).

[3] Includes a decrease in accrued capital expenditures of $26 million, an increase in accrued capital expenditures of $40 million and an increase in accrued capital expenditures of $23 million for the years ended December 31, 2023, 2022 and 2021, respectively.

Geographical Area Information

The Net sales to external customers based on geographic location are as follows:

	Year Ended December 31,		
	2023	2022	2021
		(In $ millions)	
Belgium	499	251	268
Brazil	140	122	92
Canada	146	120	98
China	1,952	1,525	1,621
France	84	31	28
Germany	2,468	2,934	2,675
India	150	55	34
Italy	77	7	—
Japan	312	87	15
Mexico	361	359	330
Singapore	1,146	1,209	1,202
South Korea	154	68	8
Spain	58	11	—
Switzerland	223	165	140
United Kingdom	86	13	—
U.S.	2,821	2,562	2,004
Other	263	154	22
Total	10,940	9,673	8,537

Property, plant and equipment, net based on the geographic location of the Company's facilities is as follows:

	As of December 31,	
	2023	2022
	(In $ millions)	
Belgium	112	113
Canada	121	128
China	568	688
Germany	843	937
Italy	74	64
Japan	43	52
Mexico	44	52
Netherlands	48	52
Singapore	82	99
South Korea	64	79
Switzerland	58	73
United Kingdom	118	118
U.S.	3,286	3,032
Other	123	97
Total	5,584	5,584

22. Revenue Recognition

Disaggregated Revenue

In general, the Company's business segmentation is aligned according to the nature and economic characteristics of its products and customer relationships and provides meaningful disaggregation of each business segment's results of operations.

The Company manages its Engineered Materials business segment through its project management pipeline, which is comprised of a broad range of projects that are solutions-based and are tailored to each customer's unique needs. Projects are identified and selected based on success rate and may involve a number of different polymers per project for use in multiple end-use applications. Therefore, the Company is agnostic toward products and end-use markets for the Engineered Materials business segment.

The Company manages its Acetyl Chain business segment by leveraging its ability to sell chemicals externally to end-use markets or downstream to its acetate tow, intermediate chemistry, emulsion polymers, redispersible powders and ethylene vinyl acetate polymers businesses. Decisions to sell externally and geographically or downstream and along the Acetyl Chain are based on market demand, trade flows and maximizing the value of its chemicals. Therefore, the Company's strategic focus is on executing within this integrated chain model and less on driving product-specific revenue.

Further disaggregation of Net sales by business segment and geographic destination is as follows:

	Year Ended December 31,		
	2023	2022	2021
		(In $ millions)	
Engineered Materials			
North America	1,780	1,197	774
Europe and Africa	1,941	1,538	1,155
Asia-Pacific	2,274	1,180	703
South America	154	109	86
Total	6,149	4,024	2,718
Acetyl Chain			
North America	1,448	1,713	1,533
Europe and Africa	1,680	1,961	1,914
Asia-Pacific	1,543	1,811	2,214
South America	120	164	158
Total[(1)]	4,791	5,649	5,819

(1) Excludes intersegment sales of $93 million, $94 million and $75 million for the years ended December 31, 2023, 2022 and 2021, respectively.

23. Earnings (Loss) Per Share

	Year Ended December 31,		
	2023	2022	2021
	(In $ millions, except share data)		
Amounts attributable to Celanese Corporation			
Earnings (loss) from continuing operations	1,969	1,902	1,912
Earnings (loss) from discontinued operations	(9)	(8)	(22)
Net earnings (loss)	1,960	1,894	1,890
Weighted average shares - basic	108,848,962	108,380,082	111,224,017
Incremental shares attributable to equity awards[(1)]	530,702	855,294	860,395
Weighted average shares - diluted	109,379,664	109,235,376	112,084,412

(1) Excludes options to purchase 202,876, 0 and 0 shares of Common Stock for the years ended December 31, 2023, 2022 and 2021, respectively, as their effect would have been antidilutive. Excludes 39,465, 154,172 and 555 equity award shares for the years ended December 31, 2023, 2022 and 2021, respectively, as their effect would have been antidilutive.

24. Other (Charges) Gains, Net

	Year Ended December 31,		
	2023	2022	2021
	(In $ millions)		
Restructuring[(1)]	(52)	(6)	(5)
Asset impairments	(15)	(14)	(2)
Plant/office closures	(1)	12	10
Total	(68)	(8)	3

(1) Includes employee termination benefits primarily related to Company-wide business optimization projects during the year ended December 31, 2023.

The changes in the restructuring liabilities by business segment are as follows:

	Engineered Materials	Acetyl Chain	Other	Total
	(In $ millions)			
Employee Termination Benefits				
As of December 31, 2022	4	1	1	6
Additions	40	4	8	52
Cash payments	(31)	(3)	(6)	(40)
As of December 31, 2023	13	2	3	18

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Corporate Information

Board of Directors

Lori J. Ryerkerk
Chair, Chief Executive Officer and President, Celanese Corporation

Jean S. Blackwell [1,3]
Former Executive Vice President, Cummins, Inc.

William M. Brown [2,3]
Former Executive Chair and Chief Executive Officer, L3Harris Technologies, Inc.

Edward G. Galante [2,4]
Former Senior Vice President, Exxon Mobil Corporation

Timothy Go[4]
President and Chief Executive Officer, HF Sinclair Corporation

Kathryn M. Hill [2,4]
Former Senior Vice President, Development Strategy, Cisco Systems Inc.

David F. Hoffmeister [1,3]
Former Senior Vice President and Chief Financial Officer, Life Technologies Corporation

Dr. Jay V. Ihlenfeld [2,4]
Former Senior Vice President, Asia Pacific, 3M Company

Deborah J. Kissire [1,4]
Former Vice Chair, Ernst & Young LLP

Michael Koenig [2,4]
Chief Executive Officer and Director, Nobian Industrial Chemicals B.V.

Ganesh Moorthy [1,3]
President and Chief Executive Officer, Microchip Technology Incorporated

Kim K.W. Rucker [1,3]
Former Executive Vice President, General Counsel and Secretary, Andeavor Corp.

Current Committee Memberships

[1] Audit Committee
[2] Compensation and Management Development Committee
[3] Nominating and Corporate Governance Committee
[4] Environmental, Health, Safety, Quality and Public Policy Committee

Executive Officers†

Lori J. Ryerkerk
Chair, Chief Executive Officer and President

Thomas F. Kelly
Senior Vice President, Engineered Materials

Scott A. Richardson
Executive Vice President and Chief Operating Officer

Mark C. Murray
Senior Vice President, Acetyls

Chuck B. Kyrish
Senior Vice President and Chief Financial Officer

Ashley B. Duffie
Senior Vice President and General Counsel

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Stock Exchange
Celanese Common Stock is listed on the New York Stock Exchange

Common Stock Symbol: CE

Corporate Governance
Strong corporate governance is an integral part of Celanese's core values. Our company's corporate governance policies and procedures are available on the company's website at https://investors.celanese.com under Corporate Governance. This site includes the Company's Corporate Governance Guidelines, Board Committee Charters, Business Conduct Policy and Financial Code of Ethics.

Investor Information
Shareholders, security analysts and investors can access Celanese's news and events, periodic reports filed with the Securities and Exchange Commission and other related company information by visiting our web site at https://www.celanese.com and https://investors.celanese.com.

Annual Meeting
The 2024 Annual Meeting of Shareholders of Celanese Corporation will be held virtually at 11:30 a.m. (CDT), Wednesday, May 13, 2024, accessible at the following site:

www.virtualshareholdermeeting.com/CE2024

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† Positions as of March 1, 2024.