

EASTMAN CHEMICAL CO
Form 10-K
February 27, 2019

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549
FORM 10-K

(Mark
One)

- ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018
OR
 TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____

Commission file number 1-12626

EASTMAN CHEMICAL COMPANY

(Exact name of registrant as specified in its charter)

Delaware 62-1539359
(State or other jurisdiction of (I.R.S. employer
incorporation or organization) identification no.)

200 South Wilcox Drive
Kingsport, Tennessee 37662
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: (423) 229-2000

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

Title of each class	Name of each exchange on which registered
Common Stock, par value \$0.01 per share	New York Stock Exchange
1.50% Notes Due 2023	New York Stock Exchange
1.875% Notes Due 2026	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. YesNo
[X]

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. YesNo
[X]

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. YesNo
[X]

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). YesNo
[X]

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

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 definition 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 is a shell company (as defined in Rule 12b-2 of the Act). YesNo
[X]

The aggregate market value (based upon the \$99.96 closing price on the New York Stock Exchange on June 29, 2018) of the 139,171,775 shares of common equity held by non-affiliates as of December 31, 2018 was \$13,911,610,629 using beneficial ownership rules adopted pursuant to Section 13 of the Securities Exchange Act of 1934 to exclude common stock that may be deemed beneficially owned as of December 31, 2018 by Eastman Chemical Company's directors and executive officers and charitable foundation, some of whom might not be held to be affiliates upon judicial determination. A total of 139,777,332 shares of common stock of the registrant were outstanding at December 31, 2018.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement for the 2019 Annual Meeting of Stockholders, to be filed with the Securities and Exchange Commission, are incorporated by reference in Part III, Items 10 to 14 of this Annual Report on Form 10-K (this "Annual Report") as indicated herein.

FORWARD-LOOKING STATEMENTS

Certain statements made or incorporated by reference in this Annual Report on Form 10-K (this "Annual Report") are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act (Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities and Exchange Act of 1934, as amended).

Forward-looking statements are all statements, other than statements of historical fact, that may be made by Eastman Chemical Company ("Eastman" or the "Company") from time to time. In some cases, you can identify forward-looking statements by terminology such as "anticipates", "believes", "estimates", "expects", "intends", "may", "plans", "projects", "will", "would", and similar expressions or expressions of the negative of these terms.

Forward-looking statements may relate to, among other things, such matters as planned and expected capacity increases and utilization; anticipated capital spending; expected depreciation and amortization; environmental matters; exposure to, and effects of hedging of, raw material and energy prices and costs; foreign currencies and interest rates; disruption or interruption of operations and of raw material or energy supply; global and regional economic, political, and business conditions; competition; growth opportunities; supply and demand, volume, price, cost, margin and sales; pending and future legal proceedings; earnings, cash flow, dividends, stock repurchases and other expected financial results, events, and conditions; expectations, strategies, and plans for individual assets and products, businesses, and operating segments, as well as for the whole of Eastman; cash requirements and uses of available cash; financing plans and activities; pension expenses and funding; credit ratings; anticipated and other future restructuring, acquisition, divestiture, and consolidation activities; cost reduction and control efforts and targets; the timing and costs of, and benefits from, the integration of, and expected business and financial performance of, acquired businesses; strategic and technology and product innovation initiatives and development, production, commercialization and acceptance of new products, services and technologies and related costs; asset, business, and product portfolio changes; and expected tax rates and net interest costs.

Forward-looking statements are based upon certain underlying assumptions as of the date such statements were made. Such assumptions are based upon internal estimates and other analyses of current market conditions and trends, management expectations, plans, and strategies, economic conditions, and other factors. Forward-looking statements and the assumptions underlying them are necessarily subject to risks and uncertainties inherent in projecting future conditions and results. Actual results could differ materially from expectations expressed in the forward-looking statements if one or more of the underlying assumptions and expectations proves to be inaccurate or is unrealized. The most significant known factors, risks, and uncertainties that could cause actual results to differ materially from those in the forward-looking statements are identified and discussed under "Management's Discussion and Analysis of Financial Condition and Results of Operations - Risk Factors" in Part II, Item 7 of this Annual Report. Other factors, risks or uncertainties of which management is not aware, or presently deems immaterial, could also cause actual results to differ materially from those in the forward-looking statements.

The Company cautions you not to place undue reliance on forward-looking statements, which speak only as of the date such statements are made. Except as may be required by law, the Company undertakes no obligation to update or alter these forward-looking statements, whether as a result of new information, future events, or otherwise. Investors are advised, however, to consult any further public Company disclosures (such as filings with the Securities and Exchange Commission or in Company press releases) on related subjects.

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PART I

ITEM 1. BUSINESS

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CORPORATE OVERVIEW

Eastman Chemical Company ("Eastman" or the "Company") is a global advanced materials and specialty additives company that produces a broad range of products found in items people use every day. Eastman began business in 1920 for the purpose of producing chemicals for Eastman Kodak Company's photographic business and became a public company, incorporated in Delaware, on December 31, 1993. Eastman has 48 manufacturing facilities and equity interests in three manufacturing joint ventures in 14 countries that supply products to customers throughout the world. The Company's headquarters and largest manufacturing facility are located in Kingsport, Tennessee. With a robust portfolio of specialty businesses, Eastman works with customers to deliver innovative products and solutions while maintaining a commitment to safety and sustainability. Eastman's businesses are managed and reported in four operating segments: Additives & Functional Products, Advanced Materials, Chemical Intermediates, and Fibers. See "Business Segments".

In the first years as a stand-alone company, Eastman was diversified between commodity and more specialty chemical businesses. Beginning in 2004, the Company refocused its strategy and changed its businesses and portfolio of products, first by the divestiture and discontinuance of under-performing assets and commodity businesses and initiatives (including divestiture in 2004 of resins, inks, and monomers product lines, divestiture in 2006 of the polyethylene business, and divestiture from 2007 to 2010 of the polyethylene terephthalate assets and business). The Company then pursued growth through the development and acquisition of more specialty businesses and product lines by inorganic acquisition and integration (including the acquisition of Solutia, Inc. ("Solutia"), a global leader in performance materials and specialty chemicals, in 2012, and Taminco Corporation, a global specialty chemical company, in 2014) and organic development and commercialization of new and enhanced technologies and products.

Eastman currently uses an innovation-driven growth model which consists of leveraging world class scalable technology platforms, delivering differentiated application development capabilities, and relentlessly engaging the market. The Company's world class technology platforms form the foundation of sustainable growth by differentiated products through significant scale advantages in research and development ("R&D") and advantaged global market access. Differentiated application development converts market complexity into opportunities for growth and accelerates innovation by enabling a deeper understanding of the value of Eastman's products and how they perform within customers' and end-user products. Key areas of application development include thermoplastic conversion, functional films, coatings formulations, rubber additive formulations, adhesives formulations, nonwovens and textiles, and animal nutrition. The Company engages the market by working directly with customers and downstream users, targeting attractive niche markets, and leveraging disruptive macro trends such as health and wellness, natural resource efficiency, an increasing middle class in emerging economies, and feeding a growing population. Management believes that these elements of the Company's innovation-driven growth model, combined with disciplined portfolio management and balanced capital deployment, will result in consistent, sustainable earnings growth and strong cash flow.

In 2018, the Company reported sales revenue of \$10.2 billion, earnings before interest and taxes ("EBIT") of \$1.6 billion, and net earnings attributable to Eastman of \$1.1 billion. Diluted earnings per share attributable to Eastman were \$7.56. Cash provided by operating activities was \$1.5 billion. Excluding non-core and unusual items, adjusted EBIT was \$1.6 billion and adjusted diluted earnings per share attributable to Eastman were \$8.20. See "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of this Annual Report on Form 10-K (this "Annual Report") for reconciliation of accounting principles generally accepted in the United States ("GAAP") to non-GAAP measures, description of excluded items, and related information. For Company sales revenue by end-market, see Exhibit 99.01 "2018 Company and Segment Revenue by End-Use Market" of this Annual Report. Approximately 60 percent of 2018 sales revenue was generated from outside the United States and Canada region. For additional information regarding sales by customer location and by segment, see Note 19, "Segment Information", to the Company's Consolidated Financial Statements in Part II, Item 8, and "Management's Discussion and Analysis of Financial Condition and Results of Operations - Summary by Operating Segment", "Sales by

Customer Location", and "Risk Factors" in Part II, Item 7 of this Annual Report.

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BUSINESS STRATEGY

Eastman's objective is to be an outperforming specialty chemical company with consistent, sustainable earnings growth and strong cash flow. Integral to the Company's strategy for growth is leveraging its heritage of expertise and innovation within its cellulose and acetyl, olefins, polyester, and alkylamine chemistries. For each of these "streams", the Company has developed and acquired a combination of assets and technologies that combine scale and integration across multiple manufacturing units and sites as a competitive advantage. Management uses an innovation-driven growth model which consists of leveraging world class scalable technology platforms, delivering differentiated application development, and relentlessly engaging the market. The Company sells differentiated products into diverse markets and geographic regions and engages the market by working directly with customers and downstream users to meet their needs in existing and new niche markets. Management believes that this innovation-driven growth model will result in consistent financial results by leveraging the Company's proven technology capabilities to improve product mix, increasing emphasis on specialty businesses, and sustaining and expanding leadership in attractive niche markets. A consistent increase in earnings is expected to continue to result from both organic growth initiatives and strategic inorganic initiatives.

Innovation

Management is pursuing specific opportunities to leverage Eastman's innovation-driven growth model for continued near-term and long-term greater than end-market growth by both sustaining the Company's leadership in existing markets and expanding into new markets, including the following examples of recent innovation:

Tetrashield™ performance polyester resins based on proprietary monomer technology. These polyester resins provide a combination of improved performance and sustainability, particularly for the automotive coatings, industrial, and food packaging markets.

Impera™ high performance resins for tires. When used as additives in tire compound formulations, Impera™ resins enable tire manufacturers to improve the safety and handling of tires, balance tire performance and fuel economy needs, and achieve superior levels of tack for tire construction.

Aerafin™ polymer, developed from proprietary olefin technology. These olefin polymers enable improved processing time and other benefits including low odor, improved adhesion, exceptional peel performance, and thermal stability for adhesive applications within the hygiene market.

Care chemicals alkylamine derivatives including water treatment solutions with state-of-the-art technology enabling the efficient removal of dirt particles at a low dosage for demanding industrial and municipal applications.

Treva™, a cellulose-based engineering bioplastic that offers high performance, sustainability, and design flexibility in applications that require complex and intricate designs and high safety requirements such as eyeglass frames, wearable electronics, lenses, and cosmetics.

Naia™, a yarn for the apparel market developed from Eastman's proprietary cellulose ester technology.

Avra™, a family of fibers for the performance apparel market developed from a combination of Eastman proprietary spinning technology and polymer chemistry enabling unique fiber capabilities of size, shape, comfort, and performance.

Vestera™, a new wood pulp-based alternative for the nonwoven industry used in personal hygiene applications.

Recently introduced 72" version of automotive paint protection film marketed under established trademarks.

Sustainability

Eastman is committed to making a positive impact on the markets, customers, communities and employees that it serves. An important element of this commitment is offering the Company's stakeholders a dedicated approach to sustainable innovation. Management approaches sustainability as a source of competitive strength by focusing its innovation strategy on opportunities where disruptive macro trends align with the Company's differentiated technology platforms and applications development capabilities to develop innovative products that enable customers' development and sales of sustainable products. Eastman's sustainability-related growth initiatives include targeted products utilizing technology that enhances end-use product durability, material usage, recyclability, and health and safety impact characteristics to reduce unnecessary waste, pollution, and greenhouse gas emissions. Examples of Eastman's leading position in providing sustainable solutions within identified disruptive macro trends include:

- **Health and wellness:** Tritan™ copolyester, Tetrashield™ performance polyester resins, and Vestera™ cellulosic fiber;
- **Natural resource efficiency:** Saflex™ Q series advanced acoustic interlayers, Impera™ high performance resins for tires, and Treva™ proprietary engineering bioplastic;
- **Emerging middle class:** Saflex™ and head-up display ("HUD") acoustic interlayers, Regalite™ hydrocarbon resins, Naia™ cellulosic yarn, and Avra™ performance fibers; and
- **Feeding a growing population:** Eastman organic acids, Enhanz™ feed additive, and Banguard™ crop protection.

The Company leverages core competencies in polyesters, cellulose esters, thermoplastic processing, textile capability, and in-house application expertise for use in a wide range of applications to provide solutions to markets which are in search of new and improved products.

FINANCIAL STRATEGY

In its management of the Company's businesses and growth initiatives, management is committed to maintaining a strong financial position with appropriate financial flexibility and liquidity. Management believes maintaining a financial profile that supports an investment grade credit rating is important to its long-term strategic and financial flexibility. The Company employs a disciplined and balanced approach to capital allocation and deployment of cash. The priorities for uses of available cash include payment of the quarterly dividend, repayment of debt, funding targeted growth opportunities, and repurchasing shares. Management expects that the combination of continued strong cash flow generation, a strong balance sheet, and sufficient liquidity will continue to provide flexibility to pursue growth initiatives.

BUSINESS SEGMENTS

The Company's products and operations are managed and reported in four operating segments: Additives & Functional Products ("AFP"), Advanced Materials ("AM"), Chemical Intermediates ("CI"), and Fibers. This organizational structure is based on the management of the strategies, operating models, and sales channels that the various businesses employ and supports the Company's strategy of continued transformation towards a specialty portfolio of products. For segment sales revenue and earnings and segment product lines revenues, see Note 19, "Segment Information", to the Company's Consolidated Financial Statements in Part II, Item 8 and "Management's Discussion and Analysis of Financial Condition and Results of Operations - Summary by Operating Segment" in Part II, Item 7 of this Annual Report. For identification of manufacturing facilities by segment, see Item 2, "Properties" of this Annual Report.

ADDITIVES & FUNCTIONAL PRODUCTS SEGMENT

Overview

In the AFP segment, the Company manufactures chemicals for products in the transportation, consumables, building and construction, animal nutrition, crop protection, energy, personal and home care, and other markets. Key technology platforms in this segment are cellulose esters, polyester polymers, insoluble sulfur, hydrocarbon resins, alkylamine derivatives, and propylene derivatives.

The AFP segment's sales growth is typically above annual industrial production growth due to innovation and enhanced commercial execution with sales to a robust set of end-markets. The segment is focused on producing high-value additives that provide critical functionality but which comprise a small percentage of total customer product cost. The segment principally competes on the unique performance characteristics of its products and through leveraging its strong customer base and long-standing customer relationships to promote substantial recurring business and product development. A critical element of the AFP segment's success is its close formulation collaboration with customers through advantaged application development capability.

Principal Products

Product	Description	Principal Competitors	Key Raw Materials	End-Use Applications
Coatings and Inks Additives				
Polymers				
	cellulosics			building and construction (architectural coatings)
	Tetrashield™			
	polyesters	BASF SE		transportation (OEM) and refinish coatings
	polyolefins	DowDuPont Inc.		
	specialty coalescents,	Oxea	wood pulp	durable goods (wood, industrial coatings and applications)
	specialty solvents, and	Celanese Corporation	propane	
Additives and Solvents	commodity solvents	Alternative Technologies	propylene	consumables (graphic arts, inks, and packaging)
	paint additives and specialty polymers			
	Texanol™			
	Optifilm™			
	ketones			
	esters			
	glycol ethers			
	oxo alcohols			
Adhesives Resins				
	hydrocarbon resins			consumables (resins used in hygiene and packaging adhesives)
	and rosin resins			
Piccotac™	mainly for	Exxon Mobil Corporation	C9 resin oil	building and construction (resins for construction adhesives and interior flooring)
Regalite™	hot-melt and			
Eastotac™	pressure sensitive	Kolon Industries, Inc.	gum rosin	
Eastoflex™	adhesives	Evonik Industries	propylene	
Aerafin™				
Tire Additives				
	insoluble sulfur	Oriental Carbon & Chemicals Limited	sulfur	transportation (tire manufacturing)
	rubber additive			
Crystex™		Shikoku Chemicals Corporation		other rubber products (such as hoses, belts, seals, and footwear)
	antidegradant rubber	Jiangsu Sinorgchem Technology Co., Ltd.	nitrobenzene	transportation (tire manufacturing)
	additive	Kumho Petrochemical Co., Ltd.	aniline	
Santoflex™		Lanxess AG	methyl isobutyl ketone	other rubber products (such as hoses, belts, seals, and footwear)
	performance resins	Cray Valley Hydrocarbon Specialty Chemicals	alpha methylstyrene	transportation (tire manufacturing)
Impera™			piperylene	

Exxon Mobil styrene
Corporation
Kolon Industries, Inc.

Product	Description	Principal Competitors	Key Raw Materials	End-Use Applications
Care Chemicals				
Alkylamine derivatives	amine derivative-based building blocks for production of flocculants intermediates for surfactants	BASF SE DowDuPont Inc. Huntsman Corporation	alkylamines ammonia alcohols ethylene oxide	water treatment personal and home care pharmaceuticals
Organic acids and derivatives				
Cellulose esters				
Specialty Fluids				
Therminol™ Turbo oils Skydrol™ SkyKleen™	heat transfer and aviation fluids	DowDuPont Inc. Exxon Mobil Corporation	benzene phosphorous neo-polyol esters	industrial chemicals and processing (heat transfer fluids for chemical processes) renewable energy commercial aviation
Animal Nutrition				
Organic acids and derivatives	organic acid-based solutions	BASF SE Perstorp Luxi Chemical Group Feicheng Acid Chemicals	formic acid ethylene oxide propane heavy fuel oil	gut health solutions preservation industrial applications
Choline chloride Enhanz™				
Crop Protection				
Alkylamine derivatives Banguard™	metam-based soil fumigants thiram and ziram-based fungicides plant growth regulator	DowDuPont Inc. Argo-Kanesho Co., Ltd. Bayer BASF SE	alkylamines CS2 caustic soda	agriculture crop protection

See Exhibit 99.01 for AFP segment revenue by end-use market.

Strategy

Management applies the innovation-driven growth model in the AFP segment by leveraging proprietary technologies for the continued development of innovative product offerings and focusing growth efforts on further expanding end-markets such as transportation, building and construction, consumables, industrial applications, animal nutrition, care chemicals, crop protection, and energy. Management believes that the ability to leverage the AFP segment's research, differentiated application development, and production capabilities across multiple markets uniquely positions it to meet evolving needs to improve the quality and performance of its customers' products. For example, tire performance labeling regulations in various parts of the world and competitive pressure favoring performance over cost are causing tire manufacturers to simultaneously improve conflicting tire attributes. Eastman's tire additives technology helps tire manufacturers overcome common compromises often observed between wet grip and rolling resistance. In order to address identified market needs, the Company is also developing new technologies such as polyester resins for coatings, sustainable solvents, and cellulose esters and hydrocarbon resins for tires.

Eastman's global manufacturing presence is a key element of the AFP segment's growth strategy. For example, the segment expects to capitalize on industrial growth in Asia from its manufacturing capacity expansion in Kuantan,

Malaysia and cellulose ester products sourced from the Company's low-cost cellulose and acetyl manufacturing stream in North America.

In 2018, the AFP segment:

advanced growth and innovation of Crystex™ insoluble sulfur rubber additives through mechanical completion of an expansion of the manufacturing facility in Kuantan, Malaysia in second quarter 2018 resulting in commercial sales beginning in first quarter 2019. This expansion is expected to allow the Company to capitalize on recent enhancements of technology by improving the Company's cost position and facilitating the introduction of new products into the tire markets; and

advanced growth of specialty ketones for low volatile organic compound ("VOC") coatings and other markets as a result of a capacity expansion at the Kingsport, Tennessee manufacturing facility which became fully operational in second quarter 2018.

The AFP segment is pursuing specific opportunities to leverage Eastman's innovation-driven growth model to create greater than end-market growth by both sustaining the Company's leadership in existing markets and expanding into new markets. Examples of recent product innovation within the AFP segment include Tetrashield™ performance polyester resins based on proprietary monomer technology, Impera™ high performance resins for tires, Aerafin™ polymer, developed from proprietary olefin technology, and care chemicals alkylamine derivatives including state-of-the-art water treatment solutions.

ADVANCED MATERIALS SEGMENT

Overview

In the AM segment, the Company produces and markets polymers, films, and plastics with differentiated performance properties for value-added end-uses in transportation, consumables, building and construction, durable goods, and health and wellness markets. Key technology platforms for this segment include cellulose esters, copolyesters, and polyvinyl butyral ("PVB") and polyester films.

Eastman's technical, application development, and market development capabilities enable the AM segment to modify its polymers, films, and plastics to control and customize their final properties for development of new applications with enhanced functionality. For example, Tritan™ copolyesters are a leading solution for food contact applications due to their performance and processing attributes and Bisphenol A ("BPA") free properties. The Saflex™ Q Series product line is a leading acoustic solution for architectural and automotive applications. The Company also maintains a leading solar control technology position in the window film market through the use of high performance sputter coatings which enhance solar heat rejection while maintaining superior optical properties. The segment principally competes on differentiated technology and application development capabilities. Management believes the AM segment's competitive advantages also include long-term customer relationships, vertical integration and scale in manufacturing, and leading market positions.

Principal Products

Product	Description	Principal Competitors	Key Raw Materials	End-Use Applications
Specialty Plastics				
Tritan™ copolyester		Covestro Trinseo		consumables (consumer packaging, cosmetics packaging, in-store fixtures and displays)
Eastar™ Spectar™ copolyester		Evonik Industries AG Saudi Basic Industries Corporation	paraxylene ethylene glycol	durable goods (consumer housewares and appliances)
Embrace™ copolyester	copolyesters	Mitsubishi Chemical Corporation	cellulose purified terephthalic acid	health and wellness (medical)
Visualize™ Eastman Aspira™ Family of resins Treva™	cellulose esters	S.K. Chemical Industries Sichuan Push Acetati Company Limited Daicel Chemical Industries Ltd		electronics (displays)
Advanced Interlayers				
Saflex™ Saflex™Q Series Saflex™ST	PVB sheet specialty PVB intermediates	Sekisui Chemical Co., Ltd. Kuraray Co., Ltd Kingboard (Fo Gang) Specialty Resins Limited Chang Chun Petrochemical Co., Ltd	polyvinyl alcohol vinyl acetate monomer butyraldehyde 2-ethyl hexanol ethanol triethylene glycol	transportation (automotive safety glass, automotive acoustic glass, and HUD) building and construction (PVB for architectural interlayers)
Performance Films				
LLumar™ Flexvue™ SunTek™ V-KOOL™ Gila™	window film and protective film products for aftermarket applied films	3M Company Saint-Gobain S.A. Beijing Kangde Xin Composite Material Co., Ltd "KDX"	polyethylene terephthalate film	transportation (automotive after-market window film and paint protection film) building and construction (residential and commercial window films) health and wellness (medical)

See Exhibit 99.01 for AM segment revenue by end-use market.

Strategy

Management applies the innovation-driven growth model in the AM segment by leveraging innovation and technology platforms into new and multi-generational products and applications, accelerating AM segment growth, and leveraging its manufacturing capacity. The segment continues to expand its portfolio of higher margin products in attractive end-markets. Through Eastman's advantaged asset position and expertise in applications development,

management believes that the AM segment is well positioned for future growth. The advanced interlayers product lines, including PVB and HUD sheet interlayer products, leverage Eastman's global presence to supply industry leading innovations to automotive and architectural end-markets by collaborating with global and large regional customers. In the automotive end-market, the performance films product line has industry leading technologies, recognized brands, and what management believes is one of the largest distribution and dealer networks which, when combined, position Eastman for further growth, particularly in leading automotive markets such as North America and Asia. The segment's product portfolio is aligned with underlying energy efficiency trends in both automotive and architectural markets. Additionally, increased demand for BPA-free products has created new opportunities for various copolyester applications.

The AM segment expects to continue to improve product mix from increased sales of premium products, including Tritan™ Copolyester, Visualize™ material, Saflex™ Q acoustic series, Saflex™ HUD interlayer products, LLumar™, V-KOOL™, and SunTek™ window and protective films.

In 2018, the AM segment:

continued the growth of Tritan™ copolyester in the durable goods and health and wellness markets, supported by completion of an additional 60,000 metric ton expansion of Tritan™ copolyester capacity at the Kingsport, Tennessee manufacturing facility which became fully operational in second quarter 2018; advanced growth and innovation of Saflex™ acoustic interlayers used in the transportation and building and construction markets, enabled by construction of a manufacturing facility for PVB resin at the Kuantan, Malaysia site which became fully operational in first quarter 2018; advanced growth in the Chinese market supported by the conversion of manufacturing capacity at the Suzhou, China site from non-acoustic to acoustic interlayer production which was mechanically completed in fourth quarter 2018 and is expected to produce material qualified for commercial sales in 2019; and strengthened growth in automotive window and paint protection films in North America and China through improved sales channel, marketing, and commercial execution strategies and capabilities.

The AM segment is pursuing specific opportunities to leverage Eastman's innovation-driven growth model to create greater than end-market growth by both sustaining the Company's leadership in existing markets and expanding into new markets. An example of recent product innovation within the AM segment is Treva™, a cellulose-based engineering bioplastic.

CHEMICAL INTERMEDIATES SEGMENT

Overview

The CI segment leverages large scale and vertical integration from the cellulose and acetyl, olefins, and alkylamines streams to support the Company's specialty operating segments with advantaged cost positions. The CI segment sells excess intermediates beyond the Company's internal specialty needs into markets such as industrial chemicals and processing, building and construction, health and wellness, and agrochemicals. Key technology platforms include acetyls, oxos, plasticizers, polyesters, and alkylamines.

The CI segment product lines benefit from competitive cost positions primarily resulting from the use of and access to lower cost raw materials, and the Company's scale, technology, and operational excellence. Examples include coal used in the production of cellulose and acetyl stream product lines, feedstocks used in the production of olefin derivative product lines such as oxo alcohols and plasticizers, and ammonia and methanol used to manufacture methylamines. The CI segment also provides superior reliability to customers through its backward integration into readily available raw materials, such as propane, ethane, coal, and propylene. In addition to a competitive cost position, the plasticizers business expects to continue to benefit from the growth in relative use of non-phthalate rather than phthalate plasticizers in the United States, Canada, and Europe.

Several CI segment product lines are affected by cyclicality, most notably olefin and acetyl-based products. See "Eastman Chemical Company General Information - Manufacturing Streams". This cyclicality is caused by periods of supply and demand imbalance, when either incremental capacity additions are not offset by corresponding increases in demand, or when demand exceeds existing supply. While management continues to take steps to reduce the impact of the trough of these cycles, future results are expected to occasionally fluctuate due to both general economic conditions and industry supply and demand.

Principal Products

Product	Description	Principal Competitors	Key Raw Materials	End-Use Applications
Intermediates				
Oxo alcohols and derivatives	Olefin derivatives, acetyl derivatives, ethylene, commodity solvents	Lyondell Bassell, BASF SE		industrial chemicals and processing
Acetic acid and derivatives		DowDuPont Inc.	propane	building and construction (paint and coating applications, construction chemicals, building materials)
Acetic anhydride		Oxea	ethane	
Ethylene		BP plc	propylene	
Glycol ethers		Celanese Corporation	coal	
Esters		Lonza	natural gas	pharmaceuticals and agriculture
		Ineos Group Holdings S.A.	paraxylene	health and wellness
		Indorama Ventures Public Company Limited	metaxylene	packaging
Plasticizers				
Eastman 168™	primary non-phthalate and phthalate plasticizers	BASF SE		building and construction (non-phthalate plasticizers used in interior surfaces)
DOP		Exxon Mobil Corporation	propane	
Benzoflex™	and a range of niche non-phthalate plasticizers	LG Chem, Ltd.	propylene	consumables (food packaging, packaging adhesives, and glove applications)
TXIB™		Emerald Performance Materials	paraxylene	health and wellness (medical devices)
Effusion™				
Functional Amines				
Alkylamines	methylamines and salts higher amines and solvents	BASF SE	methanol	agrochemicals
		Chemours	ammonia	energy
		U.S. Amines	acetone	consumables
		Oxea	ethanol	water treatment
			butanol	animal nutrition
				industrial intermediates

See Exhibit 99.01 for CI segment revenue by end-use market.

Strategy

To maintain and enhance its status as a low-cost producer and optimize earnings, the CI segment continuously focuses on cost control, operational efficiency, and capacity utilization. This includes focusing on products used internally by other operating segments, thereby supporting growth in specialty product lines throughout the Company. Through the CI segment, the Company has leveraged the advantage of its highly integrated manufacturing facilities. For example, the Kingsport, Tennessee manufacturing facility allows for the production of acetic anhydride and other acetyl derivatives from coal rather than natural gas or other petroleum feedstocks. At the Longview, Texas manufacturing site, Eastman uses its proprietary oxo technology in one of the world's largest single-site, oxo butyraldehyde

manufacturing facilities to produce a wide range of alcohols and other derivative products utilizing local propane and ethane supplies and purchased propylene. The Pace, Florida manufacturing facility, which uses ammonia and methanol feedstocks, is the largest methylamine production site in the world. These integrated facilities, combined with large scale production processes and a continuous focus on additional process improvements, allow the CI segment product lines to remain cost competitive and, for some products, cost-advantaged as compared to competitors.

The Company reduced operating rates of the olefin cracking units at the Longview, Texas manufacturing facility to reduce the amount of excess ethylene produced and sold at lower spot prices in the merchant ethylene market over the second half of 2018. The Company took further action through completion of modifications to the site's olefin cracking units, which will allow for the introduction of refinery-grade propylene ("RGP") into the feedstock mix while also reducing the amount of other purchased feedstocks in 2019. This feedstock shift is expected to result in a significant decrease in ethylene production and excess ethylene sales, while maintaining historical levels of propylene production. Consequently, the RGP project provides the flexibility to largely remove the Company from participation in the merchant ethylene market, while retaining a cost-advantaged integrated propylene position to support specialty derivatives throughout the Company.

FIBERS SEGMENT

Overview

In the Fibers segment, Eastman manufactures and sells Estron[™] acetate tow and Estrobond[™] triacetin plasticizers for use in filtration media, primarily cigarette filters; Estron[™] natural (undyed), Chromspun[™] solution-dyed acetate yarns, Naia[™] cellulosic fibers and yarn for use in apparel, home furnishings, and industrial fabrics; nonwovens for use in filtration and friction media, used primarily in transportation, industrial, and agricultural markets; and cellulose acetate flake and acetyl raw materials for other acetate fiber producers. Eastman is one of the world's two largest suppliers of acetate tow and has been a market leader in the manufacture and sale of acetate tow since it began production in the early 1950s. The Company is the world's largest producer of acetate yarn and has been in this business for over 85 years.

The largest 10 Fibers segment customers accounted for approximately 70 percent of the segment's 2018 sales revenue, and include multinational as well as regional cigarette producers, fabric manufacturers, and other acetate fiber producers.

The Company's long history and experience in fibers markets are reflected in the Fibers segment's operating expertise, both within the Company and in support of its customers' processes. The Fibers segment's knowledge of the industry and of customers' processes allows it to assist its customers in maximizing their processing efficiencies, promoting repeat sales, and developing mutually beneficial, long-term customer relationships.

The Company's fully integrated fibers manufacturing process employs unique technology that allows it to use a broad range of high-purity wood pulps for which the Company has dependable sources of supply.

Contributing to profitability in the Fibers segment is the limited number of competitors and significant barriers to entry. These barriers include, but are not limited to, high capital costs for integrated manufacturing facilities.

The Fibers segment's competitive strengths include a reputation for high-quality products, technical expertise, large scale vertically-integrated processes, reliability of supply, balanced internally produced acetate flake supply for Fibers products, a reputation for customer service excellence, and a customer base characterized by strategic long-term customer and end-user relationships. The Company continues to capitalize and build on these strengths to further improve the strategic position of its Fibers segment. In response to challenging acetate tow market conditions, including additional industry capacity and lower capacity utilization rates, the Company has taken actions expected to stabilize segment earnings including, establishing long-term acetate tow customer agreements, pursuing growth in textile and nonwoven applications, and repurposing manufacturing capacity from acetate tow to new products.

Principal Products

Product	Description	Principal Competitors	Key Raw Materials	End-Use Applications
Acetate Tow				
Estron™	cellulose acetate tow	Celanese Corporation Rhodia Acetow Daicel Corporation Mitsubishi Rayon Co. Ltd.	wood pulp methanol high sulfur coal	filtration media (primarily cigarette filters)
Acetyl Chemical Products				
Estronbond™	triacetin cellulose acetate flake acetic acid acetic anhydride	Jiangsu Ruijia Chemistry Co., Ltd. Polynt SpA Daicel Corporation Celanese Corporation Rhodia Acetow	wood pulp methanol high sulfur coal	filtration media (primarily cigarette filters)
Acetate Yarn				
Estron™ Chromspun™ Naia™	natural (undyed) acetate yarn solution dyed acetate yarn	UAB Dirbtinis Pluostas Industrias del Acetato de Celulosa S.A. Mitsubishi Rayon Co. Ltd. Lenzing AG ENKA International GmbH & Co.KG	wood pulp methanol high sulfur coal	consumables (apparel, home furnishings, and industrial fabrics) health and wellness (medical tape)
Nonwovens				
Nonwovens Vestera™ Cellulosic Fiber	wetlaid nonwoven media specialty and engineered papers cellulose acetate fiber	Hollingsworth and Vose Company Lydall, Inc. BorgWarner Inc. Lenzing AG	natural and synthetic fibers inorganic and metallic additives resins	filtration and friction media for transportation industrial agriculture and mining aerospace markets personal hygiene consumables

Strategy

Management applies the innovation-driven growth model in the Fibers segment by leveraging its strong customer relationships and industry knowledge to maintain a leading industry position in the global market. The segment benefits from a state-of-the-art, world class, acetate flake production facility at the Kingsport, Tennessee site, which is supplied from Eastman's vertically integrated coal gasification facility and is the largest and most integrated acetate tow site in the world. Eastman's global acetate tow capacity is approximately 150,000 metric tons, not including the Company's participation in an acetate tow joint venture manufacturing facility in China. The Company supplies 100 percent of the acetate flake raw material to the China manufacturing joint venture from the Company's manufacturing facility in Kingsport, Tennessee, which the Company recognizes in sales revenue. The Company recognizes earnings in the joint venture through its equity investment, reported in "Other (income) charges, net" in the Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings in Part II, Item 8 of this Annual Report. The Company's focus on innovation has resulted in repurposing some of its acetate tow manufacturing capacity to textiles and nonwovens, resulting in increased capacity utilization and lower acetate tow costs.

As a result of challenging market conditions for acetate tow, the Company closed its Workington, UK acetate tow manufacturing facility in 2015. Following an increase in acetate flake capacity at the Kingsport, Tennessee site in 2015, the Fibers segment could supply all its acetate tow and yarn spinning capacity from this low-cost flake asset. In order to fully utilize the increased capacity and reduce fixed costs, in June 2016, the Company sold its 50 percent interest in Primester, which manufactures cellulose acetate at the Company's Kingsport, Tennessee site. In 2018, the Company repurposed some of its acetate tow manufacturing capacity for production of new products.

The Company makes use of its capabilities in fibers technology to maintain a strong focus on incremental product and process improvements, with the goals of meeting customers' evolving needs and further improving the segment's manufacturing process efficiencies.

The Fibers segment R&D efforts focus on serving existing customers, leveraging proprietary cellulose ester and spinning technology for differentiated application development in new markets, optimizing asset productivity, and working with suppliers to reduce costs. For acetate tow, these efforts are assisting customers in the effective use of the segment's products and customers' product development efforts. Beyond acetate tow, management is applying the innovation-driven growth model to leverage its fibers technology and expertise to focus on innovative growth in the textiles and nonwovens markets. Examples of recent product innovation within the Fibers segment include Naia,TM a yarn for the apparel market developed from Eastman's proprietary cellulose ester technology, Avra,TM a family of performance fibers for the apparel, home furnishings and industrial fabrics markets developed from a combination of Eastman proprietary spinning technology and polymer chemistry enabling unique fiber capabilities of size, shape, comfort, and performance, and Vestera,TM a new wood pulp-based alternative for the nonwoven industry used in personal hygiene applications.

EASTMAN CHEMICAL COMPANY GENERAL INFORMATION

Seasonality and Cyclicity

Eastman's earnings are typically higher in second and third quarters, and cash flows from operations are typically highest in the second half of the year due to seasonal demand based on general economic activity in the Company's key markets as described in "Business Segments". Results in the AM segment are typically weaker in fourth quarter due to seasonal downturns in key markets.

The coatings and inks additives product line of the AFP segment and the intermediates product line of the CI segment are impacted by the cyclicity of key end products and markets, while other operating segments and product lines are more sensitive to global economic conditions. Supply and demand dynamics determine profitability at different stages of business cycles and global economic conditions affect the length of each cycle.

Despite sensitivity to global economic conditions, the product portfolios of each operating segment are expected to continue to provide an overall stable foundation for earnings growth.

Sales, Marketing, and Distribution

Eastman markets and sells products primarily through a global marketing and sales organization which has a presence in the United States and approximately 30 other countries selling into more than 100 countries around the world. The Company focuses its market engagement on attractive niche markets, leveraging disruptive macro trends, and market activation throughout the value chain with both customers and downstream users. Eastman's strategy is to target industries and markets where the Company can leverage its application development expertise to develop product offerings to provide differentiated value that address current and future customer and market needs. The Company's strategic marketing approach and capabilities leverage the Company's insights about trends, markets, and customers to drive development of specialty products. Through a highly skilled and specialized sales force that is capable of providing differentiated product solutions, Eastman strives to be the preferred supplier in the Company's targeted markets.

The Company's products are also marketed through indirect channels, which include dealers and contract representatives. Sales outside the United States tend to be made more frequently through dealers and contract representatives than sales in the United States. The combination of direct and indirect sales channels, including sales online through its Customer Center website, allows Eastman to reliably serve customers throughout the world.

The Company's products are shipped to customers and to downstream users directly from Eastman manufacturing plants and distribution centers worldwide.

Sources and Availability of Raw Materials and Energy

Eastman purchases approximately 75 percent of its key raw materials and energy through different contract mechanisms, generally of one to three years in initial duration with renewal or cancellation options for each party. Most of these agreements do not require the Company to purchase materials or energy if its operations are reduced or idle. The cost of raw materials and energy is generally based on market price at the time of purchase, and Eastman uses derivative financial instruments for certain key raw materials to mitigate the impact of market price fluctuations. Key raw materials include propane, propylene, paraxylene, methanol, cellulose, fatty alcohol, polyvinyl alcohol, and a wide variety of precursors for specialty organic chemicals. Key purchased energy sources include natural gas, coal, and electricity. The Company has multiple suppliers for most key raw materials and energy and uses quality management principles, such as the establishment of long-term relationships with suppliers and ongoing performance assessments and benchmarking, as part of its supplier selection process. When appropriate, the Company purchases

raw materials from a single source supplier to maximize quality and cost improvements, and has contingency plans to minimize the potential impact of any supply disruptions from single source suppliers.

While temporary shortages of raw materials and energy may occasionally occur, these items are generally sufficiently available to cover current and projected requirements. However, their continuous availability and cost are subject to unscheduled plant interruptions occurring during periods of high demand, domestic and world market conditions, changes in government regulation, natural disasters, war or other outbreak of hostilities or terrorism or other political factors, or breakdown or degradation of transportation infrastructure. Eastman's operations or products have in the past, and may in the future, be adversely affected by these factors. See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Risk Factors" in Part II, Item 7 of this Annual Report. The Company's raw material and energy costs as a percent of total cost of operations were approximately 50 percent in 2018. For additional information about raw materials, see Exhibit 99.02 "Product and Raw Material Information" of this Annual Report.

Manufacturing Streams

Integral to Eastman's strategy for growth is leveraging its heritage of expertise and innovation in cellulose and acetyl, olefins, polyester, and alkylamine chemistries in key markets, including transportation, building and construction, consumables, filtration media, and agriculture. For each of these chemistries, Eastman has developed and acquired a combination of assets and technologies that are operated within four manufacturing "streams", combining scale and integration across multiple manufacturing units and sites as a competitive advantage.

In the cellulose and acetyl stream, the Company begins with coal which is gasified with oxygen in its coal gasification facility. The resulting synthesis gas is converted into acetic acid and acetic anhydride. Cellulose derivative manufacturing at the Company begins with natural polymers, sourced from managed forests, which, when combined with acetyl and olefin chemicals, provide differentiated product lines. The major end-markets for products from the cellulose and acetyl stream include coatings, displays, thermoplastics, and filtration media.

In the olefins stream, the Company begins primarily with propane and ethane, which are "cracked" (the process whereby hydrocarbon molecules are broken down and rearranged) into ethylene and propylene in three cracking units at its site in Longview, Texas. As a result of recent modifications, these units also offer flexibility to use RGP as a diversified feedstock to minimize the impact of olefins spread volatility. The Company purchases some additional propylene to supplement cracking unit production. Propylene derivative products are used in a variety of items such as paints and coatings, automotive safety glass, and non-phthalate plasticizers. Ethylene derivative products are converted for end-uses in the food industry, health and beauty products, detergents, and automotive products.

In the polyester stream, the Company begins with paraxylene and glycol feedstocks, converting them through a series of intermediate materials to ultimately produce copolyesters. Eastman can add specialty monomers to copolyesters to provide clear, tough, chemically resistant product characteristics. As a result, the Company's copolyesters effectively compete with materials such as polycarbonate and acrylic.

In the alkylamines stream, the Company begins with ammonia and alcohol feedstocks to produce methylamines and higher alkylamines, which can then be further converted into alkylamine derivatives. The Company's alkylamines products are primarily used in agriculture, water treatment, consumables, animal nutrition, and oil and gas end-markets.

The Company leverages its expertise and innovation in cellulose and acetyl, olefins, polyester, and alkylamine chemistries and technologies, to meet demand and create new uses and opportunities for the Company's products in key markets. Through integration and optimization across these streams, the Company is able to create unique and differentiated products that have a performance advantage over competitive materials.

Employees

Eastman employs approximately 14,500 people worldwide. Approximately 10 percent of the total worldwide labor force is represented by collective labor agreements, mostly outside the United States.

Customers

Eastman has an extensive customer base and, while it is not dependent on any one customer, loss of certain top customers could adversely affect the Company until such business is replaced. The top 100 customers accounted for approximately 55 percent of the Company's 2018 sales revenue. No single customer accounted for 10 percent or more of the Company's consolidated sales revenue during 2018.

Intellectual Property and Trademarks

While Eastman's intellectual property portfolio is an important Company asset which it expands and vigorously protects globally through a combination of patents, trademarks, copyrights, and trade secrets, neither its business as a whole nor any particular operating segment is materially dependent upon any one particular patent, trademark, copyright, or trade secret. As a producer of a broad range of advanced materials, specialty additives, chemicals, and fibers, Eastman owns over 700 active United States patents and more than 1,600 active foreign patents, expiring at various times over several years, and owns over 5,400 active worldwide trademark applications and registrations. Eastman continues to actively protect its intellectual property. As the laws of many countries do not protect intellectual property to the same extent as the laws of the United States, Eastman cannot ensure that it will be able to adequately protect its intellectual property assets outside the United States. See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Risk Factors" in Part II, Item 7 of this Annual Report.

The Company pursues opportunities to license proprietary technology to third parties where it has determined competitive impact to its businesses will be minimal. These arrangements typically are structured to require payments at significant project milestones such as signing, completion of design, and start-up.

Research and Development

Management applies its innovation-driven growth model to leverage the Company's world class scalable technology platforms that provide a competitive advantage and the foundation for sustainable earnings growth. The Company's R&D strategy for sustainable growth through innovation includes multi-generational product development for specialty products, faster and more differentiated product development by leveraging global application development capabilities, and the creation of value through integration of multiple technology platforms. The Company leverages core competencies in polyesters, cellulose esters, thermoplastic processing, textile capability, and in-house application expertise for use in a wide range of applications to provide solutions to markets which are in search of new and improved products. This strategy has been accelerated by enhancements of global differentiated application development capabilities that position Eastman as a strategic element of customers' success within attractive niche markets. See examples of recent product innovations in "Corporate Overview - Business Strategy - Innovation".

Eastman manages certain growth initiatives and costs at the corporate level, including certain R&D costs not allocated to any one operating segment. The Company uses a stage-gating process, which is a disciplined decision-making framework for evaluating targeted opportunities, with a number of projects at various stages of development. As projects meet milestones, additional amounts are spent on those projects. The Company continues to explore and invest in R&D initiatives such as high-performance materials and advanced cellulose that are aligned with opportunities created by disruptive macro trends. See discussion of macro trends in "Corporate Overview - Business Strategy - Sustainability".

Environmental

The Company is subject to significant and complex laws, regulations, and legal requirements relating to the use, storage, handling, generation, transportation, emission, discharge, disposal, and remediation of, and exposure to, hazardous and non-hazardous substances and wastes in all of the countries in which it does business. These health, safety, and environmental considerations are a priority in the Company's planning for all existing and new products and processes. The Health, Safety, Environmental and Security Committee of Eastman's Board of Directors oversees the Company's policies and practices concerning health, safety, and the environment and its processes for complying with related laws and regulations, and monitors related matters.

The Company's policy is to operate its plants and facilities in compliance with all applicable laws and regulations such that it protects the environment and the health and safety of its employees and the public. The Company intends to

continue to make expenditures for environmental protection and improvements in a timely manner consistent with its policies and with available technology. In some cases, applicable environmental regulations such as those adopted under the Clean Air Act, Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation, and Liability Act, and related actions of regulatory agencies determine the timing and amount of environmental costs incurred by the Company. Likewise, any new legislation or regulations related to greenhouse gas emissions and energy, or the repeal of such legislation or regulations, could impact the timing and amount of environmental costs incurred by the Company.

The Company accrues environmental costs when it is probable that the Company has incurred a liability at a contaminated site and the amount can be reasonably estimated. In some instances, the amount cannot be reasonably estimated due to insufficient information, particularly as to the nature and timing of future expenditures. In these cases, the liability is monitored until such time that sufficient information exists. With respect to a contaminated site, the amount accrued reflects liabilities expected to be paid out within approximately 30 years and the Company's assumptions about remediation requirements at the contaminated site, the nature of the remedy, the outcome of discussions with regulatory agencies and other potentially responsible parties at multi-party sites, and the number and financial viability of other potentially responsible parties. Changes in the estimates on which the accruals are based, unanticipated government enforcement action, or changes in health, safety, environmental, and chemical control regulations, and testing requirements could result in higher or lower costs.

Eastman's cash expenditures related to environmental protection and improvement were \$274 million, \$257 million, and \$267 million, in 2018, 2017, and 2016, respectively, and include operating costs associated with environmental protection equipment and facilities, engineering costs, and construction costs. These cash expenditures include environmental capital expenditures of approximately \$44 million, \$38 million, and \$45 million in 2018, 2017, and 2016, respectively.

The Company does not currently expect near term environmental capital expenditures arising from requirements of environmental laws and regulations to materially impact the Company's planned level of annual capital expenditures for environmental control facilities. Other matters concerning health, safety, and the environment are discussed in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 and in Note 1, "Significant Accounting Policies"; Note 12, "Environmental Matters and Asset Retirement Obligations"; and Note 21, "Reserve Rollforwards" to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

Backlog

As of December 31, 2018, Eastman's backlog of firm sales orders represented less than 10 percent of the Company's total consolidated revenue for the year. These orders are primarily short-term, and all orders are expected to be filled in the following year. The Company manages its inventory levels to control the backlog of products depending on customers' needs. In areas where the Company is the single source of supply, or competitive forces or customers' needs dictate, the Company may carry additional inventory to meet customer requirements.

Available Information - Securities and Exchange Commission ("SEC") Filings

Eastman makes available free of charge, in the "Investors - SEC Information" section of its Internet website (www.eastman.com), its 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 soon as reasonably practicable after electronically filing such material with, or furnishing it to, the SEC. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at <http://www.sec.gov>.

ITEM 1A. RISK FACTORS

For identification and discussion of the most significant risks applicable to the Company and its business, see "Management's Discussion and Analysis of Financial Condition and Results of Operations - Risk Factors" in Part II, Item 7 of this Annual Report.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

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EXECUTIVE OFFICERS OF THE COMPANY

Certain information about Eastman's executive officers is provided below:

Mark J. Costa, age 52, is Chief Executive Officer and Chair of the Eastman Chemical Company Board of Directors. Mr. Costa joined the Company in June 2006 as Senior Vice President, Corporate Strategy and Marketing; was appointed Executive Vice President, Polymers Business Group Head and Chief Marketing Officer in August 2008; was appointed Executive Vice President, Specialty Polymers, Coatings and Adhesives, and Chief Marketing Officer in May 2009; and became President and a member of the Board of Directors of the Company in May 2013. Prior to joining Eastman, Mr. Costa was a senior partner with Monitor Group ("Monitor"). He joined Monitor, a global management consulting firm, in 1988, and his experience included corporate and business unit strategies, asset portfolio strategies, innovation and marketing, and channel strategies across a wide range of industries. Mr. Costa was appointed Chief Executive Officer in January 2014 and was named Board Chair effective July 2014.

Curtis E. Espeland, age 54, is Executive Vice President and Chief Financial Officer. Mr. Espeland joined Eastman in 1996, and has served in various financial management positions of increasing responsibility, including Director of Internal Auditing; Director of Finance, Asia Pacific; Director of Corporate Planning and Forecasting; Vice President and Controller; Vice President, Finance, Eastman Division; Vice President, Finance, Polymers; and Senior Vice President and Chief Financial Officer from 2008 until December 2013. He served as the Company's Chief Accounting Officer from December 2002 to 2008. Prior to joining Eastman, Mr. Espeland was an audit and business advisory manager with Arthur Andersen LLP in the United States, Eastern Europe, and Australia. Mr. Espeland was appointed to his current position effective January 2014.

Brad A. Lich, age 51, is Executive Vice President and Chief Commercial Officer, with responsibility for the AM and Fibers segments, outside-U.S. regional business leadership, and the marketing, sales, pricing, and procurement organizations. Mr. Lich joined Eastman in 2001 as Director of Global Product Management and Marketing for the Coatings business. Other positions of increasing responsibility followed, including General Manager of Emerging Markets of the former Coatings, Adhesives, Specialty Polymers, and Inks ("CASPI") segment. In 2006, Mr. Lich became Vice President of Global Marketing with direct responsibility for company-wide global marketing functions. In 2008, Mr. Lich was appointed Vice President and General Manager of the CASPI segment, and in 2012 was appointed Vice President and General Manager of the AFP segment. In January 2014, Mr. Lich was appointed Executive Vice President, with responsibility for the AFP and AM segments and the marketing, sales, and pricing organizations. In March 2016, Mr. Lich assumed executive responsibility for outside-U.S. regional business leadership. Mr. Lich was appointed to his current position effective July 2016.

Lucian Boldea, age 47, is Executive Vice President with responsibility for the AFP and CI segments. Mr. Boldea joined Eastman in 1997 as a chemist. During his career at Eastman, he has held various positions in R&D, licensing, business management, and corporate growth platforms leadership. These positions included Technology Director for the former Performance Chemicals and Intermediates ("PCI") segment and Director of Corporate Growth Platforms. In 2015, he was appointed Group Vice President and General Manager of the AFP segment and became Senior Vice President of AFP in July 2016. Mr. Boldea was appointed to his current position effective January 2019.

Mark K. Cox, age 53, is Senior Vice President and Chief Manufacturing, Supply Chain, and Engineering Officer. Mr. Cox joined Eastman in 1986 and has served in a variety of management positions, including leadership roles within the business management, manufacturing, and technology areas. Additionally, he has held responsibility for Eastman's Corporate Six Sigma program. In August 2008, Mr. Cox was appointed Vice President, Chemicals and Fibers Technology. Beginning in May 2009, Mr. Cox served as Vice President, Chemicals, Fibers, and Performance Polymers Technology. He was appointed Vice President, Worldwide Engineering and Construction in August 2010, appointed Senior Vice President and Chief Manufacturing and Engineering Officer effective January 2014, and to his current position effective March 2016.

Stephen G. Crawford, age 54, is Senior Vice President and Chief Technology Officer, with executive responsibility for corporate innovation. Mr. Crawford joined Eastman in 1984. Since then, he has held several leadership positions of increasing responsibility in both the manufacturing and technology organizations. From 2007 until January 2014 he served as Vice President of Global R&D in the AM and AFP segments, and was appointed to his current position effective January 2014.

David A. Golden, age 53, is Senior Vice President, Chief Legal & Sustainability Officer and Corporate Secretary. Mr. Golden has overall responsibility for Eastman's Legal, Corporate Health, Safety, Environment, Security, Product Safety and Regulatory Affairs, Sustainability, Government Relations, Community Affairs, and Public Policy and Communication functions. He also has overall responsibility for Eastman's Global Business Conduct and International Trade Compliance programs. Prior to this position, he was Vice President, Associate General Counsel, and Corporate Secretary with overall responsibility for Eastman's Legal Department. Mr. Golden joined Eastman in 1995 as an attorney and has held positions of increasing responsibility, including serving as the Director of Internal Audit from October 2005 to October 2007 and Vice President and Assistant General Counsel responsible for the Company's commercial and international law groups from 2007 to 2010. Mr. Golden was appointed Senior Vice President, Chief Legal Officer, and Corporate Secretary in January 2013 and to his current position including executive leadership of the Company's sustainability efforts in March 2016. Prior to joining Eastman, he worked as an attorney in the Atlanta office of the law firm of Hunton & Williams.

Perry Stuckey III, age 59, is Senior Vice President, Chief Human Resources Officer. Mr. Stuckey joined Eastman in 2011 as Vice President, Global Human Resources, and was responsible for Eastman's human resources strategy and services worldwide. Mr. Stuckey's work experience includes a variety of global human resource management positions in manufacturing, industrial automation, and bio-technology companies, including Hill-Rom Company, Rockwell Automation, and Monsanto Company. Mr. Stuckey was appointed to his current position in January 2013.

Damon C. Warmack, age 61, is Senior Vice President, Corporate Development. Mr. Warmack joined Eastman in 1980, working in a series of sales and product management positions. He was located in Taiwan, Hong Kong, Shanghai, and Singapore with a range of assignments including the establishment of Eastman's commercial presence in China, joint venture development and management, and serving as Vice President and Managing Director, Asia Pacific. In addition, he served as Vice President and General Manager of Resins, Inks, and Monomers, leading the restructure and divestiture of this business. Mr. Warmack then served as Vice President and General Manager of the former CASPI segment and then of the former PCI segment. More recently, he had responsibility for corporate development and strategic planning, playing a lead role in the Company's business portfolio transformation through acquisitions and divestitures, and became Senior Vice President of Corporate Development and CI in July 2016. As previously announced, Mr. Warmack is retiring mid-year 2019 and was appointed to his current position effective January 2019 until his retirement.

Scott V. King, age 50, is Vice President, Corporate Controller and Chief Accounting Officer. Since joining Eastman in 1999 as Manager, Corporate Consolidations and External Reporting, Mr. King has held various positions of increasing responsibility in the financial organization. He was first appointed Corporate Controller in August 2007 and has served as Chief Accounting Officer since September 2008. Prior to joining Eastman, Mr. King was an audit and business advisory manager with PricewaterhouseCoopers LLP.

ITEM 2. PROPERTIES

At December 31, 2018, Eastman owned or operated 48 manufacturing facilities and had equity interests in three manufacturing joint ventures in a total of 14 countries. Utilization of these sites may vary with product mix and economic, seasonal, and other business conditions; however, none of the principal plants are substantially idle. The Company's plants, including approved expansions, generally have sufficient capacity for existing needs and expected near-term growth. These plants are generally well maintained, in good operating condition, and suitable and adequate for their use. Unless otherwise indicated, all properties are owned. Corporate headquarters are in Kingsport, Tennessee. The Company's regional headquarters are in Shanghai, China; Miami, Florida; Rotterdam, the Netherlands; Singapore; and Zug, Switzerland.

The locations and general character of the Company's manufacturing facilities are:

Location	Segment using manufacturing location			
	Additives & Functional Products	Advanced Materials	Chemical Intermediates	Fibers
USA				
Alvin, Texas ⁽¹⁾	x			
Anniston, Alabama	x			
Axton, Virginia		x		
Canoga Park, California ⁽²⁾		x		
Cartersville, Georgia ⁽¹⁾	x			
Chestertown, Maryland			x	
Columbia, South Carolina ⁽¹⁾		x		
Franklin, Virginia ⁽¹⁾	x			
Jefferson, Pennsylvania	x			
Kingsport, Tennessee	x	x	x	x
Lemoyne, Alabama ⁽¹⁾	x			
Linden, New Jersey	x			
Longview, Texas	x	x	x	
Martinsville, Virginia ⁽³⁾		x		
Monongahela, Pennsylvania	x			
Pace, Florida	x		x	
Sauget, Illinois	x			
Springfield, Massachusetts		x		
St. Gabriel, Louisiana	x		x	
Sun Prairie, Wisconsin		x		
Texas City, Texas			x	
Trenton, Michigan		x		
Watertown, New York				x
Europe				
Antwerp, Belgium ⁽¹⁾	x	x		
Ghent, Belgium ⁽³⁾	x	x	x	
Kohtla-Järve, Estonia	x		x	
Oulu, Finland ⁽²⁾	x			
Dresden, Germany		x		
Leuna, Germany	x		x	
Nienburg, Germany	x			
Middelburg, the Netherlands	x			
Newport, Wales	x	x		

(1) Eastman is a guest under an operating agreement with a third party that operates its manufacturing facilities at the site.

(2) Eastman leases from a third party and operates the site.

(3) Eastman has more than one manufacturing facility at this location.

Location	Segment using manufacturing location			
	Additives & Functional Products	Advanced Materials	Chemical Intermediates	Fibers
Asia Pacific				
Nanjing, China	x		x	
Suzhou, China ⁽¹⁾⁽²⁾⁽³⁾	x	x		
Wuhan, China ⁽⁴⁾			x	
Yixing, China	x			
Zibo, China ⁽⁵⁾	x		x	
Kashima, Japan	x			
Ulsan, Korea ⁽⁶⁾				x
Kuantan, Malaysia ⁽¹⁾	x	x		
Jurong Island, Singapore ⁽¹⁾	x		x	
Latin America				
Itupeva, Brazil ⁽⁷⁾	x			
Mauá, Brazil			x	
Santo Toribio, Mexico		x		
Uruapan, Mexico	x			

⁽¹⁾ Eastman leases from a third party and operates the site.

⁽²⁾ Eastman has more than one manufacturing facility at this location.

⁽³⁾ Eastman holds a 60 percent share of Solutia Therminol Co., Ltd. Suzhou in the AFP segment.

⁽⁴⁾ Eastman holds a 51 percent share of Eastman Specialties Wuhan Youji Chemical Co., Ltd.

⁽⁵⁾ Eastman holds a 51 percent share of Qilu Eastman Specialty Chemical, Ltd.

⁽⁶⁾ Eastman holds an 80 percent share of Eastman Fibers Korea Limited.

⁽⁷⁾ Eastman is a guest under an operating agreement with a third party that operates its manufacturing facilities at the site.

Eastman has 50 percent or less ownership in joint ventures that have manufacturing facilities at the following locations:

Location	Segment using manufacturing location			
	Additives & Functional Products	Advanced Materials	Chemical Intermediates	Fibers
Asia Pacific				
Hefei, China				x
Nanjing, China	x			
Shenzhen, China		x		

Eastman has distribution facilities at all of its plant sites. In addition, the Company owns or leases approximately 200 stand-alone distribution facilities in approximately 30 countries. The Company also maintains technical service centers around the world.

A summary of properties, classified by type, is included in Note 3, "Properties and Accumulated Depreciation", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

ITEM 3. LEGAL PROCEEDINGS

General

From time to time, Eastman and its operations are parties to, or targets of, lawsuits, claims, investigations and proceedings, including product liability, personal injury, asbestos, patent and intellectual property, commercial, contract, environmental, antitrust, health and safety, and employment matters, which are handled and defended in the ordinary course of business. While the Company is unable to predict the outcome of these matters, it does not believe, based upon currently available facts, that the ultimate resolution of any such pending matters will have a material adverse effect on its overall financial condition, results of operations, or cash flows.

Solutia Legacy Torts Claims Litigation

Pursuant to an Amended and Restated Settlement Agreement effective February 28, 2008 between Solutia and Monsanto Company ("Monsanto") in connection with Solutia's emergence from Chapter 11 bankruptcy proceedings (the "Monsanto Settlement Agreement"), Monsanto is responsible for the defense and indemnification of Solutia against any Legacy Tort Claims (as defined in the Monsanto Settlement Agreement) and Solutia has agreed to retain responsibility for certain tort claims, if any, that may arise from Solutia's conduct after its spinoff from Pharmacia Corporation (f/k/a Monsanto), which occurred on September 1, 1997. Solutia, which became a wholly-owned subsidiary of Eastman upon Eastman's acquisition of Solutia in July 2012, has been named as a defendant in several such proceedings, and has submitted the matters to Monsanto, which was acquired by Bayer AG in June 2018, as Legacy Tort Claims. To the extent these matters are not within the meaning of Legacy Tort Claims, Solutia could potentially be liable thereunder. In connection with the completion of its acquisition of Solutia, Eastman guaranteed the obligations of Solutia and Eastman was added as an indemnified party under the Monsanto Settlement Agreement.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

(a) Eastman's common stock is traded on the New York Stock Exchange (the "NYSE") under the symbol "EMN".

As of December 31, 2018, there were 139,777,332 shares of Eastman's common stock issued and outstanding, which shares were held by 14,610 stockholders of record. These shares include 50,798 shares held by the Company's charitable foundation.

See Part III, Item 12, "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters - Securities Authorized for Issuance Under Equity Compensation Plans" for the information required by Item 201(d) of Regulation S-K.

(b) Not applicable.

(c) Purchases of Equity Securities by the Issuer and Affiliated Purchasers:

In February 2018 the Board of Directors authorized the repurchase of up to \$2 billion of the Company's outstanding common stock at such times, in such amounts, and on such terms, as determined by management to be in the best interests of the Company. As of December 31, 2018, a total of 2,470,755 shares have been repurchased under this authorization for a total amount of \$248 million. During 2018 the Company repurchased 3,959,878 shares of common stock for a total cost of approximately \$400 million (including 1,489,123 shares for a total cost of approximately \$152 million under a previous \$1 billion repurchase authorization). For additional information, see Note 14, "Stockholders' Equity", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report on Form 10-K.

Period	Total Number of Shares Purchased	Average Price Paid Per Share ⁽¹⁾	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value that May Yet Be Purchased Under the Plans or Programs
October 1 - 31, 2018	286,236	\$ 87.34	286,236	\$ 1.752 billion
November 1 - 30, 2018	—	\$ —	—	\$ 1.752 billion
December 1 - 31, 2018	—	\$ —	—	\$ 1.752 billion
Total	286,236	\$ 87.34	286,236	

(1) Average price paid per share reflects the weighted average purchase price paid for shares.

ITEM 6. SELECTED FINANCIAL DATA

Statements of Earnings Data (Dollars in millions, except per share amounts)	Year Ended December 31,				
	2018	2017	2016	2015	2014
Sales	\$10,151	\$9,549	\$9,008	\$9,648	\$9,527
Earnings before interest and taxes	1,552	1,530	1,389	1,392	1,177
Earnings from continuing operations	1,084	1,388	859	854	755
Earnings from discontinued operations	—	—	—	—	2
Net earnings	1,084	1,388	859	854	757
Less: Net earnings attributable to noncontrolling interest	4	4	5	6	6
Net earnings attributable to Eastman	\$1,080	\$1,384	\$854	\$848	\$751
Amounts attributable to Eastman:					
Earnings from continuing operations, net of tax	\$1,080	\$1,384	\$854	\$848	\$749
Earnings from discontinued operations, net of tax	—	—	—	—	2
Net earnings attributable to Eastman	\$1,080	\$1,384	\$854	\$848	\$751
Basic earnings per share attributable to Eastman:					
Earnings from continuing operations	\$7.65	\$9.56	\$5.80	\$5.71	\$5.01
Earnings from discontinued operations	—	—	—	—	0.02
Net earnings	\$7.65	\$9.56	\$5.80	\$5.71	\$5.03
Diluted earnings per share attributable to Eastman:					
Earnings from continuing operations	\$7.56	\$9.47	\$5.75	\$5.66	\$4.95
Earnings from discontinued operations	—	—	—	—	0.02
Net earnings	\$7.56	\$9.47	\$5.75	\$5.66	\$4.97
Statements of Financial Position Data					
Current assets	\$3,365	\$3,143	\$2,866	\$2,878	\$3,173
Net properties	5,600	5,607	5,276	5,130	5,087
Goodwill	4,467	4,527	4,461	4,518	4,486
Intangible assets, net of accumulated amortization	2,185	2,373	2,479	2,650	2,905
Total assets	15,995	15,999	15,457	15,580	16,072
Current liabilities	1,851	1,982	1,795	2,056	2,022
Long-term borrowings	5,925	6,147	6,311	6,577	7,248
Total liabilities	10,117	10,519	10,849	11,559	12,482
Total Eastman stockholders' equity	5,803	5,403	4,532	3,941	3,510
Dividends declared per share	2.30	2.09	1.89	1.66	1.45

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

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This Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") is based upon the consolidated financial statements of Eastman Chemical Company ("Eastman" or the "Company"), which have been prepared in accordance with accounting principles generally accepted ("GAAP") in the United States, and should be read in conjunction with the Company's consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K (this "Annual Report"). All references to earnings per share ("EPS") contained in this report are to diluted earnings per share unless otherwise noted. Beginning January 1, 2018, Eastman's primary measure of operating performance for all periods presented is earnings before interest and taxes ("EBIT") on a consolidated and segment basis. Previously, the Company's primary measure of operating performance was operating earnings.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

CRITICAL ACCOUNTING ESTIMATES

In preparing the consolidated financial statements in conformity with GAAP, management must make decisions which impact the reported amounts and the related disclosures. Such decisions include the selection of the appropriate accounting principles to be applied and assumptions on which to base estimates and judgments that affect the reported amounts of assets, liabilities, sales revenue and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, Eastman evaluates its estimates, including those related to impairment of long-lived assets, environmental costs, pension and other postretirement benefits, litigation and contingent liabilities, and income taxes. The Company bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. Management believes the critical accounting estimates described below are the most important to the fair presentation of the Company's financial condition and results. These estimates require management's most significant judgments in the preparation of the Company's consolidated financial statements.

Impairment of Long-Lived Assets

Definite-lived Assets

Properties and equipment and definite-lived intangible assets to be held and used by Eastman are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The review of properties and equipment is performed at the asset group level and the review of definite-lived intangible assets is performed at the asset level, which is the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. If the carrying amount is not considered to be recoverable, an analysis of fair value is triggered. An impairment is recognized for the excess of the carrying amount of the asset over the fair value. Fair value is the price that would be received to sell an asset in an orderly transaction between market participants. The Company's assumptions related to long-lived assets are subject to change and impairments may be required in the future. If estimates of fair value less costs to sell are revised, the carrying amount of the related asset is adjusted, resulting in a charge to earnings.

Goodwill

Eastman conducts testing of goodwill annually in the fourth quarter or more frequently when events and circumstances indicate an impairment may have occurred. The testing of goodwill is performed at the "reporting unit" level which the Company has determined to be its "components". Components are defined as an operating segment or one level below an operating segment, and in order to be a reporting unit, the component must 1) be a "business" as defined by applicable accounting standards (an integrated set of activities and assets that is capable of being conducted and managed for the purpose of providing a return in the form of dividends, lower costs, or other economic benefits directly to the investors or other owners, members, or participants); 2) have discrete financial information available; and 3) be reviewed regularly by Company operating segment management. The Company aggregates certain components into reporting units based on economic similarities.

On October 1, 2018, management adopted Accounting Standards Update 2017-04 Intangibles - Goodwill and Other to simplify the annual goodwill impairment testing process. A reporting unit's goodwill is considered to be impaired when the reporting unit's estimated fair value is less than its carrying value. The Company uses an income approach and applies a fair value methodology based on discounted cash flows in testing the carrying value of goodwill for each reporting unit. Key assumptions and estimates used in the Company's 2018 goodwill impairment testing included

projections of revenues, expenses, and cash flows determined using the Company's annual multi-year strategic plan and a market participant tax rate. The most critical assumptions are the estimated discount rate and a projected long-term growth rate. The Company believes these assumptions are consistent with those a hypothetical market participant would use given circumstances that were present at the time the estimates were made. However, actual results and amounts may be significantly different from the Company's estimates. In addition, the use of different estimates or assumptions could result in materially different determinations. In order to determine the discount rate, the Company uses a market participant weighted average cost of capital ("WACC") approach. The WACC is calculated incorporating weighted average returns on debt and equity from market participants. Therefore, changes in the market, which are beyond the control of the Company, may have an impact on future calculations of estimated fair value. For additional information, see Note 1, "Significant Accounting Policies", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

As a result of the goodwill impairment testing performed during fourth quarter 2018, fair values were determined to substantially exceed the carrying values for each reporting unit tested with the exception of crop protection (part of the Additives & Functional Products operating segment as described in Part I, Item 1, "Business", of this Annual Report). The Company reduced the carrying value of the crop protection reporting unit to its estimated fair value through recognition of a \$38 million goodwill impairment. The impairment was primarily driven by an increase in the WACC applied to the impairment analysis and the estimated impact of future regulatory changes. Two of the most critical assumptions used in the calculation of the fair value of the crop protection reporting unit are the target market long-term growth rate and the WACC. The Company performed a sensitivity analysis of both of those assumptions, assuming a one percent decrease in the expected long-term growth rate or a one percent increase in the WACC, and both scenarios independently yielded an estimated fair value for the crop protection reporting unit below carrying value. The crop protection reporting unit's goodwill after the reduction for impairment was \$235 million as of December 31, 2018.

Indefinite-lived Intangible Assets

Eastman conducts testing of indefinite-lived intangible assets annually in the fourth quarter or more frequently when events and circumstances indicate an impairment may have occurred. The carrying value of an indefinite-lived intangible asset is considered to be impaired when the fair value, as established by appraisal or based on discounted future cash flows of certain related products, is less than the respective carrying value.

Indefinite-lived intangible assets, consisting primarily of various tradenames, are tested for potential impairment by comparing the estimated fair value to the carrying amount. The Company uses an income approach, specifically the relief from royalty method, to test indefinite-lived intangible assets. The estimated fair value of tradenames is determined based on an assumed royalty rate savings, discounted by the calculated market participant WACC plus a risk premium.

The Company had \$539 million in indefinite-lived intangible assets at the time of impairment testing. There was no material impairment of the Company's indefinite-lived intangible assets as a result of the tests performed during fourth quarter 2018.

The Company will continue to monitor both goodwill and indefinite-lived intangible assets for any indication of triggering events which might require additional testing before the next annual impairment test.

For additional information, see Note 4, "Goodwill and Other Intangible Assets", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

Environmental Costs

Eastman accrues environmental remediation costs when it is probable that the Company has incurred a liability at a contaminated site and the amount can be reasonably estimated. When a single amount cannot be reasonably estimated but the cost can be estimated within a range, the Company accrues the minimum undiscounted amount. This undiscounted accrued amount reflects liabilities expected to be paid within approximately 30 years and the Company's assumptions about remediation requirements at the contaminated site, the nature of the remedy, the outcome of discussions with regulatory agencies and other potentially responsible parties at multi-party sites, and the number and financial viability of other potentially responsible parties. Changes in the estimates on which the accruals are based, unanticipated government enforcement action, or changes in health, safety, environmental, and chemical control regulations and testing requirements could result in higher or lower costs. Estimated future environmental expenditures for undiscounted remediation costs ranged from the best estimate or minimum of \$271 million to the

maximum of \$508 million and from the best estimate or minimum of \$280 million to the maximum of \$483 million at December 31, 2018 and December 31, 2017, respectively. The best estimate or minimum estimated future environmental expenditures are considered to be probable and reasonably estimable and include the amounts accrued at both December 31, 2018 and December 31, 2017.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The Company also establishes reserves for closure and post-closure costs associated with the environmental and other assets it maintains. Environmental assets include but are not limited to waste management units, such as landfills, water treatment facilities, and surface impoundments. When these types of assets are constructed or installed, a loss contingency reserve is established for the anticipated future costs associated with the retirement or closure of the asset based on its expected life and the applicable regulatory closure requirements. The Company recognizes the asset retirement obligations in the period in which they are incurred if a reasonable estimate of fair value can be made. The asset retirement obligations are discounted to expected present value and subsequently adjusted for changes in fair value. These future estimated costs are charged to earnings over the estimated useful life of the assets. If the Company changes its estimate of the environmental asset retirement obligation costs or its estimate of the useful lives of these assets, expenses charged to earnings will be impacted. For sites that have environmental asset retirement obligations, the best estimate for these asset retirement obligation costs accrued to date was \$25 million and \$24 million at December 31, 2018 and December 31, 2017, respectively.

The Company's total amount reserved for environmental loss contingencies, including the remediation and closure and post-closure costs described above, was \$296 million and \$304 million at December 31, 2018 and December 31, 2017, respectively. This loss contingency reserve represents the best estimate or minimum for undiscounted remediation costs and the best estimate of the amount accrued to date for discounted asset retirement obligation costs. For additional information, see Note 12, "Environmental Matters and Asset Retirement Obligations", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

Pension and Other Postretirement Benefits

Eastman maintains defined benefit pension plans that provide eligible employees with retirement benefits. Under its other postretirement benefit plans in the U.S., Eastman provides life insurance for eligible retirees hired prior to January 1, 2007. Eastman provides a subsidy for pre-Medicare health care and dental benefits to eligible retirees hired prior to January 1, 2007 that will end on December 31, 2021. Company funding is also provided for eligible Medicare retirees hired prior to January 1, 2007 with a health reimbursement arrangement. The estimated amounts of the costs and obligations related to these benefits primarily reflect the Company's assumptions related to discount rates and expected return on plan assets. For valuing the obligations and assets of the Company's U.S. and non-U.S. defined benefit pension plans, the Company assumed weighted average discount rates of 4.29 percent and 2.35 percent, respectively, and weighted average expected returns on plan assets of 7.43 percent and 4.49 percent, respectively at December 31, 2018. The Company assumed a weighted average discount rate of 4.26 percent for its other postretirement benefit plans and an expected return on plan assets of 3.75 percent for its voluntary employees' beneficiary association retiree trust at December 31, 2018. The estimated cost of providing plan benefits also depends on demographic assumptions including retirements, mortality, turnover, and plan participation.

The Company performed a five-year experience study of the assumptions for the U.S. plans in 2017 which included a review of the mortality tables. As a result of the experience study, the Company has updated the mortality assumptions used to a modified RP-2017 table with modified MP-2017 improvement scale and no collar adjustment.

The projected benefit obligation as of December 31, 2018 and 2019 expense are affected by year-end 2018 assumptions. The following table illustrates the sensitivity to changes in the Company's long-term assumptions in the assumed discount rate and expected return on plan assets for all pension and other postretirement benefit plans. The sensitivities below are specific to the time periods noted. They also may not be additive, so the impact of changing multiple factors simultaneously cannot be calculated by combining the individual sensitivities shown.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Change in Assumption	Impact on 2019 Pre-tax Benefits Expense (Excludes mark-to-market impact) for Pension Plans	Impact on December 31, 2018 Projected Benefit Obligation for Pension Plans		Impact on 2019 Pre-tax Benefits Expense (Excludes mark-to-market impact) for Other Postretirement Benefit Plans	Impact on December 31, 2018 Benefit Obligation for Other Postretirement Benefit Plans
		U.S.	Non-U.S.		
25 basis point decrease in discount rate	-\$2 Million	+\$48 Million	+\$40 Million	-\$1 Million	+\$15 Million
25 basis point increase in discount rate	+\$2 Million	-\$46 Million	-\$37 Million	+\$1 Million	-\$14 Million
25 basis point decrease in expected return on plan assets	+\$6 Million	No Impact	No Impact	<+\$0.5 Million	No Impact
25 basis point increase in expected return on plan assets	-\$6 Million	No Impact	No Impact	<-\$0.5 Million	No Impact

The assumed discount rate and expected return on plan assets used to calculate the Company's pension and other postretirement benefit obligations are established each December 31. The assumed discount rate is based upon a portfolio of high-grade corporate bonds, which are used to develop a yield curve. This yield curve is applied to the expected cash flows of the pension and other postretirement benefit obligations. Because future health care benefits under the U.S. benefit plan have been fixed at a certain contribution amount, changes in the health care cost trend assumptions do not have a material impact on the results of operations. The expected return on plan assets is based upon prior performance and the long-term expected returns in the markets in which the trusts invest their funds, primarily in U.S. and non-U.S. fixed income, U.S. and non-U.S. public equity, private equity, and real estate. Moreover, the expected return on plan assets is a long-term assumption and on average is expected to approximate the actual return on plan assets. Actual returns will be subject to year-to-year variances and could vary materially from assumptions.

In 2016, the Company changed the approach used to calculate service and interest cost components of net periodic benefit costs for its significant defined benefit pension and other postretirement benefit plans. The Company elected to calculate service and interest costs by applying the specific spot rates along the yield curve to the plans' projected cash flows. The change does not affect the measurement of the total benefit obligation or the annual net periodic benefit cost or credit of the plans because the change in the service and interest costs will be offset in the mark-to-market ("MTM") actuarial gain or loss. The MTM gain or loss, as described in the next paragraph, is typically recognized in the fourth quarter of each year or in any other quarters in which an interim remeasurement is triggered. For additional information, see Note 10, "Retirement Plans", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

The Company uses fair value accounting for plan assets. If actual experience differs from actuarial assumptions, primarily discount rates and long-term assumptions for asset returns which were used in determining the current year expense, the difference is recognized as part of the MTM net gain or loss in fourth quarter each year, and any other quarter in which an interim remeasurement is triggered. The MTM net gain or loss applied to net earnings in 2018, 2017, and 2016 due to the actual experience versus actuarial assumptions for the defined benefit pension and other postretirement benefit plans were a net loss of \$99 million, a net gain of \$21 million, and a net loss of \$97 million, respectively. The 2018 MTM net loss included an actuarial gain of approximately \$170 million, resulting primarily from the Company's December 31, 2018 weighted-average assumed discount rate of 3.82 percent, up from the prior year, and changes in other actuarial assumptions. Overall asset values decreased approximately \$270 million due to asset values depreciating in excess of the assumed weighted-average rate of return. The actual loss was approximately \$80 million, or an approximately 3 percent loss, which was below the expected return of approximately \$190 million, or approximately 7 percent.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

While changes in obligations do not correspond directly to cash funding requirements, it is an indication of the amount the Company will be required to contribute to the plans in future years. The amount and timing of such cash contributions is dependent upon interest rates, actual returns on plan assets, retirement, attrition rates of employees, and other factors. For further information regarding pension and other postretirement benefit obligations, see Note 10, "Retirement Plans", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

Litigation and Contingent Liabilities

From time to time, Eastman and its operations are parties to, or targets of, lawsuits, claims, investigations and proceedings, including product liability, personal injury, asbestos, patent and intellectual property, commercial, contract, environmental, antitrust, health and safety, and employment matters, which are handled and defended in the ordinary course of business. The Company accrues a contingent loss liability for such matters when it is probable that a liability has been incurred and the amount can be reasonably estimated. When a single amount cannot be reasonably estimated but the cost can be estimated within a range, the Company accrues the minimum amount. The Company expenses legal costs, including those expected to be incurred in connection with a loss contingency, as incurred. Based upon currently available facts, the Company believes the amounts reserved are adequate for such pending matters; however, results of operations could be adversely affected by monetary damages, costs or expenses, and charges against earnings in particular periods.

Income Taxes

Amounts of deferred tax assets and liabilities on Eastman's Consolidated Statements of Financial Position are based on temporary differences between the financial reporting and tax bases of assets and liabilities, applying enacted tax rates expected to be in effect for the year in which the differences are expected to reverse. The ability to realize deferred tax assets is evaluated through the forecasting of taxable income and domestic and foreign taxes, using historical and projected future operating results, the reversal of existing temporary differences, and the availability of tax planning opportunities. Valuation allowances are recognized to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized. In the event that the actual outcome of future tax consequences differs from management estimates and assumptions, the resulting change to the provision for (benefit from) income taxes could have a material impact on the consolidated results of operations and statements of financial position. As of December 31, 2018 and 2017, valuation allowances of \$466 million and \$410 million, respectively, have been provided against the deferred tax assets. The Company recognizes income tax positions that are more likely than not to be realized and accrues interest related to unrecognized income tax positions, which is included as a component of the income tax provision on the balance sheet.

On December 22, 2017, the 2017 "Tax Cuts and Jobs Act" ("Tax Reform Act") was enacted. Accounting for the impacts of newly enacted tax legislation are generally required to be completed in the period of enactment. Following enactment of the Tax Reform Act, the Securities and Exchange Commission ("SEC") provided guidance for initial accounting for the Tax Reform Act in Staff Accounting Bulletin No. 118, "Income Tax Accounting Implications of the Tax Cuts and Jobs Act" ("SAB 118"). The period to finalize accounting for the Tax Reform Act is up to one year following the enactment date and SAB 118 allows companies to provide for the impact of the Tax Reform Act under three scenarios: (1) a company is complete with its accounting for certain effects of tax reform, (2) a company is able to determine a reasonable estimate for certain effects of the Tax Reform Act and records that estimate as a provisional amount, or (3) a company is not able to determine a reasonable estimate and therefore continues to apply accounting based on the provisions of the tax laws that were in effect immediately prior to tax reform being enacted. Because enactment of the Tax Reform Act was close to Eastman's year end, the Company was not able to complete the accounting for certain effects of the changes in tax law, but was able to reasonably estimate the effects and recognized those estimates as provisional amounts as of December 31, 2017.

As of December 31, 2017, management estimated a \$339 million net tax benefit, primarily resulting from the Tax Reform Act and a related tax loss from outside-U.S. entity reorganizations as part of the formation of an international treasury services center. In 2018, the Company recognized an adjustment to the 2017 net tax benefit which decreased earnings by \$20 million. As of December 31, 2018, the Company considers the accounting for the impacts of the Tax Reform Act under SAB 118 to be complete. As of December 31, 2018, the U.S. Department of Treasury has issued a number of proposed regulations related to implementation of the provisions of the Tax Reform Act and certain states may issue clarifying guidance regarding state income tax conformity to the current federal tax code. Finalization of these regulations in 2019 or future periods may result in changes in the period of enactment to the amounts currently reported in the Consolidated Statements of Financial Position. Any future changes in U.S. tax law may have a significant impact on the provision for income taxes in the period the change occurs. For further information, see Note 7, "Income Taxes", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

NON-GAAP FINANCIAL MEASURES

Non-GAAP financial measures, and the accompanying reconciliations of the non-GAAP financial measures to the most comparable GAAP measures, are presented below in this section and in "Overview", "Results of Operations", "Summary by Operating Segment", "Liquidity, Capital Resources, and Other Financial Information", and "Outlook" in this MD&A.

Management discloses non-GAAP financial measures, and the related reconciliations to the most comparable GAAP financial measures, because it believes investors use these metrics in evaluating longer term period-over-period performance, and to allow investors to better understand and evaluate the information used by management to assess the Company's and its operating segments' performances, make resource allocation decisions, and evaluate organizational and individual performances in determining certain performance-based compensation. Non-GAAP financial measures do not have definitions under GAAP, and may be defined differently by, and not be comparable to, similarly titled measures used by other companies. As a result, management cautions investors not to place undue reliance on any non-GAAP financial measure, but to consider such measures alongside the most directly comparable GAAP financial measure.

Company Use of Non-GAAP Financial Measures

Non-Core Items and any Unusual or Non-Recurring Items Excluded from Non-GAAP Earnings

In addition to evaluating Eastman's financial condition, results of operations, liquidity, and cash flows as reported in accordance with GAAP, management also evaluates Company and operating segment performance, and makes resource allocation and performance evaluation decisions, excluding the effect of transactions, costs, and losses or gains that do not directly result from Eastman's normal, or "core", business and operations, or are otherwise of an unusual or non-recurring nature.

Non-core transactions, costs, and losses or gains relate to, among other things, cost reductions, growth and profitability improvement initiatives, and other events outside of core business operations, and have included asset impairments and restructuring charges and gains, costs of and related to acquisitions, gains and losses from and costs related to dispositions of businesses, financing transaction costs, and MTM losses or gains for pension and other postretirement benefit plans.

In 2018 the Company recognized unusual income from insurance in excess of costs for, and in 2017 recognized unusual net costs of, the disruption, repairs, and reconstruction of the Kingsport site's coal gasification operations area resulting from the previously reported October 4, 2017 explosion (the "coal gasification incident"). Management considers the coal gasification incident unusual because of the Company's operational and safety history and the magnitude of the unplanned disruption.

In 2018 the Company recognized unusual costs and an unusual net decrease to earnings from adjustments of the provisional net tax benefit recognized in fourth quarter 2017, resulting from tax law changes, primarily the Tax Reform Act, and related outside-U.S. entity reorganizations as part of the transition to an international treasury services center. Management considers these actions and associated costs and income unusual because of the infrequent nature of such changes in tax law and resulting actions and the significant impacts on earnings.

Because non-core, unusual, or non-recurring transactions, costs, and losses or gains may materially affect the Company's, or any particular operating segment's, financial condition or results in a specific period in which they are recognized, Eastman believes it is appropriate to evaluate both the financial measures prepared and calculated in

accordance with GAAP and the related non-GAAP financial measures excluding the effect on the Company's results of these non-core, unusual, or non-recurring items. In addition to using such measures to evaluate results in a specific period, management evaluates such non-GAAP measures, and believes that investors may also evaluate such measures, because such measures may provide more complete and consistent comparisons of the Company's, and its segments', operational performance on a period-over-period historical basis and, as a result, provide a better indication of expected future trends.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Adjusted Tax Rate and Provision for Income Taxes

In interim periods, Eastman discloses non-GAAP earnings with an adjusted effective tax rate and a resulting adjusted provision for income taxes using the Company's forecasted tax rate for the full year as of the end of the interim period. The adjusted effective tax rate and resulting adjusted provision for income taxes are equal to the Company's projected full year effective tax rate and provision for income taxes on earnings excluding non-core, unusual, or non-recurring items for completed periods. The adjusted effective tax rate and resulting adjusted provision for income taxes may fluctuate during the year for changes in events and circumstances that change the Company's forecasted annual effective tax rate and resulting provision for income taxes excluding non-core, unusual, or non-recurring items. Management discloses this adjusted effective tax rate, and the related reconciliation to the GAAP effective tax rate, to provide investors more complete and consistent comparisons of the Company's operational performance on a period-over-period interim basis and on the same basis as management evaluates quarterly financial results to provide a better indication of expected full year results.

Non-GAAP Cash Flow Measure

Eastman regularly evaluates and discloses to investors and securities analysts an alternative non-GAAP measure of "free cash flow", which management defines as cash provided by operating activities, less the amount of net capital expenditures (typically the GAAP measure additions to properties and equipment, and in 2018, net of proceeds from property insurance). Such net capital expenditures are generally funded from available cash and, as such, management believes they should be considered in determining free cash flow. Management believes this is an appropriate metric to assess the Company's ability to fund priorities for uses of available cash. The priorities for cash after funding operations include payment of quarterly dividends, repayment of debt, funding targeted growth opportunities, and repurchasing shares. Management believes this metric is useful to investors and securities analysts in order to provide them with information similar to that used by management in evaluating financial performance and potential future cash available for various initiatives and assessing organizational performance in determining certain performance-based compensation and because management believes investors and securities analysts often use a similar measure of free cash flow to compare the results, and value, of comparable companies. In addition, Eastman may disclose to investors and securities analysts an alternative non-GAAP measure of "free cash flow yield", which management defines as annual free cash flow divided by the Company's market capitalization. Management believes this metric is useful to investors and securities analysts in comparing cash flow generation with that of peer and other companies.

Non-GAAP Measures in this Annual Report

The following non-core items are excluded by management in its evaluation of certain earnings results in this Annual Report:

- MTM pension and other postretirement benefit plans gains and losses resulting from the changes in discount rates and other actuarial assumptions and the difference between actual and expected returns on plan assets during the period;
- Asset impairments and restructuring charges, net, of which asset impairments are non-cash transactions impacting profitability;
- Acquisition integration and transaction costs;
- Early debt extinguishment and other related costs resulting from repayment of borrowings;
- Cost of disposition of claims against operations that were discontinued by Solutia, Inc. ("Solutia") prior to the Company's acquisition of Solutia in 2012;
- Gain from sale of the formulated electronics cleaning solutions business, which was part of the Additives & Functional Products segment;

Gain from sale of the Company's 50 percent interest in the Primester cellulose acetate flake joint venture; and
Tax benefit associated with a previously impaired site.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following unusual items are excluded by management in its evaluation of certain earnings results in this Annual Report:

• Costs of, and income from insurance for, the coal gasification incident;
• Costs of currency transaction and professional fees resulting from fourth quarter 2017 tax law changes and related outside-U.S. entity reorganizations; and
• Estimated net tax benefit recognized in fourth quarter 2017 resulting from tax law changes, primarily the Tax Reform Act, and tax impact of related outside-U.S. entity reorganizations and related subsequent adjustments recognized in 2018.

As described above, the alternative non-GAAP measure of cash flow "free cash flow" is presented in this Annual Report.

Non-GAAP Financial Measures - Non-Core and Unusual Items Excluded from Earnings (Dollars in millions)	2018	2017	2016
Non-core items impacting EBIT:			
Mark-to-market pension and other postretirement benefits (gain) loss, net	\$99	\$(21)	\$97
Asset impairments and restructuring charges, net	45	8	45
Acquisition integration and transaction costs	—	—	9
Cost of disposition of claims against discontinued Solutia operations	—	9	5
Gains from sale of businesses	—	(3)	(17)
Unusual items impacting EBIT:			
Net coal gasification incident (insurance) costs	(83)	112	—
Costs resulting from tax law changes and outside-U.S. entity reorganizations	20	—	—
Total non-core and unusual items impacting EBIT	81	105	139
Non-core item impacting earnings before income taxes:			
Early debt extinguishment and other related costs	7	—	85
Total non-core item impacting earnings before income taxes	7	—	85
Less: Items impacting provision for (benefit from) income taxes:			
Tax effect for non-core and unusual items	16	30	75
Tax benefit associated with previously impaired site	—	8	—
Estimated net tax benefit from tax law changes and tax loss from outside-U.S. entity reorganizations	(20)	339	—
Total items impacting provision for (benefit from) income taxes	(4)	377	75
Total items impacting net earnings attributable to Eastman	\$92	\$(272)	\$149

Below is the calculation of the "Other components of post-employment (benefit) cost, net" that are not included in the above non-core item "mark-to-market pension and other postretirement benefits gain (loss), net" and that are included in the non-GAAP results.

(Dollars in millions)	2018	2017	2016
Other components of post-employment (benefit) cost, net	\$(21)	\$(135)	\$(3)
Service cost	49	53	56
Net periodic benefit (credit) cost	28	(82)	53
Less: Mark-to-market (gain) loss	99	(21)	97
Components of post-employment (benefit) cost, net included in non-GAAP earnings measures	\$(71)	\$(61)	\$(44)

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
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Below is the calculation of the MTM pension and other post-retirement benefits (gain) loss disclosed above.

(Dollars in millions)	2018	2017	2016
Actual return on assets	\$(82) (3)%	\$314 11%	\$252 9%
Less: expected return on assets	189 7%	180 7%	176 7%
Mark-to-market (loss) gain on assets	(271)	134	76
Actuarial (loss) gain	172	(113)	(173)
Total mark-to-market (loss) gain	\$(99)	\$21	\$(97)

For more detail about MTM pension and other postretirement benefit plans net gains and losses, including actual and expected return on plan assets and the components of the net gain or loss, see "Critical Accounting Estimates - Pension and Other Postretirement Benefits" above and Note 10, "Retirement Plans", "Summary of Changes" - Actuarial (gain) loss, Actual return on plan assets, and Reserve for third party contributions and "Summary of Benefit Costs and Other Amounts Recognized in Other Comprehensive Income - Mark-to-market pension and other postretirement benefits (gain) loss, net" to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

This MD&A includes the effect of the foregoing on the following financial measures:

- Gross profit,
- Selling, general, and administrative ("SG&A") expenses,
- Asset impairments and restructuring charges, net,
- Other components of post-employment (benefit) cost, net,
- Other (income) charges, net,
- EBIT,
- Early debt extinguishment and other related costs
- Provision for (benefit from) income taxes,
- Net earnings attributable to Eastman,
- Diluted EPS, and
- Net cash provided by operating activities.

Other Non-GAAP Financial Measures

Alternative Non-GAAP Cash Flow Measure

In addition to the non-GAAP measures presented in this Annual Report and other periodic reports, management occasionally has evaluated and disclosed to investors and securities analysts the non-GAAP measure cash provided by operating activities excluding certain non-core, unusual, or non-recurring sources or uses of cash or including cash from or used by activities that are managed as part of core business operations ("adjusted cash provided by operating activities") when analyzing, among other things, business performance, liquidity and financial position, and performance-based compensation. Management has used this non-GAAP measure in conjunction with the GAAP measure cash provided by operating activities because it believes it is a more appropriate metric to evaluate the cash flows from Eastman's core operations that are available for organic and inorganic growth initiatives and because it allows for a more consistent period-over-period presentation of such amounts. In its evaluation, management generally excludes the impact of certain non-core activities and decisions of management because such activities and decisions are not considered core, ongoing components of operations and the decisions to undertake or not to undertake such activities may be made irrespective of the cash generated from operations, and generally includes cash from or used in activities that are managed as operating activities and in business operating decisions. Management has disclosed this non-GAAP measure and the related reconciliation to investors and securities analysts to allow them

to better understand and evaluate the information used by management in its decision-making processes and because management believes investors and securities analysts use similar measures to assess Company performance, liquidity, and financial position over multiple periods and to compare these with other companies.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
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Alternative Non-GAAP Earnings Measures

From time to time, Eastman may also disclose to investors and securities analysts the non-GAAP earnings measures "EBIT Margin", "Adjusted EBITDA", "EBITDA Margin", and "Return on Invested Capital" (or "ROIC"). Management defines EBIT Margin as the GAAP measure EBIT adjusted to exclude the same non-core, unusual, or non-recurring items as are excluded from the Company's other non-GAAP earnings measures for the same periods divided by the GAAP measure sales revenue in the Company's income statement for the same period. Adjusted EBITDA is EBITDA (net earnings before interest, taxes, depreciation and amortization) adjusted to exclude the same non-core, unusual, or non-recurring items as are excluded from the Company's other non-GAAP earnings measures for the same periods. EBITDA Margin is Adjusted EBITDA divided by the GAAP measure sales revenue in the Company's income statement for the same periods. Management defines ROIC as net earnings plus interest expense after tax divided by average total borrowings plus average stockholders' equity for the periods presented, each derived from the GAAP measures in the Company's financial statements for the periods presented. Management believes that EBIT Margin, Adjusted EBITDA, EBITDA Margin, and ROIC are useful as supplemental measures in evaluating the performance of and returns from Eastman's operating businesses, and, from time to time, uses such measures in internal performance calculations. Further, management understands that investors and securities analysts often use similar measures of EBIT Margin, Adjusted EBITDA, EBITDA Margin, and ROIC to compare the results, returns, and value of the Company with those of peer and other companies.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

OVERVIEW

Eastman's products and operations are managed and reported in four operating segments: Additives & Functional Products ("AFP"), Advanced Materials ("AM"), Chemical Intermediates ("CI"), and Fibers. Eastman uses an innovation-driven growth model which consists of leveraging world class scalable technology platforms, delivering differentiated application development capabilities, and relentlessly engaging the market. The Company's world class technology platforms form the foundation of sustainable growth by differentiated products through significant scale advantages in research and development ("R&D") and advantaged global market access. Differentiated application development converts market complexity into opportunities for growth and accelerates innovation by enabling a deeper understanding of the value of Eastman's products and how they perform within customers' and end-user products. Key areas of application development include thermoplastic conversion, functional films, coatings formulations, rubber additive formulations, adhesives formulations, nonwovens and textiles, and animal nutrition. The Company engages the market by working directly with customers and downstream users, targeting attractive niche markets, and leveraging disruptive macro trends such as health and wellness, natural resource efficiency, an increasing middle class in emerging economies, and feeding a growing population. Management believes that these elements of the Company's innovation-driven growth model, combined with disciplined portfolio management and balanced capital deployment, will result in consistent, sustainable earnings growth and strong cash flow.

The Company generated sales revenue of \$10.2 billion and \$9.5 billion for 2018 and 2017, respectively. Sales revenue increased \$602 million in 2018 as a result of increases in all operating segments. EBIT was \$1.6 billion and \$1.5 billion in 2018 and 2017, respectively. Excluding the non-core and unusual items referenced in "Non-GAAP Financial Measures", adjusted EBIT was \$1.6 billion in both 2018 and 2017. Further discussion of sales revenue and EBIT changes is presented in "Results of Operations" and "Summary by Operating Segment" in this MD&A.

Net earnings and EPS attributable to Eastman and adjusted net earnings and EPS attributable to Eastman were as follows:

	2018		2017	
(Dollars in millions, except diluted EPS)	\$	EPS	\$	EPS
Net earnings attributable to Eastman	\$1,080	\$7.56	\$1,384	\$9.47
Total non-core and unusual items, net of tax ⁽¹⁾⁽²⁾	92	0.64	(272)	(1.86)
Net earnings attributable to Eastman excluding non-core and unusual items	\$1,172	\$8.20	\$1,112	\$7.61

(1) See "Results of Operations - Net Earnings Attributable to Eastman and Diluted Earnings per Share" for the tax effected amount of non-core and unusual items.

(2) Provision for income taxes for non-core and unusual items are calculated using the tax rate for the jurisdiction where the gains are taxable and the expenses are deductible.

The Company generated \$1.54 billion of cash from operating activities in 2018 compared to \$1.66 billion of cash generated from operating activities during 2017. Free cash flow was \$1.08 billion in 2018 and \$1.01 billion in 2017.

As previously reported, in fourth quarter 2017 an explosion in the Kingsport site's coal gasification area disrupted manufacturing operations, primarily for the Fibers and CI segments which are significant internal users of cellulose and acetyl stream intermediates. The incident, net of insurance, reduced 2017 earnings by \$112 million and increased 2018 earnings by \$83 million. The cumulative net costs of the incident were \$29 million. Costs net of insurance of the disruption, repairs, and reconstruction of coal gasification operations in 2017 were recognized in "Cost of sales" and insurance net of costs in 2018 was recognized in "Cost of sales" and "Other (income) charges, net" in the Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
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RESULTS OF OPERATIONS

Eastman's results of operations as presented in the Company's consolidated financial statements in Part II, Item 8 of this Annual Report are summarized and analyzed below.

Sales

(Dollars in millions)	2018 Compared to 2017			2017 Compared to 2016		
	2018	2017	Change	2017	2016	Change
Sales	\$10,151	\$9,549	6 %	\$9,549	\$9,008	6 %
Volume / product mix effect			2 %			4 %
Price effect			3 %			2 %
Exchange rate effect			1 %			— %

2018 Compared to 2017

Sales revenue increased as a result of increases in all operating segments.

2017 Compared to 2016

Sales revenue increased as increases in the AFP, CI, and AM segments more than offset a decline in the Fibers segment.

Gross Profit

(Dollars in millions)	2018 Compared to 2017			2017 Compared to 2016		
	2018	2017	Change	2017	2016	Change
Gross profit	\$2,479	\$2,363	5 %	\$2,363	\$2,357	— %
Net coal gasification incident (insurance) costs	(18)	112		112	—	
Gross profit excluding unusual item	\$2,461	\$2,475	(1)%	\$2,475	\$2,357	5 %

2018 Compared to 2017

Gross profit included coal gasification incident insurance in excess of costs in 2018 and coal gasification incident net costs in 2017. Excluding these unusual items, gross profit decreased primarily due to raw material, energy, and distribution costs exceeding selling prices across most segments and higher growth initiative costs being partially offset by higher sales volume in the AM and AFP segments.

2017 Compared to 2016

Gross profit in 2017 included net costs resulting from the coal gasification incident. Excluding this unusual item, gross profit increased as increases in the CI, AFP, and AM segments more than offset a decrease in the Fibers segment. Gross profit in 2017 was increased by lower labor and manufacturing costs from corporate cost reduction actions.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Selling, General and Administrative Expenses

(Dollars in millions)	2018 Compared to 2017			2017 Compared to 2016		
	2018	2017	Change	2017	2016	Change
Selling, general and administrative expenses	\$721	\$729	(1)%	\$729	\$707	3%
Costs resulting from tax law changes and outside-U.S. entity reorganizations	(7)	—		—	—	
Acquisition integration and transaction costs	—	—		—	(9)	
Selling, general, and administrative expenses excluding non-core and unusual items	\$714	\$729	(2)%	\$729	\$698	4%

2018 Compared to 2017

SG&A expenses in 2018 included \$7 million of costs of professional fees resulting from fourth quarter 2017 tax law changes and related outside-U.S. entity reorganizations as part of the transition to an international treasury services center. Excluding this unusual item, SG&A expenses decreased primarily due to lower variable compensation costs mostly offset by higher costs of growth initiatives.

2017 Compared to 2016

SG&A expenses in 2016 included transaction costs for final resolution of the 2011 Sterling Chemicals, Inc. acquisition purchase price and integration costs for the Commonwealth business acquired in December 2014. Excluding these non-core items, SG&A expenses increased primarily due to higher performance-based variable compensation costs and strategic initiative expenditures partially offset by cost reductions resulting from corporate actions taken in 2016.

Research and Development Expenses

(Dollars in millions)	2018 Compared to 2017			2017 Compared to 2016		
	2018	2017	Change	2017	2016	Change
Research and development expenses	\$235	\$227	4%	\$227	\$223	2%

2018 Compared to 2017

R&D expenses increased primarily due to higher costs of growth initiatives.

2017 Compared to 2016

R&D expenses were slightly higher in 2017. The Company shifted R&D expenses by eliminating multiple programs and reallocating resources among the Company's operating segments. R&D investments were refocused to where disruptive macro trends create unmet needs in attractive niche markets where the Company's core technologies can deliver material solutions.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Asset Impairments and Restructuring Charges, Net

(Dollars in millions)	For years ended		
	December 31,		
	2018	2017	2016
Asset impairments	\$—	\$ 1	\$12
Gain on sale of assets, net	—	—	(2)
Intangible asset and goodwill impairments	39	—	—
Severance charges	6	6	32
Site closure and restructuring charges	—	1	3
Total	\$45	\$ 8	\$45

In 2018, asset impairments and restructuring charges, net consisted of restructuring charges of approximately \$6 million for severance. As a result of the annual impairment test of goodwill the Company reduced the carrying value of the crop protection reporting unit (part of the AFP operating segment) to its estimated fair value through recognition of a \$38 million goodwill impairment. The impairment was primarily driven by an increase in the WACC applied to the impairment analysis and the estimated impact of future regulatory changes. Additionally, the Company recognized an intangible asset impairment of \$1 million in the AM segment.

In 2017, asset impairments and restructuring charges, net were \$3 million of asset impairments and restructuring charges, including severance, in the AFP segment related to the closure of a facility in China and restructuring charges of approximately \$5 million for severance.

In 2016, the Company impaired a capital project in the AFP segment that resulted in a charge of \$12 million and recognized a gain of \$2 million in the AFP segment for the sale of previously impaired assets at the Crystex™ insoluble sulfur R&D site in France. The Company recognized restructuring charges of \$35 million, including severance, related to an announced plan to reduce costs primarily in 2017. Management anticipated and realized total cost savings of approximately \$50 million mostly in 2017 primarily in SG&A expenses and cost of sales.

Other Components of Post-employment (Benefit) Cost, Net

(Dollars in millions)	2018 Compared to 2017			2017 Compared to 2016		
	2018	2017	Change	2017	2016	Change
Other components of post-employment (benefit) cost, net	\$(21)	\$(135)	(84)%	\$(135)	\$(3)	>100%
Mark-to-market pension and other postretirement benefit gain (loss), net	(99)	21		21	(97)	
Other components of post-employment (benefit) cost, net excluding non-core item	\$(120)	\$(114)	5 %	\$(114)	\$(100)	14 %

For more information regarding "Other components of post-employment (benefit) cost, net" see Note 1, "Significant Accounting Policies", and Note 10, "Retirement Plans", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Other (Income) Charges, Net

(Dollars in millions)	2018	2017	2016
Foreign exchange transaction losses (gains), net ⁽¹⁾	\$12	\$5	\$27
Currency transaction costs resulting from tax law changes and outside-U.S. entity reorganizations	13	—	—
(Income) loss from equity investments and other investment (gains) losses, net	(17)	(12)	(13)
Coal gasification incident property insurance	(65)	—	—
Cost of disposition of claims against discontinued Solutia operations	—	9	5
Gains from sale of businesses ⁽²⁾	—	(3)	(17)
Other, net	4	5	(6)
Other (income) charges, net	\$(53)	\$4	\$(4)
Currency transaction costs resulting from tax law changes and outside-U.S. entity reorganizations	(13)	—	—
Coal gasification incident property insurance	65	—	—
Cost of disposition of claims against discontinued Solutia operations	—	(9)	(5)
Gains from sale of businesses ⁽²⁾	—	3	17
Other (income) charges, net excluding non-core items	\$(1)	\$(2)	\$8

(1) Net impact of revaluation of foreign entity assets and liabilities and effect of foreign exchange non-qualifying derivatives.

Gains resulting from the sale of the formulated electronic cleaning solution business in the AFP segment in 2017

(2) and the sale of the Company's interest in the Primester joint venture equity investment in the Fibers segment in 2016.

Earnings Before Interest and Taxes

(Dollars in millions)	2018 Compared to 2017			2017 Compared to 2016		
	2018	2017	Change	2017	2016	Change
EBIT	\$1,552	\$1,530	1 %	\$1,530	\$1,389	10 %
Mark-to-market pension and other postretirement benefit (gain) loss, net	99	(21)		(21)	97	
Net coal gasification incident (insurance) costs	(83)	112		112	—	
Asset impairments and restructuring charges, net	45	8		8	45	
Costs resulting from tax law changes and outside-U.S. entity reorganizations	20	—		—	—	
Acquisition integration and transaction costs	—	—		—	9	
Cost of disposition of claims against discontinued Solutia operations	—	9		9	5	
Gains from sale of businesses	—	(3)		(3)	(17)	
EBIT excluding non-core and unusual items	\$1,633	\$1,635	— %	\$1,635	\$1,528	7 %

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Net Interest Expense

	2018 Compared to 2017			2017 Compared to 2016		
(Dollars in millions)	2018	2017	Change	2017	2016	Change
Gross interest expense	\$242	\$251		\$251	\$265	
Less: Capitalized interest	4	7		7	7	
Interest Expense	238	244		244	258	
Less: Interest income	3	3		3	3	
Net interest expense	\$235	\$241	(2)%	\$241	\$255	(5)%

2018 Compared to 2017

Net interest expense decreased \$6 million primarily as a result of U.S. dollar to euro cross-currency swaps and reduced debt partly offset by increased interest rates.

2017 Compared to 2016

Net interest expense decreased \$14 million primarily as a result of prior year refinancing of certain outstanding public debt and repayment of term loan borrowings in 2017.

Early Debt Extinguishment and Other Related Costs

In fourth quarter 2018, the Company sold 3.5% notes due December 2021 in the principal amount of \$300 million and 4.5% notes due December 2028 in the principal amount of \$500 million. Net proceeds from the notes were \$789 million and were used, together with available cash, for the early and full repayment of the 5.5% notes due November 2019 (\$250 million principal) and the partial redemption of the 2.7% notes due January 2020 (\$550 million principal). Total consideration for these redemptions were \$806 million (\$800 million total principal and \$6 million for the early redemption premiums) and are reported as financing activities on the Consolidated Statements of Cash Flows. The early repayment resulted in a charge of \$7 million for early debt extinguishment costs which were primarily attributable to the early redemption premiums and related unamortized costs. The book value of the redeemed debt was \$799 million. For additional information regarding the early debt extinguishment costs, see Note 8, "Borrowings", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

In fourth quarter 2016, the Company sold additional euro-denominated 1.50% notes due May 2023 in the principal amount of €200 million (\$213 million) and euro-denominated 1.875% notes due November 2026 in the principal amount of €500 million (\$534 million). In December 2016, the Company borrowed \$300 million under a second five-year term loan agreement ("2021 Term Loan"). Proceeds from the notes and 2021 Term Loan borrowings were used for the early repayment of the 2.4% notes due June 2017 (\$500 million principal) and 6.30% notes due November 2018 (\$160 million principal) and partial redemptions of the 4.5% notes due January 2021 (\$65 million principal), 3.6% notes due August 2022 (\$150 million principal), 7 1/4% debentures due January 2024 (\$47 million principal), 7 5/8% debentures due June 2024 (\$11 million principal), 3.8% notes due March 2025 (\$100 million principal), and 7.60% debentures due February 2027 (\$28 million principal). The early repayments resulted in a charge of \$76 million for early debt extinguishment costs and related derivatives and hedging items.

In second quarter 2016, the Company sold euro-denominated 1.50% notes due 2023 in the principal amount of €550 million (\$614 million). Proceeds from the sale of the notes, net of transaction costs, were used for the early repayment of \$500 million of 2.4% notes due June 2017 and repayment of other borrowings. The early repayment resulted in a charge of \$9 million for early debt extinguishment costs primarily attributable to the early redemption premium and

related unamortized costs.

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MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Provision for (Benefit from) Income Taxes

(Dollars in millions)	2018 Compared to 2017				2017 Compared to 2016			
	2018		2017		2017		2016	
	\$	%	\$	%	\$	%	\$	%
Provision for (benefit from) income taxes and effective tax rate	\$226	17%	\$(99)	(8)%	\$(99)	(8)%	\$190	18%
Tax provision for non-core and unusual items ⁽¹⁾	16		30		30		75	
Tax benefit associated with previously impaired site	—		8		8		—	
Estimated net tax benefit from tax law changes and tax loss from outside-U.S. entity reorganizations	(20)		339		339		—	
Adjusted provision for income taxes and effective tax rate	\$222	16%	\$278	20%	\$278	20%	\$265	21%

(1) Provision for income taxes for non-core and unusual items is calculated using the tax rate for the jurisdiction where the gains are taxable and the expenses are deductible.

The 2018 effective tax rate includes a \$20 million increase to the provision for income taxes resulting from adjustments to the provisional net tax benefit recognized in fourth quarter 2017 resulting from tax law changes, primarily the Tax Reform Act. These adjustments related to the one-time transition tax on deferred foreign income and changes in valuation of deferred tax assets associated with tax law changes and outside-U.S. entity reorganizations as part of the formation of an international treasury services center.

The 2017 effective tax rate included a \$339 million net benefit resulting from tax law changes, primarily the Tax Reform Act, and a tax loss from outside-U.S. entity reorganizations as part of the formation of an international treasury services center, a \$20 million benefit due to amendments to prior years' domestic income tax returns, and a \$30 million benefit reflecting the finalization of prior years' foreign income tax returns. The 2017 effective tax rate also includes an \$8 million tax benefit due to a tax ruling permitting deductibility of a liquidation loss on a previously impaired site.

The 2016 effective tax rate includes a tax benefit of \$16 million related to foreign tax credits as a result of the amendment of prior year income tax returns, a \$16 million one-time benefit for the restoration of tax basis for which depreciation deductions were previously limited, and a \$9 million tax benefit primarily due to adjustments to the tax provision to reflect the finalization of 2014 foreign income tax returns.

For more information, see Note 7, "Income Taxes", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Net Earnings Attributable to Eastman and Diluted Earnings per Share

	2018		2017		2016	
(Dollars in millions, except per share amounts)	\$	EPS	\$	EPS	\$	EPS
Net earnings and diluted earnings per share attributable to Eastman	\$1,080	\$7.56	\$1,384	\$9.47	\$854	\$5.75
Non-core items, net of tax: ⁽¹⁾						
Mark-to-market pension and other postretirement benefit loss, net	75	0.52	(14)	(0.09)	68	0.46
Asset impairments and restructuring charges (gain), net	43	0.30	(3)	(0.02)	28	0.19
Acquisition transaction, integration, and financing costs	—	—	—	—	5	0.04
Early debt extinguishment and other related costs	6	0.04	—	—	56	0.37
Cost of disposition of claims against discontinued Solutia operations	—	—	5	0.03	3	0.02
Gains from sale of businesses	—	—	(1)	(0.01)	(11)	(0.07)
Unusual items, net of tax: ⁽¹⁾						
Net coal gasification incident (insurance) costs	(67)	(0.47)	80	0.55	—	—
Estimated net tax benefit from tax law changes and tax loss from outside-U.S. entity reorganizations	20	0.14	(339)	(2.32)	—	—
Costs resulting from tax law changes and outside-U.S. entity reorganizations	15	0.11	—	—	—	—
Adjusted net earnings and diluted earnings per share attributable to Eastman	\$1,172	\$8.20	\$1,112	\$7.61	\$1,003	\$6.76

⁽¹⁾ The provision for income taxes for non-core and unusual items is calculated using the tax rate for the jurisdiction where the gains are taxable and the expenses are deductible.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

SUMMARY BY OPERATING SEGMENT

Eastman's products and operations are managed and reported in four operating segments: Additives & Functional Products ("AFP"), Advanced Materials ("AM"), Chemical Intermediates ("CI"), and Fibers. For additional financial and product information for each operating segment, see "Business - Business Segments" in Part I, Item 1 of this Annual Report and Note 19, "Segment Information", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report. For quarterly operating segment information, see Exhibit 99.03 "Quarterly Non-GAAP Earnings (Loss) Before Interest and Taxes Reconciliations" of this Annual Report.

Additives & Functional Products Segment

(Dollars in millions)	2018 Compared to 2017				2017 Compared to 2016			
	2018	2017	Change		2017	2016	Change	
			\$	%			\$	%
Sales	\$3,647	\$3,343	\$304	9 %	\$3,343	\$2,979	\$364	12 %
Volume / product mix effect			151	4 %			313	10 %
Price effect			98	3 %			45	2 %
Exchange rate effect			55	2 %			6	— %
EBIT	639	653	(14)	(2) %	653	607	46	8 %
Asset impairments and restructuring charges, net	38	3	35		3	10	(7)	
Gain from sale of business	—	(3)	3		(3)	—	(3)	
Net coal gasification incident (insurance) costs	(6)	8	(14)		8	—	8	
EBIT excluding non-core and unusual items	671	661	10	2 %	661	617	44	7 %

2018 Compared to 2017

Sales revenue increased due to higher sales volume, higher selling prices across most product lines, and a favorable shift in foreign currency exchange rates. The higher sales volume was primarily attributed to volume growth in care chemicals, coatings and inks additives, tire additives, and animal nutrition, and products previously reported in the CI operating segment.

EBIT in 2018 included a goodwill impairment charge related to the crop protection reporting unit and coal gasification incident insurance in excess of costs. EBIT in 2017 included net costs resulting from the coal gasification incident, asset impairment and restructuring charges, including severance, related to the closure of a facility in China, and a gain from sale of the formulated electronics cleaning solutions business. Excluding these non-core and unusual items, EBIT increased primarily due to higher sales volume of \$54 million largely offset by higher raw material, energy, and distribution costs more than exceeding higher selling prices by \$20 million, primarily due to fourth quarter competitive pressure in adhesives resins, and higher growth initiative costs of approximately \$20 million.

2017 Compared to 2016

Sales revenue increased primarily due to higher sales volume across the segment, including for specialty fluids due to the timing of customer solar energy project completions, animal nutrition products, and tire additives products.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
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EBIT in 2017 included net costs resulting from the coal gasification incident, asset impairment and restructuring charges, including severance, related to the closure of a facility in China, and a gain from sale of the formulated electronics cleaning solutions business. EBIT in 2016 included asset impairment and restructuring charges, net consisting of impairment of a capital project resulting in a charge of \$12 million partially offset by a \$2 million gain for the sale of previously impaired assets at the CrystexTM insoluble sulfur R&D site in France. Excluding these non-core and unusual items, EBIT increased primarily due to higher sales volume of \$97 million partially offset by higher raw material and energy costs, including the reduced negative impact of hedges of commodity prices on raw material costs, exceeding higher selling prices by \$60 million.

Growth Initiatives

In 2018, the AFP segment:

advanced growth and innovation of CrystexTM insoluble sulfur rubber additives through mechanical completion of an expansion of the manufacturing facility in Kuantan, Malaysia in second quarter 2018 resulting in commercial sales beginning in first quarter 2019. This expansion is expected to allow the Company to capitalize on recent enhancements of technology by improving the Company's cost position and facilitating the introduction of new products into the tire markets; and

advanced growth of specialty ketones for low volatile organic compound ("VOC") coatings and other markets as a result of a capacity expansion at the Kingsport, Tennessee manufacturing facility which became fully operational in second quarter 2018.

Advanced Materials Segment

(Dollars in millions)	2018 Compared to 2017				2017 Compared to 2016			
	2018	2017	Change \$	%	2017	2016	Change \$	%
Sales	\$2,755	\$2,572	\$183	7%	\$2,572	\$2,457	\$115	5%
Volume / product mix effect			130	5%			113	5%
Price effect			22	1%			1	—%
Exchange rate effect			31	1%			1	—%
EBIT	509	483	26	5%	483	472	11	2%
Asset impairments and restructuring charges, net	1	—	1		—	—	—	
Net coal gasification incident (insurance) costs	(9)	11	(20)		11	—	11	
EBIT excluding non-core and unusual items	501	494	7	1%	494	472	22	5%

2018 Compared to 2017

Sales revenue increased primarily due to higher sales volume and improved product mix across the segment, including for premium products such as performance films, SaflexTM head-up displays, and TritanTM copolyester. While 2018 had higher sales volume compared with 2017, fourth quarter 2018 had lower specialty plastics sales volume compared to fourth quarter 2017 attributed to customer inventory destocking related to uncertainty caused by the U.S. - China trade dispute.

EBIT in 2018 included coal gasification incident insurance in excess of costs and a charge for an impairment of an indefinite-lived intangible asset. EBIT in 2017 included net costs resulting from the coal gasification incident. Excluding these non-core and unusual items, EBIT increased primarily due to higher sales volume and improved product mix of premium products of \$94 million, partially offset by higher raw material (particularly for paraxylene in the second half of the year), energy, and distribution costs of \$67 million and higher growth initiative costs of approximately \$25 million.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
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2017 Compared to 2016

Sales revenue increased primarily due to higher sales volume across the segment, including of premium products such as automotive performance films, Tritan™ copolyester, and Saflex™ acoustic interlayers.

EBIT in 2017 included coal gasification incident net costs. Excluding this unusual item, EBIT increased primarily due to the combined impact of higher sales volume, lower unit costs due to higher capacity utilization, and improved product mix of premium products of \$83 million. The increase was partially offset by higher raw material and energy costs of \$48 million and increased costs of growth initiatives.

Growth Initiatives

In 2018, the AM segment:

continued the growth of Tritan™ copolyester in the durable goods and health and wellness markets, supported by completion of an additional 60,000 metric ton expansion of Tritan™ copolyester capacity at the Kingsport, Tennessee manufacturing facility which became fully operational in second quarter 2018; advanced growth and innovation of Saflex™ acoustic interlayers used in the transportation and building and construction markets, enabled by construction of a manufacturing facility for polyvinyl butyral ("PVB") resin at the Kuantan, Malaysia manufacturing facility which became fully operational in first quarter 2018; advanced growth in the Chinese market supported by the conversion of manufacturing capacity at the Suzhou, China site from non-acoustic to acoustic interlayer production which was mechanically completed in fourth quarter 2018 and is expected to produce material qualified for commercial sales in 2019; and strengthened growth in automotive window and paint protection films in North America and China through improved sales channel, marketing, and commercial execution strategies and capabilities.

Chemical Intermediates Segment

(Dollars in millions)	2018 Compared to 2017				2017 Compared to 2016			
	2018	2017	Change		2017	2016	Change	
			\$	%			\$	%
Sales	\$2,831	\$2,728	\$103	4 %	\$2,728	\$2,534	\$194	8 %
Volume / product mix effect			(142)	(5) %			(55)	(2) %
Price effect			229	8 %			253	10 %
Exchange rate effect			16	1 %			(4)	— %
EBIT	308	255	53	21 %	255	171	84	49 %
Net coal gasification incident (insurance) costs	(30)	44	(74)		44	—	44	
EBIT excluding unusual item	278	299	(21)	(7) %	299	171	128	75 %

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
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2018 Compared to 2017

Sales revenue increased due to higher selling prices across most product lines, particularly for acetyl derivatives attributed to favorable market conditions and for olefin derivatives due to higher raw material and energy costs. Higher selling prices were partially offset by lower sales volume primarily attributable to lower merchant ethylene sales, products previously reported in the CI segment being reported in the AFP segment in 2018, and supplier operational disruptions at the Texas City and Longview, Texas manufacturing facilities. Lower merchant ethylene sales are primarily due to the decision to reduce operating rates of the olefins cracking units at the Longview, Texas manufacturing facility due to spot ethylene prices. Lower sales volume was partially offset by higher functional amines products sales attributed to strengthened agriculture and energy markets.

EBIT included coal gasification incident insurance in excess of costs in 2018 and coal gasification incident net costs in 2017. Excluding these unusual items, EBIT decreased due to lower sales volume of \$62 million, and higher planned manufacturing shutdown costs of \$21 million. The decrease was partially offset by higher selling prices exceeding higher raw material, energy, and distribution costs of \$61 million.

2017 Compared to 2016

Sales revenue increased due to higher selling prices attributed to higher raw material prices and improved market conditions. The increase was partially offset by lower intermediates sales volume due to the coal gasification incident.

EBIT in 2017 included net costs resulting from the coal gasification incident. Excluding this unusual item, EBIT increased primarily due to the reduced negative impact of hedges of commodity prices on raw material costs, primarily for propane, of \$100 million, lower scheduled maintenance costs of \$24 million, and lower operating costs of \$21 million. The increase was partially offset by higher raw material and energy costs more than offsetting higher selling prices by \$27 million.

Cost and Growth Initiatives

The Company reduced operating rates of the olefin cracking units at the Longview, Texas manufacturing facility to reduce the amount of excess ethylene produced and sold at lower spot prices in the merchant ethylene market over the second half of 2018. The Company took further action through completion of modifications to the site's olefin cracking units, which will allow for the introduction of refinery-grade propylene ("RGP") into the feedstock mix while also reducing the amount of other purchased feedstocks in 2019. This feedstock shift is expected to result in a significant decrease in ethylene production and excess ethylene sales, while maintaining historical levels of propylene production. Consequently, the RGP project provides the flexibility to largely remove the Company from participation in the merchant ethylene market, while retaining a cost-advantaged integrated propylene position to support specialty derivatives throughout the Company.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
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Fibers Segment

(Dollars in millions)	2018 Compared to 2017				2017 Compared to 2016			
			Change				Change	
	2018	2017	\$	%	2017	2016	\$	%
Sales	\$918	\$852	\$66	8 %	\$852	\$992	\$(140)	(14)%
Volume / product mix effect			95	11 %			(53)	(5)%
Price effect			(30)	(3)%			(86)	(9)%
Exchange rate effect			1	— %			(1)	— %
EBIT	257	181	76	42 %	181	331	(150)	(45)%
Gain from sale of business	—	—	—		—	(17)	17	
Net coal gasification incident (insurance) costs	(38)	49	(87)		49	—	49	
EBIT excluding non-core and unusual items	219	230	(11)	(5)%	230	314	(84)	(27)%

2018 Compared to 2017

Sales revenue increased primarily due to sales of nonwovens products previously reported in "Other" of \$57 million and higher sales volume, particularly for textiles products. The higher sales revenue was partially offset by lower selling prices, particularly for acetate tow. Lower acetate tow selling prices were primarily attributed to lower industry capacity utilization.

EBIT included coal gasification incident insurance in excess of costs in 2018 and coal gasification incident net costs in 2017. Excluding these unusual items, EBIT decreased primarily due to the net impact of \$7 million of lower selling prices, particularly for acetate tow attributed to lower capacity utilization, and higher raw material and energy costs, partially offset by volume growth of textiles products.

2017 Compared to 2016

Sales revenue decreased primarily due to lower selling prices and lower sales volume, particularly for acetate tow. Lower acetate tow selling prices were primarily attributed to lower industry capacity utilization rates. Lower acetate tow sales volume was primarily attributed to reduced sales in China.

EBIT in 2017 included net costs resulting from the coal gasification incident and EBIT in 2016 included a gain from the sale of the Company's interest in the cellulose acetate manufacturing joint venture. Excluding these non-core and unusual items, EBIT decreased primarily due to approximately \$103 million of lower selling prices and lower sales volume, partially offset by lower operating costs resulting from changes in segment business operations and assets.

Cost and Growth Initiatives

As a result of challenging market conditions for acetate tow, the Company closed its Workington, UK acetate tow manufacturing facility in 2015. Following an increase in acetate flake capacity at the Kingsport, Tennessee site in 2015, the Fibers segment could supply all its acetate tow and yarn spinning capacity from this low-cost flake asset. In order to fully utilize the increased capacity and reduce fixed costs, in June 2016, the Company sold its 50 percent interest in Primester, which manufactures cellulose acetate at the Company's Kingsport, Tennessee site. In 2018, the Company repurposed some of its acetate tow manufacturing capacity for production of new products.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
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The Fibers segment R&D efforts focus on serving existing customers, leveraging proprietary cellulose ester and spinning technology for differentiated application development in new markets, optimizing asset productivity, and working with suppliers to reduce costs. For acetate tow, these efforts are assisting customers in the effective use of the segment's products and customers' product development efforts. Beyond acetate tow, management is applying the innovation-driven growth model to leverage its fibers technology and expertise to focus on innovative growth in the textiles and nonwovens markets. Examples of recent product innovation within the Fibers segment include Naia,TM a yarn for the apparel market developed from Eastman's proprietary cellulose ester technology, Avra,TM a family of performance fibers for the apparel, home furnishings and industrial fabrics markets developed from a combination of Eastman proprietary spinning technology and polymer chemistry enabling unique fiber capabilities of size, shape, comfort, and performance, and Vestera,TM a new wood pulp-based alternative for the nonwoven industry used in personal hygiene applications.

Other (Dollars in millions)	2018	2017	2016
Sales	\$—	\$54	\$46
Loss before interest and taxes			
Growth initiatives and businesses not allocated to operating segments	\$(114)	\$(114)	\$(82)
Pension and other postretirement benefit plans income (expense), net not allocated to operating segments	(17)	93	(44)
Restructuring and acquisition integration and transaction costs	(6)	(5)	(44)
Other income (charges), net not allocated to operating segments	(24)	(16)	(22)
Loss before interest and taxes before non-core and unusual items	(161)	(42)	(192)
Mark-to-market pension and other postretirement benefit plans (gain) loss, net	99	(21)	97
Asset impairments and restructuring charges, net	6	5	35
Acquisition integration and transaction costs	—	—	9
Cost of disposition of claims against discontinued Solutia operations	—	9	5
Costs resulting from tax law changes and outside-U.S. entity reorganizations	20	—	—
Loss before interest and taxes excluding non-core and unusual items	\$(36)	\$(49)	\$(46)

Sales revenue and costs related to growth initiatives, R&D costs, certain components of pension and other postretirement benefits, and other expenses and income not identifiable to an operating segment are not included in segment operating results for any periods presented and are included in "Other". See "Eastman Chemical Company General Information - Research and Development", in Part I, Item 1 of this Annual Report.

Sales revenue in 2017 and 2016 was primarily sales from the nonwovens products. Beginning first quarter 2018, sales revenue and innovation costs from the nonwovens and textiles innovation products previously reported in "Other" are reported in the Fibers operating segment due to accelerating commercial progress of growth initiatives. See Note 19, "Segment Information", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
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SALES BY CUSTOMER LOCATION

(Dollars in millions)	Sales Revenue		Change		Change			
	2018	2017	\$	%	2017	2016	\$	%
United States and Canada	\$4,303	\$4,189	\$1143	%	\$4,189	\$4,025	\$1644	%
Europe, Middle East, and Africa	2,756	2,539	217	9 %	2,539	2,305	234	10 %
Asia Pacific	2,504	2,306	198	9 %	2,306	2,163	143	7 %
Latin America	588	515	73	14 %	515	515	—	— %
Total	\$10,151	\$9,549	\$6026	%	\$9,549	\$9,008	\$5416	%

2018 Compared to 2017

Sales revenue in United States and Canada increased primarily due to higher CI, AFP, and AM segments selling prices and higher AFP and AM segments sales volume. The increase was partially offset by lower CI segment sales volume, primarily resulting from lower merchant ethylene sales. See "Summary by Operating Segment".

Sales revenue in Europe, Middle East, and Africa increased primarily due to a favorable shift in foreign currency exchange rates across the segments, higher CI, AM, and Fibers segments sales volume, and higher AFP and CI segments selling prices. These items were partially offset by lower AFP segment sales volume.

Sales revenue in Asia Pacific increased primarily due to higher AFP and AM segments sales volume and higher CI and AFP segments selling prices partially offset by lower Fibers segment selling prices.

Sales revenue in Latin America increased primarily due to higher AM, AFP, and CI segments sales volume and higher CI segment selling prices.

2017 Compared to 2016

Sales revenue in United States and Canada increased primarily due to higher CI segment selling prices.

Sales revenue in Europe, Middle East, and Africa increased primarily due to higher AFP and Fibers segments sales volume. Higher AFP segment sales volume is primarily due to higher sales volume across the segment, including specialty fluids due to the timing of customer solar energy project completions, tire additives products, and animal nutrition products.

Sales revenue in Asia Pacific increased primarily due to higher AFP, AM, and CI segments sales volume partially offset by lower Fibers segment sales volume.

See Note 19, "Segment Information", in Part II, Item 8 of this Annual Report for segment sales revenues by customer location.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

LIQUIDITY, CAPITAL RESOURCES, AND OTHER FINANCIAL INFORMATION

Cash Flows

(Dollars in millions)	2018	2017	2016
Net cash provided by (used in):			
Operating activities	\$1,543	\$1,657	\$1,385
Investing activities	(463)	(643)	(655)
Financing activities	(1,040)	(1,006)	(838)
Effect of exchange rate changes on cash and cash equivalents	(5)	2	(4)
Net change in cash and cash equivalents	35	10	(112)
Cash and cash equivalents at beginning of period	191	181	293
Cash and cash equivalents at end of period	\$226	\$191	\$181

2018 Compared to 2017

Cash provided by operating activities decreased primarily due to increased inventory resulting from reduced demand and higher cost raw materials inventory in fourth quarter 2018.

Cash used in investing activities decreased primarily due to decreased capital expenditures as significant capital projects related to key growth initiatives achieved mechanical completion and were put into service during 2018. See "Capital Expenditures" below.

Cash used in financing activities increased primarily due to increased share repurchases and dividend payments partially offset by reduced debt repayments.

2017 Compared to 2016

Cash provided by operating activities increased primarily due to higher earnings and lower pension and other postretirement contributions due to the advanced funding of U.S. defined pension plans in 2016.

Cash used in investing activities in 2017 and 2016 was primarily for capital expenditures.

Cash used in financing activities increased primarily due to increases in both share repurchases and dividend payments partially offset by less net debt repayments.

(Dollars in millions)	2018	2017	2016
Net cash provided by operating activities	\$1,543	\$1,657	\$1,385
Capital expenditures			
Additions to properties and equipment	(528)	(649)	(626)
Proceeds from property insurance ⁽¹⁾	65	—	—
Net capital expenditures	(463)	(649)	(626)
Free cash flow	\$1,080	\$1,008	\$759

⁽¹⁾ Cash proceeds from insurance for coal gasification incident property damage.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Liquidity and Capital Resources

The Company had cash and cash equivalents as follows:

(Dollars in millions)	December 31,		
	2018	2017	2016
Cash and cash equivalents	\$226	\$191	\$181

Cash flows from operations, cash and cash equivalents, and other sources of liquidity are expected to be available and sufficient to meet foreseeable cash requirements. However, the Company's cash flows from operations can be affected by numerous factors including risks associated with global operations, raw material availability and cost, demand for and pricing of Eastman's products, capacity utilization, and other factors described under "Risk Factors" in this MD&A. Management believes maintaining a financial profile that supports an investment grade credit rating is important to its long-term strategic and financial flexibility.

The Company has access to a \$1.50 billion revolving credit agreement (the "Credit Facility") that was amended in October 2018 to increase the available borrowing amount from \$1.25 billion and extend the maturity to October 2023. Borrowings under the Credit Facility are subject to interest at varying spreads above quoted market rates and a commitment fee is paid on the total unused commitment. The Credit Facility provides available liquidity for general corporate purposes and supports commercial paper borrowings. At December 31, 2018, the Company had no outstanding borrowings under the Credit Facility. At December 31, 2018, commercial paper borrowings were \$130 million with a weighted average interest rate of 2.91 percent. See Note 8, "Borrowings", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

The Company has access to a \$250 million accounts receivable securitization agreement (the "A/R Facility") that expires April 2020. Eastman Chemical Financial Corporation ("ECFC"), a subsidiary of the Company, has an agreement to sell interests in trade receivables under the A/R Facility to a third party purchaser. Third party creditors of ECFC have first priority claims on the assets of ECFC before those assets would be available to satisfy the Company's general obligations. Borrowings under the A/R Facility are subject to interest rates based on a spread over the lender's borrowing costs, and ECFC pays a fee to maintain availability of the A/R Facility. At December 31, 2018, the Company's borrowings under the A/R Facility were \$50 million supported by trade receivables with an interest rate of 3.39 percent. See Note 8, "Borrowings", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

The Company has access to borrowings of up to €150 million (\$172 million) under a receivables facility based on the discounted value of selected customer accounts receivable. This facility expires December 2020 and renews for another one year period if not terminated with 90 days notice by either party. These arrangements include receivables in the United States, Belgium, and Finland, and are subject to various eligibility requirements. Borrowings under this facility are subject to interest at an agreed spread above LIBOR and EURIBOR plus administration and insurance fees. The amount of outstanding borrowings under this facility were \$112 million at December 31, 2018 with a weighted average interest rate of 1.70 percent. See Note 8, "Borrowings", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

The Credit and A/R Facilities and other borrowing agreements contain customary covenants and events of default, some of which require the Company to maintain certain financial ratios that determine the amounts available and terms of borrowings. The Company was in compliance with all covenants at both December 31, 2018 and December 31, 2017. The amount of available borrowings under the A/R and Credit Facilities was approximately \$1.70 billion as of December 31, 2018. For additional information, see Section 5.03 of the Credit Facility at Exhibit 10.02 to the Company's 2016 Annual

Report on Form 10-K.

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MANAGEMENT'S DISCUSSION AND ANALYSIS OF
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Debt and Other Commitments

Period	(Dollars in millions) Payments Due for						Total
	Debt Securities	Credit Facilities and Other	Interest Payable	Purchase Obligations	Operating Leases	Other Liabilities	
2019	\$—	\$ 243	\$ 210	\$ 275	\$ 63	\$ 250	\$1,041
2020	250	50	194	227	51	79	851
2021	482	—	189	136	40	92	939
2022	739	—	176	87	29	99	1,130
2023	855	—	157	77	18	96	1,203
2024 and beyond	3,549	—	1,553	2,046	47	1,010	8,205
Total	\$5,875	\$ 293	\$ 2,479	\$ 2,848	\$ 248	\$ 1,626	\$13,369

At December 31, 2018, Eastman's borrowings totaled approximately \$6.2 billion with various maturities. In fourth quarter 2018 the Company refinanced certain outstanding public debt with proceeds of the sale of new debt securities, which extended the weighted average maturity of outstanding debt while retaining adequate levels of pre-payable debt and near-term maturities. Estimated future payments of debt securities assumes the repayment of principal upon stated maturity, and actual amounts and the timing of such payments may differ materially due to repayment or other changes in the terms of such debt prior to maturity. For information on debt securities, credit facilities and other, and interest payable, see Note 8, "Borrowings", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

For information about purchase obligations and operating leases, see Note 11, "Commitments and Off Balance Sheet Arrangements", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report. Amounts in other liabilities represent the current estimated cash payments required to be made by the Company primarily for pension and other postretirement benefits, environmental loss contingency reserves, accrued compensation benefits, uncertain tax liabilities, one-time transition tax on deferred foreign income under the Tax Reform Act, and commodity and foreign exchange hedging in the periods indicated. Due to uncertainties in the timing of the effective settlement of tax positions with respect to taxing authorities, management is unable to determine the timing of payments related to uncertain tax liabilities and these amounts are included in the "2024 and beyond" line item.

The amount and timing of pension and other postretirement benefit payments included in other liabilities is dependent upon interest rates, health care cost trends, actual returns on plan assets, retirement and attrition rates of employees, continuation or modification of the benefit plans, and other factors. Such factors can significantly impact the amount and timing of any future contributions by the Company. Excess contributions are periodically made by management in order to keep the plans' funded status above 80 percent under the funding provisions of the Pension Protection Act to avoid partial benefit restrictions on accelerated forms of payment. The Company's U.S. defined benefit pension plans are not currently under any benefit restrictions. See Note 10, "Retirement Plans", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report, for more information regarding pension and other postretirement benefit obligations.

The resolution of uncertainties related to environmental matters included in other liabilities may have a material adverse effect on the Company's consolidated results of operations in the period recognized, however, because of the availability of legal defenses, the Company's preliminary assessment of actions that may be required, and, if applicable, the expected sharing of costs, management does not believe that the Company's liability for these environmental matters, individually or in the aggregate, will be material to the Company's consolidated financial

position, results of operations, or cash flows. See Note 1, "Significant Accounting Policies", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report for the Company's accounting policy for environmental costs, and see Note 12, "Environmental Matters and Asset Retirement Obligations", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report for more information regarding outstanding environmental matters and asset retirement obligations.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Off Balance Sheet Arrangements

The Company has off balance sheet uncommitted non-recourse factoring facilities that include customer specific receivables in the United States and Europe. The Company sells the receivables at face value, less a transaction fee, which substantially equals the carrying value and fair value with no gain or loss recognized. There is no continuing involvement with these receivables once sold and no credit loss exposure. The total amount of receivables sold during 2018 and 2017 were \$169 million and \$35 million, respectively.

In October 2018, Eastman added an uncommitted non-recourse factoring facility under which the Company sells undivided interests in certain receivables and provides servicing at market rates with no credit loss exposure. The Company sells the receivables at face value, less a transaction fee, which substantially equals the carrying value and fair value with no gain or loss recognized. The total amount of receivables sold during 2018 was \$50 million.

Capital Expenditures

Capital expenditures were \$528 million (\$463 million net of proceeds from property damage insurance for 2017 coal gasification incident), \$649 million, and \$626 million in 2018, 2017, and 2016, respectively. Capital expenditures in 2018 were primarily for the following projects:

- Crystex™ manufacturing capacity expansion in Kuantan, Malaysia;
- Tritan™ copolyester manufacturing capacity expansion in Kingsport, Tennessee;
- conversion of manufacturing capacity from non-acoustic to acoustic interlayer production in Suzhou, China;
- modification of olefin cracking units in Longview, Texas; and
- manufacturing capacity debottlenecking and site modernization projects in Kingsport, Tennessee.

The Company expects that 2019 capital spending will be between \$475 million and \$500 million, primarily for targeted growth initiatives and maintenance.

The Company had capital expenditures related to environmental protection and improvement of approximately \$44 million, \$38 million, and \$45 million in 2018, 2017, and 2016, respectively. The Company does not currently expect near term environmental capital expenditures arising from requirements of environmental laws and regulations to materially impact the Company's planned level of annual capital expenditures for environmental control facilities.

Stock Repurchases and Dividends

In February 2014, the Company's Board of Directors authorized the repurchase of up to \$1 billion of the Company's outstanding common stock. The Company completed the \$1 billion repurchase authorization in May 2018, acquiring a total of 12,215,950 shares. In February 2018, the Company's Board of Directors authorized the repurchase of up to an additional \$2 billion of the Company's outstanding common stock at such times, in such amounts, and on such terms, as determined by management to be in the best interests of the Company. As of December 31, 2018, a total of 2,470,755 shares have been repurchased under the February 2018 authorization for a total amount of \$248 million. During 2018, the Company repurchased a total of 3,959,878 shares for a total cost of approximately \$400 million.

The Board of Directors has declared a cash dividend of \$0.62 per share during the first quarter of 2019, payable on April 5, 2019 to stockholders of record on March 15, 2019.

Other

Eastman did not have any material relationships with unconsolidated entities or financial partnerships, including special purpose entities, for the purpose of facilitating off balance sheet arrangements with contractually narrow or limited purposes. Thus, the Company is not materially exposed to any financing, liquidity, market, or credit risk related to any such relationships.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

INFLATION

In recent years, general economic inflation has not had a material adverse impact on Eastman's costs. The cost of raw materials is generally based on market prices, although derivative financial instruments are utilized, as appropriate, to mitigate short-term market price fluctuations. Management expects the volatility of raw material and energy prices and costs to continue and the Company will continue to pursue pricing and hedging strategies and ongoing cost control initiatives to offset the effects. For additional information see Note 9, "Derivative and Non-Derivative Financial Instruments", to the Company's consolidated financial statements in Part II, Item 8 of this Annual Report.

RECENTLY ISSUED ACCOUNTING STANDARDS

For information regarding the impact of recently issued accounting standards, see Note 1, "Significant Accounting Policies", to Eastman's consolidated financial statements in Part II, Item 8 of this Annual Report.

OUTLOOK

In 2019, management expects adjusted EPS to be six to ten percent higher than 2018 and greater than \$1.1 billion free cash flow. These expectations assume:

- earnings to benefit from a robust portfolio of specialty businesses in attractive niche end-markets, strong growth in high margin, innovative products, and relatively unchanged manufacturing costs due to aggressive cost management;
- earnings to be negatively impacted by slow global economic growth, the U.S. - China trade dispute, a stronger U.S. dollar, and higher pension costs due to lower expected return on assets and higher interest costs;
- interest expense of approximately \$225 million;
- the full-year effective tax rate on reported earnings before income tax to be approximately 16 to 17 percent;
- depreciation and amortization of approximately \$620 million;
- capital expenditures between \$475 million and \$500 million;
- reduction in debt to be lower than 2018; and
- increased share repurchases compared to 2018.

The Company's 2019 financial results forecasts do not include non-core, unusual, or non-recurring items. Accordingly, management is unable to reconcile projected full-year 2019 earnings excluding non-core, unusual, or non-recurring items to projected reported GAAP earnings without unreasonable efforts.

See "Risk Factors" below.

RISK FACTORS

In addition to factors described elsewhere in this Annual Report, the following are the most significant known factors, risks, and uncertainties that could cause actual results to differ materially from those in the forward-looking statements made in this Annual Report and elsewhere from time to time. See "Forward-Looking Statements".

Continued uncertain conditions in the global economy and the financial markets could negatively impact the Company.

The Company's business and operating results were affected by the impact of the last global recession, and its related impacts, such as the credit market crisis, declining consumer and business confidence, fluctuating commodity prices, volatile exchange rates, and other challenges that affected the global economy. Current uncertainty in the global economy and global capital markets may adversely affect Eastman's results of operations, financial condition, and

cash flows. In addition, the Company's ability to access the credit and capital markets under attractive rates and terms could be constrained, which may negatively impact the Company's liquidity or ability to pursue certain growth initiatives.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Volatility in costs for strategic raw material and energy commodities or disruption in the supply of these commodities could adversely affect the Company's financial results.

Eastman is reliant on certain strategic raw material and energy commodities for its operations and utilizes risk management tools, including hedging, as appropriate, to mitigate market fluctuations in raw material and energy costs. These risk mitigation measures do not eliminate all exposure to market fluctuations and may limit the Company from fully benefiting from lower raw material costs and, conversely, offset the impact of higher raw material costs. In addition, natural disasters, plant interruptions, changes in laws or regulations, war or other outbreak of hostilities or terrorism, and breakdown or degradation of transportation infrastructure used for delivery of strategic raw material and energy commodities, could adversely impact both the cost and availability of these commodities.

Loss or financial weakness of any of the Company's largest customers could adversely affect the Company's financial results.

Although Eastman has an extensive customer base, loss of, or material financial weakness of, certain of the Company's largest customers could adversely affect the Company's financial condition and results of operations until such business is replaced. No assurances can be made that the Company would be able to regain or replace any lost customers.

The Company's business is subject to operating risks common to chemical manufacturing businesses, including cyber security risks, any of which could disrupt manufacturing operations or related infrastructure and adversely affect results of operations.

As a global specialty chemicals manufacturing company, Eastman's business is subject to operating risks common to chemical manufacturing, storage, handling, and transportation, including explosions, fires, inclement weather, natural disasters, mechanical failure, unscheduled downtime, transportation interruptions, remediation, chemical spills, discharges or releases of toxic or hazardous substances or gases. Significant limitation on the Company's ability to manufacture products due to disruption of manufacturing operations or related infrastructure could have a material adverse effect on the Company's sales revenue, costs, results of operations, credit ratings, and financial condition. Disruptions could occur due to internal factors such as computer or equipment malfunction (accidental or intentional), operator error, or process failures; or external factors such as computer or equipment malfunction at third-party service providers, natural disasters, pandemic illness, changes in laws or regulations, war or other outbreak of hostilities or terrorism, cyber attacks, or breakdown or degradation of transportation infrastructure used for delivery of supplies to the Company or for delivery of products to customers. The Company has in the past experienced cyber attacks and breaches of its computer information systems, although none of these have had a material adverse effect on the Company's operations. While the Company remains committed to managing cyber related risk, no assurances can be provided that any future disruptions due to these, or other, circumstances will not have a material effect on operations. Unplanned disruptions of manufacturing operations or related infrastructure could be significant in scale and could negatively impact operations, neighbors, and the environment, and could have a negative impact on the Company's results of operations. As previously reported, manufacturing operations and earnings have been negatively impacted by the fourth quarter 2017 operational incident in the Kingsport manufacturing facility coal gasification operations area and the second quarter 2018 third-party supplier operational disruptions at the Texas City and Longview, Texas manufacturing facilities.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Growth initiatives may not achieve desired business or financial objectives and may require significant resources in addition to or different from those available or in excess of those estimated or budgeted for such initiatives.

Eastman continues to identify and pursue growth opportunities through both organic and inorganic initiatives. These growth opportunities include development and commercialization or licensing of innovative new products and technologies and related employee leadership, expertise, skill development and retention, expansion into new markets and geographic regions, alliances, ventures, and acquisitions that complement and extend the Company's portfolio of businesses and capabilities. Such initiatives are necessarily constrained by available and development of additional resources, including development, attraction, and retention of employee leadership, application development, and sales and marketing talent and capabilities. There can be no assurance that such innovation, development and commercialization or licensing efforts, investments, or acquisitions and alliances (including integration of acquired businesses) will result in financially successful commercialization of products, or acceptance by existing or new customers, or successful entry into new markets or otherwise achieve their underlying strategic business objectives or that they will be beneficial to the Company's results of operations. There also can be no assurance that capital projects for growth efforts can be completed within the time or at the costs projected due, among other things, to demand for and availability of construction materials and labor and obtaining regulatory approvals and operating permits and reaching agreement on terms of key agreements and arrangements with potential suppliers and customers. Any such delays or cost overruns or the inability to obtain such approvals or to reach such agreements on acceptable terms could negatively affect the returns from any proposed or current investments and projects.

The Company's substantial global operations subject it to risks of doing business in other countries, including U.S. and non-U.S. trade relations, which could adversely affect its business, financial condition, and results of operations.

More than half of Eastman's sales for 2018 were to customers outside of North America. The Company expects sales from international markets to continue to represent a significant portion of its sales. Also, a significant portion of the Company's manufacturing capacity is located outside of the United States. Accordingly, the Company's business is subject to risks related to the differing legal, political, cultural, social and regulatory requirements, and economic conditions of many jurisdictions. Fluctuations in exchange rates may affect product demand and may adversely affect the profitability in U.S. dollars of products and services provided in foreign countries. In addition, the U.S. or foreign countries have imposed and may impose additional taxes or otherwise tax Eastman's foreign income, or adopt or increase restrictions on foreign trade or investment, including currency exchange controls, tariffs or other taxes, or limitations on imports or exports (including recent and proposed changes in U.S. trade policy and resulting retaliatory actions by other countries, including China, which have recently reduced and which may increasingly reduce demand for and increase costs of impacted products or result in U.S.-based trade counterparties limiting trade with U.S.-based companies or non-U.S. customers limiting their purchases from U.S.-based companies). Certain legal and political risks are also inherent in the operation of a company with Eastman's global scope. For example, it may be more difficult for Eastman to enforce its agreements or collect receivables through foreign legal systems, and the laws of some countries may not protect the Company's intellectual property rights to the same extent as the laws of the U.S. Failure of foreign countries to have laws to protect Eastman's intellectual property rights or an inability to effectively enforce such rights in foreign countries could result in loss of valuable proprietary information. There is also risk that foreign governments may nationalize private enterprises in certain countries where Eastman operates. Social and cultural norms in certain countries may not support compliance with Eastman's corporate policies including those that require compliance with substantive laws and regulations. Also, changes in general economic and political conditions in countries where Eastman operates are a risk to the Company's financial performance. As Eastman continues to operate its business globally, its success will depend, in part, on its ability to anticipate and effectively manage these and other related risks. There can be no assurance that the consequences of these and other factors relating to its multinational operations will not have an adverse effect on Eastman's business, financial condition, or results of operations.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Legislative or regulatory actions could increase the Company's future compliance costs.

Eastman and its facilities and businesses are subject to complex health, safety, and environmental laws and regulations, both in the U.S. and internationally, which require and will continue to require significant expenditures to remain in compliance with such laws and regulations. The Company's accruals for such costs and associated liabilities are subject to changes in estimates on which the accruals are based. For example, any amount accrued for environmental matters reflects the Company's assumptions about remediation requirements at the contaminated site, the nature of the remedy, the outcome of discussions with regulatory agencies and other potentially responsible parties at multi-party sites, and the number of and financial viability of other potentially responsible parties. Changes in the estimates on which the accruals are based, unanticipated government enforcement action, or changes in health, safety, environmental, chemical control regulations, and testing requirements could result in higher costs. Specifically, future changes in U.S. Federal legislation and regulation may increase the likelihood that the Company's manufacturing facilities will in the future be impacted by regulation of greenhouse gas emissions and energy policy, which legislation and regulation, if enacted, may result in capital expenditures, increases in costs for raw materials and energy, limitations on raw material and energy source and supply choices, and other direct compliance costs.

Significant acquisitions expose the Company to risks and uncertainties, the occurrence of any of which could materially adversely affect the Company's business, financial condition, and results of operations.

While acquisitions have been and continue to be a part of Eastman's growth strategy, acquisitions of large companies (such as the previous acquisitions of Taminco Corporation and Solutia) subject the Company to a number of risks and uncertainties, the occurrence of any of which could have a material adverse effect on Eastman. These include, but are not limited to, the possibilities that the financial performance of the acquired business may be significantly worse than expected; that significant additional indebtedness may constrain the Company's ability to access the credit and capital markets at attractive interest rates and favorable terms, which may negatively impact the Company's liquidity or ability to pursue certain growth initiatives; that the Company may not be able to achieve the cost, revenue, tax, or other "synergies" expected from any acquisition, or that there may be delays in achieving any such synergies; that management's time and effort may be dedicated to the new business resulting in a loss of focus on the successful operation of the Company's existing businesses; and that the Company may be required to expend significant additional resources in order to integrate any acquired business into Eastman or that the integration efforts will not achieve the expected benefits.

In addition to the foregoing most significant known risk factors to the Company, there may be other factors, not currently known to the Company, which could, in the future, materially adversely affect the Company, its business, financial condition, or results of operations. The foregoing discussion of the most significant risk factors to the Company does not necessarily present them in order of importance. This disclosure, including that under "Outlook" and other forward-looking statements and related disclosures made by the Company in this Annual Report and elsewhere from time to time, represents management's best judgment as of the date the information is given. The Company does not undertake responsibility for updating any of such information, whether as a result of new information, future events, or otherwise, except as required by law. Investors are advised, however, to consult any further public Company disclosures (such as in filings with the Securities and Exchange Commission or in Company press releases) on related subjects.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Eastman has exposure to various market risks principally due to changes in foreign currency exchange rates, the pricing of various commodities, and interest rates. In an effort to manage these risks, the Company employs various strategies, including pricing, inventory management, and hedging. The Company enters into derivative contracts which are governed by policies, procedures, and internal processes set forth by its Board of Directors.

The Company determines its exposures to market risk by utilizing sensitivity analyses, which measure the potential losses in fair value resulting from one or more selected hypothetical changes in foreign currency exchange rates, commodity prices, or interest rates.

Foreign Currency Risk

Due to a portion of the Company's operating cash flows and borrowings being denominated in foreign currencies, the Company is exposed to market risk from changes in foreign currency exchange rates. The Company continually evaluates its foreign currency exposure based on current market conditions and the locations in which the Company conducts business. The Company manages most foreign currency exposures on a consolidated basis, which allows the Company to net certain exposures and take advantage of natural offsets. To mitigate foreign currency risk, from time to time, the Company enters into derivative instruments to hedge the cash flows related to certain sales and purchase transactions expected within a rolling three year period and denominated in foreign currencies, and enters into forward exchange contracts to hedge certain firm commitments denominated in foreign currencies. The gains and losses on these contracts offset changes in the value of related exposures. Additionally, the Company, from time to time, enters into non-derivative and derivative instruments to hedge the foreign currency exposure of the net investment in certain foreign operations. The foreign currency change in the designated investment values of the foreign subsidiaries will generally be offset by a foreign currency change in the carrying value of the euro-denominated borrowings. It is the Company's policy to enter into foreign currency derivative and non-derivative instruments only to the extent considered necessary to meet its objectives as stated above. The Company does not enter into foreign currency derivative financial instruments for speculative purposes.

At December 31, 2018, the market risk associated with certain cash flows under these derivative transactions assuming a 10 percent adverse move in the U.S. dollar relative to these foreign currencies was \$28 million, with an additional \$3 million exposure for each additional one percentage point adverse change in those foreign currency rates. At December 31, 2017, the market risk associated with cash flows under these derivative transactions assuming a 10 percent adverse move in the U.S. dollar relative to those currencies was \$45 million, with an additional \$5 million exposure for each additional one percentage point adverse change in those exchange rates. Since the Company utilizes currency-sensitive derivative instruments for hedging anticipated foreign currency transactions, a loss in fair value from those instruments is generally offset by an increase in the value of the underlying anticipated transactions.

In January 2018, Eastman entered into fixed-to-fixed cross-currency swaps and designated these swaps to hedge a portion of its net investment in a euro functional currency denominated subsidiary against foreign currency fluctuations. These contracts involve the exchange of fixed U.S. dollars with fixed euro interest payments periodically over the life of the contracts and an exchange of the notional amounts at maturity. The fixed-to-fixed cross-currency swaps include €150 million (\$180 million) maturing January 2021 and €266 million (\$320 million) maturing August 2022.

In October 2018, Eastman entered into fixed-to-fixed cross-currency swaps and designated these swaps to hedge a portion of its net investment in a euro functional currency denominated subsidiary against foreign currency fluctuations. These contracts involve the exchange of fixed U.S. dollars with fixed euro interest payments periodically over the life of the contracts and an exchange of the notional amounts at maturity. The fixed-to-fixed cross-currency swaps include €165 million (\$190 million) maturing January 2024, €104 million (\$120 million) maturing March 2025,

and €165 million (\$190 million) maturing February 2027.

At December 31, 2018, a 10 percent fluctuation in the euro currency rate would have had a \$240 million impact on the designated net investment values in the foreign subsidiaries. At December 31, 2017, a 10 percent fluctuation in the euro currency rate would have had a \$149 million impact on the designated net investment values in the foreign subsidiaries. As a result of the designation of the euro-denominated borrowings and designated cross-currency interest rate swaps as hedges of the net investments, foreign currency translation gains and losses on the borrowings and designated cross-currency interest rate swaps are recorded as a component of the "Change in cumulative translation adjustment" within "Other comprehensive income (loss), net of tax" in the Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings in Part II, Item 8 of this Annual Report. Therefore, a foreign currency change in the designated investment values of the foreign subsidiaries will generally be offset by a foreign currency change in the carrying value of the euro-denominated borrowings or the foreign currency change in the designated cross-currency interest rate swaps.

Commodity Risk

The Company is exposed to fluctuations in market prices for certain of its raw materials and energy, as well as contract sales of certain commodity products. To mitigate short-term fluctuations in market prices for certain commodities, principally propane, ethane, natural gas, paraxylene, ethylene, and benzene, as well as selling prices for ethylene, the Company enters into derivative transactions, from time to time, to hedge the cash flows related to certain sales and purchase transactions expected within a rolling three year period. At December 31, 2018 and December 31, 2017, the market risk associated with these derivative contracts, assuming an instantaneous parallel shift in the underlying commodity price of 10 percent and no corresponding change in the selling price of finished goods, was \$25 million and \$30 million, respectively, with an additional \$3 million of exposure at both dates for each one percentage point move in closing price thereafter.

Interest Rate Risk

Eastman is exposed to interest rate risk primarily as a result of its borrowing and investing activities, which include long-term borrowings used to maintain liquidity and to fund its business operations and capital requirements. The nature and amount of the Company's long-term and short-term debt may vary from time to time as a result of business requirements, market conditions, and other factors. The Company manages global interest rate exposure as part of regular operational and financing strategies. The Company had variable interest rate borrowings (including credit facility borrowings and commercial paper borrowings) of \$293 million and \$589 million at December 31, 2018 and 2017, respectively. These borrowings represented approximately 5 percent and 10 percent of total outstanding debt and bore weighted average interest rates of 2.53 percent and 1.89 percent at December 31, 2018 and 2017, respectively. A hypothetical 10 percent increase in the average interest rate applicable to these borrowings would change annualized interest expense by approximately \$1 million as of both December 31, 2018 and 2017.

Eastman may enter into interest rate swaps, collars, or similar instruments with the objective of reducing interest rate volatility relating to the Company's borrowing costs. As of both December 31, 2018 and 2017, the Company had an interest rate swap outstanding with a notional value of \$75 million. For purposes of calculating the market risks associated with the fair value of interest-rate-sensitive instruments, the Company uses a hypothetical 10 percent increase in interest rates. The corresponding market risk of the interest rate swap hedging the interest rate risk on the 3.8% bonds maturing March 2025 was \$1 million as of both December 31, 2018 and December 31, 2017.

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MANAGEMENT'S RESPONSIBILITY FOR FINANCIAL STATEMENTS

Management is responsible for the preparation and integrity of the accompanying consolidated financial statements of Eastman Chemical Company ("Eastman" or the "Company"). Eastman has prepared these consolidated financial statements in accordance with accounting principles generally accepted in the United States, and the statements of necessity include some amounts that are based on management's best estimates and judgments.

Eastman's accounting systems include extensive internal controls designed to provide reasonable assurance of the reliability of its financial records and the proper safeguarding and use of its assets. Such controls are based on established policies and procedures, are implemented by trained, skilled personnel with an appropriate segregation of duties, and are monitored through a comprehensive internal audit program. The Company's policies and procedures prescribe that the Company and all employees are to maintain the highest ethical standards and that its business practices throughout the world are to be conducted in a manner that is above reproach.

The accompanying consolidated financial statements have been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, who were responsible for conducting their audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Their report is included herein.

The Board of Directors exercises its responsibility for these financial statements through its Audit Committee, which consists entirely of non-management Board members. PricewaterhouseCoopers LLP, and internal auditors have full and free access to the Audit Committee. The Audit Committee meets periodically with PricewaterhouseCoopers LLP and Eastman's Director of Corporate Audit Services, both privately and with management present, to discuss accounting, auditing, policies and procedures, internal controls, and financial reporting matters.

/s/ Mark J. Costa	/s/ Curtis E. Espeland
Mark J. Costa	Curtis E. Espeland
Chief Executive Officer	Executive Vice President and Chief Financial Officer
February 27, 2019	February 27, 2019

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of
Eastman Chemical Company

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated statements of financial position of Eastman Chemical Company and its subsidiaries (the “Company”) as of December 31, 2018 and December 31, 2017, and the related consolidated statements of earnings, comprehensive income and retained earnings and of cash flows for each of the three years in the period ended December 31, 2018, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and December 31, 2017 and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company changed the manner in which it accounts for revenues from contracts with customers in 2018.

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 Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and 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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP

Cincinnati, OH

February 27, 2019

We have served as the Company's auditor since 1993.

CONSOLIDATED STATEMENTS OF EARNINGS,
COMPREHENSIVE INCOME AND RETAINED EARNINGS

	For years ended December			
	31,	2017	2016	
(Dollars in millions, except per share amounts)	2018	2017	2016	
Sales	\$10,151	\$9,549	\$9,008	
Cost of sales	7,672	7,186	6,651	
Gross profit	2,479	2,363	2,357	
Selling, general and administrative expenses	721	729	707	
Research and development expenses	235	227	223	
Asset impairments and restructuring charges, net	45	8	45	
Other components of post-employment (benefit) cost, net	(21)	(135)	(3)	
Other (income) charges, net	(53)	4	(4)	
Earnings before interest and taxes	1,552	1,530	1,389	
Net interest expense	235	241	255	
Early debt extinguishment and other related costs	7	—	85	
Earnings before income taxes	1,310	1,289	1,049	
Provision for (benefit from) income taxes	226	(99)	190	
Net earnings	1,084	1,388	859	
Less: Net earnings attributable to noncontrolling interest	4	4	5	
Net earnings attributable to Eastman	\$1,080	\$1,384	\$854	
Basic earnings per share attributable to Eastman	\$7.65	\$9.56	\$5.80	
Diluted earnings per share attributable to Eastman	\$7.56	\$9.47	\$5.75	
Comprehensive Income				
Net earnings including noncontrolling interest		\$1,084	\$1,388	\$859
Other comprehensive income (loss), net of tax:				
Change in cumulative translation adjustment	(13)	85	(97)	
Defined benefit pension and other postretirement benefit plans:				
Prior service credit arising during the period	—	—	64	
Amortization of unrecognized prior service credits included in net periodic costs	(30)	(27)	(30)	
Derivatives and hedging:				
Unrealized gain (loss) during period	22	7	93	
Reclassification adjustment for (gains) losses included in net income, net	(15)	7	79	
Total other comprehensive income (loss), net of tax	(36)	72	109	
Comprehensive income including noncontrolling interest	1,048	1,460	968	
Less: Comprehensive income attributable to noncontrolling interest	4	4	5	
Comprehensive income attributable to Eastman	\$1,044	\$1,456	\$963	
Retained Earnings				
Retained earnings at beginning of period	\$6,802	\$5,721	\$5,146	
Cumulative effect adjustment resulting from adoption of new accounting standards	16	—	—	
Net earnings attributable to Eastman	1,080	1,384	854	
Cash dividends declared	(325)	(303)	(279)	
Retained earnings at end of period	\$7,573	\$6,802	\$5,721	

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

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

	December 31, 2018	December 31, 2017
(Dollars in millions, except per share amounts)		
Assets		
Current assets		
Cash and cash equivalents	\$ 226	\$ 191
Trade receivables, net of allowance for doubtful accounts	1,154	1,026
Miscellaneous receivables	329	360
Inventories	1,583	1,509
Other current assets	73	57
Total current assets	3,365	3,143
Properties		
Properties and equipment at cost	12,731	12,370
Less: Accumulated depreciation	7,131	6,763
Net properties	5,600	5,607
Goodwill	4,467	4,527
Intangible assets, net of accumulated amortization	2,185	2,373
Other noncurrent assets	378	349
Total assets	\$ 15,995	\$ 15,999
Liabilities and Stockholders' Equity		
Current liabilities		
Payables and other current liabilities	\$ 1,608	\$ 1,589
Borrowings due within one year	243	393
Total current liabilities	1,851	1,982
Long-term borrowings	5,925	6,147
Deferred income tax liabilities	884	893
Post-employment obligations	925	963
Other long-term liabilities	532	534
Total liabilities	10,117	10,519
Commitments and contingencies (Note 11)		
Stockholders' equity		
Common stock (\$0.01 par value per share – 350,000,000 shares authorized; shares issued – 219,140,523 and 218,369,992 for 2018 and 2017, respectively)	2	2
Additional paid-in capital	2,048	1,983
Retained earnings	7,573	6,802
Accumulated other comprehensive loss	(245)	(209)
	9,378	8,578
Less: Treasury stock at cost (79,413,989 shares for 2018 and 75,454,111 shares for 2017)	3,575	3,175
Total Eastman stockholders' equity	5,803	5,403
Noncontrolling interest	75	77
Total equity	5,878	5,480
Total liabilities and stockholders' equity	\$ 15,995	\$ 15,999
The accompanying notes are an integral part of these consolidated financial statements.		

CONSOLIDATED STATEMENTS OF CASH FLOWS

	For years ended		
	December 31,		
	2018	2017	2016
(Dollars in millions)			
Operating activities			
Net earnings	\$1,084	\$1,388	\$859
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Depreciation and amortization	604	587	580
Mark-to-market pension and other postretirement benefit plans (gain) loss, net	99	(21)	97
Asset impairment charges	39	1	9
Early debt extinguishment and other related costs	7	—	85
Gains from sale of assets and businesses	(4)	(3)	(17)
Gain from property insurance	(65)	—	—
Provision for (benefit from) deferred income taxes	(51)	(394)	177
Changes in operating assets and liabilities, net of effect of acquisitions and divestitures:			
(Increase) decrease in trade receivables	16	(53)	(29)
(Increase) decrease in inventories	(224)	(71)	54
Increase (decrease) in trade payables	90	123	7
Pension and other postretirement contributions in excess of expenses	(152)	(115)	(329)
Variable compensation less than expenses	55	71	17
Other items, net	45	144	(125)
Net cash provided by operating activities	1,543	1,657	1,385
Investing activities			
Additions to properties and equipment	(528)	(649)	(626)
Proceeds from property insurance	65	—	—
Proceeds from sale of assets and businesses	5	14	41
Acquisitions, net of cash acquired	(3)	(4)	(26)
Other items, net	(2)	(4)	(44)
Net cash used in investing activities	(463)	(643)	(655)
Financing activities			
Net increase (decrease) in commercial paper and other borrowings	(146)	(19)	(150)
Proceeds from borrowings	1,604	675	1,848
Repayment of borrowings	(1,774)	(1,025)	(2,126)
Dividends paid to stockholders	(318)	(296)	(272)
Treasury stock purchases	(400)	(350)	(145)
Dividends paid to noncontrolling interests	(4)	(7)	(8)
Other items, net	(2)	16	15
Net cash used in financing activities	(1,040)	(1,006)	(838)
Effect of exchange rate changes on cash and cash equivalents	(5)	2	(4)
Net change in cash and cash equivalents	35	10	(112)
Cash and cash equivalents at beginning of period	191	181	293
Cash and cash equivalents at end of period	\$226	\$191	\$181

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

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

1. SIGNIFICANT ACCOUNTING POLICIES

Financial Statement Presentation

The consolidated financial statements of Eastman Chemical Company ("Eastman" or the "Company") and subsidiaries are prepared in conformity with accounting principles generally accepted ("GAAP") in the United States and of necessity include some amounts that are based upon management estimates and judgments. Future actual results could differ from such current estimates. The consolidated financial statements include assets, liabilities, sales revenue, and expenses of all majority-owned subsidiaries and joint ventures in which a controlling interest is maintained. Eastman accounts for other joint ventures and investments in minority-owned companies where it exercises significant influence on the equity basis. Intercompany transactions and balances are eliminated in consolidation.

Certain prior period data has been reclassified in the Consolidated Financial Statements and accompanying footnotes to conform to current period presentation. As of January 1, 2018:

Eastman's primary measure of operating performance for all periods presented is earnings before interest and taxes ("EBIT") on a consolidated and segment basis. Previously, the Company's primary measure of operating performance was operating earnings.

As discussed below, the new accounting standard for the presentation of net periodic benefit costs requires the Company to present non-service cost components of net periodic benefit costs (interest cost, expected return on plan assets, curtailment gains or losses, amortization of prior service costs or credits, and mark-to-market gains or losses) separately from service cost. These non-service cost components were reclassified from "Cost of sales", "Selling, general and administrative expenses", and "Research and development expenses" line items and are now included in a new line item, "Other components of post-employment (benefit) cost, net" on the Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings for all periods presented. This reclassification does not change prior period EBIT, earnings before income taxes, or net earnings and, accordingly, management does not consider this change to have a material impact on the Company's financial statements and related disclosures.

Recently Adopted Accounting Standards

Accounting Standards Update ("ASU") 2014-09 Revenue Recognition (Accounting Standards Codification ("ASC") 606): On January 1, 2018, Eastman adopted this standard under the modified retrospective method, such that revenue for all periods prior to January 1, 2018 continue to be reported under the previous standard, which resulted in an increase to retained earnings of \$53 million after tax for products shipped but not delivered as of December 31, 2017.

Under the new standard, the Company recognizes revenue when performance obligations of the sale are satisfied. The majority of the Company's terms of sale have a single performance obligation to transfer products. Accordingly, the Company recognizes revenue when control has been transferred to the customer, generally at the time of shipment of products. Under the previous revenue recognition accounting standard, the Company recognized revenue upon transfer of title and risk of loss, generally upon the delivery of goods.

Changes in the accounting required by this new standard did not materially impact the Company's financial statements and related disclosures when comparing 2018 under the new revenue standard to previous years under the prior standard. For further information, see Note 22, "Revenue Recognition".

ASU 2016-01 Financial Instruments: On January 1, 2018, Eastman adopted this standard relating to the recognition and measurement of financial assets and financial liabilities. This standard requires equity investments (except equity method and consolidated investments) to be measured at fair value with changes in fair value recognized in net income. Management has concluded that changes in its accounting required by the new standard did not materially

impact the Company's financial statements and related disclosures. In February 2018, the Financial Accounting Standards Board ("FASB") issued ASU 2018-03 as an update to the standard described above which was adopted on July 1, 2018. Management has concluded that changes in its accounting required by the update did not materially impact the Company's financial statements and related disclosures.

ASU 2016-16 Income Taxes - Intra-Entity Transfers: On January 1, 2018, Eastman adopted this standard under the modified retrospective method resulting in a beginning retained earnings decrease of \$39 million. Under this standard, the Company is required to recognize the income tax consequence of an intra-entity transfer of an asset other than inventory when the transfer occurs.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

ASU 2017-05 Other Income - Gains and Losses from Derecognition of Nonfinancial Assets: On January 1, 2018, Eastman adopted this standard in conjunction with the revenue recognition standard mentioned above. This standard clarifies the scope of nonfinancial asset derecognition and the accounting for partial sales of nonfinancial assets. This adoption had no impact on the Company's financial statements and related disclosures in the current period.

ASU 2017-07 Compensation - Retirement Benefits: On January 1, 2018, Eastman adopted this standard retrospectively for income statement effects and prospectively for balance sheet effects. This standard is intended to improve the presentation of net periodic pension and postretirement benefit costs by requiring the reporting of the service cost component in the same line item or items as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net periodic benefit costs (interest cost, expected return on plan assets, curtailment gains or losses, amortization of prior service costs or credits, and mark-to-market gains or losses) are to be presented in the income statement separately from the service cost component and outside the subtotal of income from operations, if presented. Management has concluded that changes in its accounting required by this new standard did not materially impact the Company's financial statements and related disclosures.

ASU 2017-12 Derivatives and Hedging: On January 1, 2018, Eastman adopted this standard on a modified retrospective basis for income statement impacts and prospectively for presentation and disclosure resulting in a beginning retained earnings increase of \$2 million related to ineffectiveness recognized in "Accumulated other comprehensive income (loss)" ("AOCI") which was recognized in the Consolidated Statements of Financial Position under the previous standard. This standard is intended to simplify the application of hedge accounting and improve the financial reporting of hedging relationships to better portray the economic results of an entity's risk management activities in the financial statements. Management has included the additional disclosures required by this standard in Note 9, "Derivative and Non-Derivative Financial Instruments".

ASU 2017-04 Intangibles - Goodwill and Other: On October 1, 2018, Eastman adopted this standard on a prospective basis beginning with the assessments performed in the fourth quarter 2018. FASB issued this standard as a part of its simplification initiative that bases the impairment of goodwill on any difference for which the carrying value is greater than the fair value of the reporting unit.

Accounting Standards Issued But Not Adopted as of December 31, 2018

ASU 2016-02 Leases: In February 2016, the FASB issued this standard on lease accounting. The new standard establishes two types of leases for lessees: finance and operating. Both finance and operating leases will have associated right-of-use assets and liabilities initially measured at the present value of the lease payments. This standard is effective for annual reporting periods beginning after December 15, 2018, including interim periods within that reporting period and early adoption is permitted. The new standard is to be applied under a modified retrospective approach wherein practical expedients have been allowed that will not require reassessment of current leases at the effective date. In July 2018, the FASB issued update ASU 2018-11 that allows entities to initially apply the new leases standard prospectively at the adoption date with a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption as necessary. The Company will adopt this standard beginning first quarter 2019, and anticipates adopting under the optional prospective method which will have a material impact, on a gross basis, on the Company's Consolidated Statements of Financial Position. In preparation for adoption, management continues lease accounting system testing and development of related internal controls and disclosures.

ASU 2016-13 Financial Instruments - Credit Losses: In June 2016, the FASB issued this standard relating to credit losses. The amendments require a financial asset (including trade receivables) to be presented at the net amount expected to be collected through the use of allowances for credit losses valuation account. The income statement will reflect the measurement of credit losses for newly recognized financial assets, as well as the expected increases or decreases of expected credit losses that have taken place during the period. This standard is effective for annual

reporting periods beginning after December 15, 2019, including interim periods within that reporting period and early adoption is permitted, including adoption in an interim period, beginning after December 15, 2018. In November 2018, the FASB issued amendment 2018-19 to clarify that receivables arising from operating leases are not within the scope of this sub-topic but instead, impairment of such operating lease receivables should be accounted for in accordance with Topic 842, Leases (2016-02 above). The new standard application is mixed among the various elements that include modified retrospective and prospective transition methods. Management does not expect that changes in its accounting required by the new standard will materially impact the Company's financial statements and related disclosures.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

ASU 2018-02 Income Statement - Reporting Comprehensive Income: In February 2018, the FASB issued this standard that allows the reclassification from AOCI to retained earnings for stranded tax effects resulting from the 2017 Tax Cuts and Jobs Act ("Tax Reform Act"). The amount of the reclassification is the effect of the change in the U.S. federal corporate income tax rate on the gross deferred tax amounts and related valuation allowances related to items remaining in AOCI. This standard is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. Early adoption is permitted, including adoption in any interim period, for reporting periods for which financial statements have not yet been issued. The Company will adopt this standard beginning first quarter 2019, and it is not expected to have a material impact to the Company's financial statements and related disclosures.

ASU 2018-13 Fair Value Measurement - Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement: In August 2018, the FASB issued this update as a part of its disclosure framework project to improve the effectiveness of disclosures in the notes to financial statements. This standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. Early adoption was permitted upon issuance of this update and an entity is permitted to early adopt any removed or modified disclosures upon issuance of this update and delay adoption of the additional disclosures until the effective date. Certain disclosure amendments are to be applied prospectively for only the most recent interim or annual period presented, while other amendments are to be applied retrospectively to all periods presented. Management is currently evaluating implementation options and impact on the Company's related disclosures.

ASU 2018-14 Retirement Benefits - Disclosure Framework - Changes to the Disclosure Requirements for Defined Benefit Plans: In August 2018, the FASB issued this update as a part of its disclosure framework project to improve the effectiveness of disclosures in the notes to financial statements. This standard is effective for fiscal years ending after December 15, 2020 and early adoption is permitted. Upon adoption, this update is to be applied on a retrospective basis to all periods presented. Management is currently evaluating the impact on the Company's related disclosures.

ASU 2018-15 Internal-Use Software - Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract: In August 2018, the FASB issued this update. This standard is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted, including adoption in any interim period. This standard is to be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. Management is currently evaluating implementation options and impact on the Company's financial statements and related disclosures.

2018-16 Derivatives and Hedging - Inclusion of the Secured Overnight Financing Rate ("SOFR") Overnight Index Swap ("OIS") Rate as a Benchmark Interest Rate for Hedge Accounting Purposes: In October 2018, the FASB issued this update that permits the use of the OIS rate based on SOFR as a U.S. benchmark interest rate for hedge accounting purposes. For entities that have already adopted 2017-12, above, this update is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. The Company will adopt this standard beginning first quarter 2019, and anticipates adopting on a prospective basis for qualifying new or redesignated hedging relationships.

2018-18 Collaborative Arrangements - Clarifying the Interaction between Topic 808 (Collaborative Arrangements) and Topic 606 (Revenue from Contracts with Customers): In November 2018, the FASB issued clarification in regards to which contracts are accounted for under Topic 808 and Topic 606 as well as alignment of guidance between the two Topics. This standard is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted. Upon adoption, this update is to be applied retrospectively to the date of initial application of Topic 606. Management is currently evaluating the impact on the Company's financial statements and related disclosures.

Cash and Cash Equivalents

Cash and cash equivalents include cash, time deposits, and readily marketable securities with original maturities of three months or less.

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NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Fair Value Measurements

Eastman records recurring and non-recurring financial assets and liabilities as well as all non-financial assets and liabilities subject to fair value measurement at the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. These fair value principles prioritize valuation inputs across three broad levels. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument. Level 3 inputs are unobservable inputs based on the Company's assumptions used to measure assets and liabilities at fair value. An asset or liability's classification within the various levels is determined based on the lowest level input that is significant to the fair value measurement.

Accounts Receivable and Allowance for Doubtful Accounts

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. Eastman maintains allowances for doubtful accounts for estimated losses resulting from the inability of its customers to make required payments. The Company calculates the allowance based on an assessment of the risk in the accounts receivable portfolio. Write-offs are recorded at the time a customer receivable is deemed uncollectible. Allowance for doubtful accounts was \$11 million and \$12 million at December 31, 2018 and 2017, respectively. The Company does not enter into receivables of a long-term nature, also known as financing receivables, in the normal course of business.

Inventories

Inventories are valued at the lower of cost or market. Eastman determines the cost of most raw materials, work in process, and finished goods inventories in the United States and Switzerland by the last-in, first-out ("LIFO") method. The cost of all other inventories is determined by the average cost method, which approximates the first-in, first-out ("FIFO") method. The Company writes-down its inventories for estimated obsolescence or unmarketable inventory equal to the difference between the carrying value of inventory and the estimated market value based upon assumptions about future demand and market conditions.

Properties

Eastman records properties at cost. Maintenance and repairs are charged to earnings; replacements and betterments are capitalized. When Eastman retires or otherwise disposes of assets, it removes the cost of such assets and related accumulated depreciation from the accounts. The Company records any profit or loss on retirement or other disposition into earnings. Asset impairments are reflected as increases in accumulated depreciation for properties that have been placed in service. In instances when an asset has not been placed in service and is impaired, the associated costs are removed from the appropriate property accounts.

Depreciation and Amortization

Depreciation expense is calculated based on historical cost and the estimated useful lives of the assets, generally using the straight-line method. Estimated useful lives for buildings and building equipment generally range from 20 to 50 years. Estimated useful lives generally ranging from 3 to 33 years are applied to machinery and equipment in the following categories: computer software (3 to 5 years); office furniture and fixtures and computer equipment (5 to 10 years); vehicles, railcars, and general machinery and equipment (5 to 20 years); and manufacturing-related improvements (20 to 33 years). Accelerated depreciation is reported when the estimated useful life is shortened and continues to be reported in cost of sales.

Amortization expense for definite-lived intangible assets is generally determined using a straight-line method over the estimated useful life of the asset.

For additional information, see Note 4, "Goodwill and Other Intangible Assets".

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Impairment of Long-Lived Assets

Definite-lived Assets

Properties and equipment and definite-lived intangible assets to be held and used by Eastman are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The review of properties and equipment is performed at the asset group level and the review of definite-lived intangible assets is performed at the asset level, which is the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. If the carrying amount is not considered to be recoverable, an analysis of fair value is triggered. An impairment is recognized for the excess of the carrying amount of the asset over the fair value. Fair value is the price that would be received to sell an asset in an orderly transaction between market participants.

Goodwill

Eastman conducts testing of goodwill annually in the fourth quarter or more frequently when events and circumstances indicate an impairment may have occurred. The testing of goodwill is performed at the "reporting unit" level which the Company has determined to be its "components". Components are defined as an operating segment or one level below an operating segment, and in order to be a reporting unit, the component must 1) be a "business" as defined by applicable accounting standards (an integrated set of activities and assets that is capable of being conducted and managed for the purpose of providing a return in the form of dividends, lower costs, or other economic benefits directly to the investors or other owners, members, or participants); 2) have discrete financial information available; and 3) be reviewed regularly by Company operating segment management. The Company aggregates certain components into reporting units based on economic similarities.

On October 1, 2018, management adopted ASU 2017-04 Intangibles - Goodwill and Other to simplify the annual goodwill impairment testing process. A reporting unit's goodwill is considered to be impaired when the reporting unit's estimated fair value is less than its carrying value. The Company uses an income approach and applies a fair value methodology based on discounted cash flows in testing the carrying value of goodwill for each reporting unit. Key assumptions and estimates used in the Company's 2018 goodwill impairment testing included projections of revenues, expenses, and cash flows determined using the Company's annual multi-year strategic plan and a market participant tax rate. The most critical assumptions are the estimated discount rate and a projected long-term growth rate. The Company believes these assumptions are consistent with those a hypothetical market participant would use given circumstances that were present at the time the estimates were made. However, actual results and amounts may be significantly different from the Company's estimates. In addition, the use of different estimates or assumptions could result in materially different determinations. In order to determine the discount rate, the Company uses a market participant weighted average cost of capital ("WACC") approach. The WACC is calculated incorporating weighted average returns on debt and equity from market participants. Therefore, changes in the market, which are beyond the control of the Company, may have an impact on future calculations of estimated fair value.

Indefinite-lived Intangible Assets

Eastman conducts testing of indefinite-lived intangible assets annually in the fourth quarter or more frequently when events and circumstances indicate an impairment may have occurred. The carrying value of an indefinite-lived intangible asset is considered to be impaired when the fair value, as established by appraisal or based on discounted future cash flows of certain related products, is less than the respective carrying value.

Indefinite-lived intangible assets, consisting primarily of various tradenames, are tested for potential impairment by comparing the estimated fair value to the carrying amount. The Company uses an income approach, specifically the

relief from royalty method, to test indefinite-lived intangible assets. The estimated fair value of tradenames is determined based on an assumed royalty rate savings, discounted by the calculated market participant WACC plus a risk premium.

For additional information, see Note 4, "Goodwill and Other Intangible Assets".

Investments

The consolidated financial statements include the accounts of Eastman and all its subsidiaries and entities or joint ventures in which a controlling interest is maintained.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Investments in affiliates over which the Company has significant influence but not a controlling interest are carried on the equity basis. Under the equity method of accounting, these investments are included in other noncurrent assets. The Company includes its share of earnings and losses of such investments in "Other (income) charges, net", and its share of "Other comprehensive income (loss), net of tax" ("OCI") located in the Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings and in the appropriate component of AOCI located in the Consolidated Statements of Financial Position.

Pension and Other Postretirement Benefits

Eastman maintains defined benefit pension plans that provide eligible employees with retirement benefits. Under its other postretirement benefit plans in the U.S., Eastman provides life insurance for eligible retirees hired prior to January 1, 2007. Eastman provides a subsidy for pre-Medicare health care and dental benefits to eligible retirees hired prior to January 1, 2007 that will end on December 31, 2021. Company funding is also provided for eligible Medicare retirees hired prior to January 1, 2007 with a health reimbursement arrangement. The estimated amounts of the costs and obligations related to these benefits reflect the Company's assumptions related to discount rates, expected return on plan assets, rate of compensation increase or decrease for employees, and health care cost trends. The estimated cost of providing plan benefits also depends on demographic assumptions including retirements, mortality, turnover, and plan participation.

Eastman's pension and other postretirement benefit plans costs consist of two elements: 1) ongoing costs recognized quarterly, which are comprised of service and interest costs, expected returns on plan assets, and amortization of prior service credits; and 2) mark-to-market ("MTM") gains and losses recognized annually, in the fourth quarter of each year, primarily resulting from changes in actuarial assumptions for discount rates and the differences between actual and expected returns on plan assets. Any interim rereasurements triggered by a curtailment, settlement, or significant plan changes are recognized in the quarter in which such rereasurement event occurs.

For additional information, see Note 10, "Retirement Plans".

Environmental Costs

Eastman accrues environmental remediation costs when it is probable that the Company has incurred a liability at a contaminated site and the amount can be reasonably estimated. When a single amount cannot be reasonably estimated but the cost can be estimated within a range, the Company accrues the minimum undiscounted amount. This undiscounted accrued amount reflects liabilities expected to be paid within approximately 30 years and the Company's assumptions about remediation requirements at the contaminated site, the nature of the remedy, the outcome of discussions with regulatory agencies and other potentially responsible parties at multi-party sites, and the number and financial viability of other potentially responsible parties. Changes in the estimates on which the accruals are based, unanticipated government enforcement action, or changes in health, safety, environmental, and chemical control regulations and testing requirements could result in higher or lower costs.

The Company also establishes reserves for closure and post-closure costs associated with the environmental and other assets it maintains. Environmental assets include but are not limited to waste management units, such as landfills, water treatment facilities, and surface impoundments. When these types of assets are constructed or installed, a loss contingency reserve is established for the anticipated future costs associated with the retirement or closure of the asset based on its expected life and the applicable regulatory closure requirements. The Company recognizes the asset retirement obligations in the period in which they are incurred if a reasonable estimate of fair value can be made. The asset retirement obligations are discounted to expected present value and subsequently adjusted for changes in fair value. These future estimated costs are charged to earnings over the estimated useful life of the assets. If the Company changes its estimate of the environmental asset retirement obligation costs or its estimate of the useful lives of these

assets, expenses charged to earnings will be impacted.

The current portion of accruals for environmental liabilities is included in payables and other current liabilities and the long-term portion is included in other long-term liabilities. These accruals exclude claims for recoveries from insurance companies or other third parties. Environmental costs are capitalized if they extend the life of the related property, increase its capacity, or mitigate or prevent future contamination. The cost of operating and maintaining environmental control facilities is charged to expense as incurred.

For additional information see Note 12, "Environmental Matters and Asset Retirement Obligations".

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Derivative and Non-Derivative Financial Instruments

Eastman uses derivative and non-derivative instruments to manage its exposure to market risks, such as changes in foreign currency exchange rates, commodity prices, and interest rates. The Company does not enter into derivative transactions for speculative purposes.

Counterparties to the derivative contracts are highly rated financial institutions which the Company believes carry minimal risk of nonperformance and the Company diversifies its positions among such counterparties to reduce its exposure to counterparty risk and credit losses. The Company monitors the creditworthiness of its counterparties on an ongoing basis.

The Company's derivative instruments are recognized as either assets or liabilities on the Consolidated Statements of Financial Position and measured at fair value. For qualifying derivatives designated as cash flow hedges, the effective portion of the changes in the fair value are reported as a component of AOCI in the Consolidated Statements of Financial Position and recognized in earnings when the hedged items affect earnings. For qualifying derivatives designated as fair value hedges, the effective portion of the changes in the fair value are reported as "Long-term borrowings" on the Consolidated Statements of Financial Position and recognized in earnings when the hedged items affect earnings. For qualifying derivative or non-derivative instruments designated as net investment hedges, the net change in the hedge instrument and item being hedged is reported as a component of "Cumulative translation adjustment" ("CTA") within AOCI located in the Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings. Any hedge components excluded from the assessment of effectiveness are recognized in earnings, the initial value of the excluded component, using a systematic and rational method over the life of the hedging instrument. Changes in the fair value of nonqualifying derivatives or derivatives that are not designated as hedges, are recognized in current earnings. Hedge accounting will be discontinued prospectively for all hedges that no longer qualify for hedge accounting treatment. Cash flows from derivative instruments designated as hedges are reported in the same category as the cash flows from the items being hedged.

For additional information, see Note 9, "Derivative and Non-Derivative Financial Instruments".

Litigation and Contingent Liabilities

Eastman and its operations from time to time are, and in the future, may be, parties to or targets of lawsuits, claims, investigations and proceedings, including product liability, personal injury, asbestos, patent and intellectual property, commercial, contract, environmental, antitrust, health and safety, and employment matters, which are handled and defended in the ordinary course of business. The Company accrues a contingent loss liability for such matters when it is probable that a liability has been incurred and the amount can be reasonably estimated. When a single amount cannot be reasonably estimated but the cost can be estimated within a range, the Company accrues the minimum amount. The Company expenses legal costs, including those expected to be incurred in connection with a loss contingency, as incurred.

Revenue Recognition and Customer Incentives

As noted above, on January 1, 2018, Eastman adopted ASU 2014-09 Revenue Recognition (ASC 606). For accounting policy and elections, see Note 22, "Revenue Recognition".

Restructuring of Operations

Eastman records restructuring charges for costs incurred in connection with consolidation of operations, exited business or product lines, or shutdowns of specific sites that are expected to be substantially completed within twelve

months. These restructuring charges are recorded as incurred, and are associated with site closures, legal and environmental matters, demolition, contract terminations, obsolete inventory, or other costs and charges directly related to the restructuring. The Company records severance charges for employee separations when the separation is probable and reasonably estimable. In the event employees are required to perform future service, the Company records severance charges ratably over the remaining service period of those employees. For additional information, see Note 15, "Asset Impairments and Restructuring Charges, Net".

Share-based Compensation

Eastman recognizes compensation expense in the financial statements for stock options and other share-based compensation awards based upon the grant-date fair value over the substantive vesting period. For additional information, see Note 17, "Share-Based Compensation Plans and Awards".

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Income Taxes

The provision for (benefit from) income taxes has been determined using the asset and liability approach of accounting for income taxes. Under this approach, deferred taxes represent the future tax consequences expected to occur when the reported amounts of assets and liabilities are recovered or paid. The provision for (benefit from) income taxes represents income taxes paid or payable for the current year plus the change in deferred taxes during the year. Deferred taxes result from differences between the financial and tax bases of Eastman's assets and liabilities and are adjusted for changes in tax rates and tax laws when changes are enacted. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized. Provision has been made for income taxes on unremitted earnings of subsidiaries and affiliates, except for subsidiaries in which earnings are deemed to be indefinitely reinvested.

The Company recognizes income tax positions that meet the more likely than not threshold and accrues interest related to unrecognized income tax positions which is recorded as a component of the income tax provision.

In conjunction with its evaluation of the provisions of the Tax Reform Act, in 2018, the Company made an accounting policy election to account for taxes resulting from the global intangible low-tax income ("GILTI") as a component of the provision for income taxes.

2. INVENTORIES

(Dollars in millions)	December 31,	
	2018	2017
Finished goods	\$1,143	\$1,114
Work in process	262	213
Raw materials and supplies	515	470
Total inventories at FIFO or average cost	1,920	1,797
Less: LIFO reserve	337	288
Total inventories	\$1,583	\$1,509

Inventories valued on the LIFO method were approximately 55 percent of total inventories at both December 31, 2018 and 2017.

3. PROPERTIES AND ACCUMULATED DEPRECIATION

(Dollars in millions)	December 31,	
	2018	2017
Properties		
Land	\$158	\$161
Buildings	1,385	1,325
Machinery and equipment	10,801	10,122
Construction in progress	387	762
Properties and equipment at cost	\$12,731	\$12,370
Less: Accumulated depreciation	7,131	6,763
Net properties	\$5,600	\$5,607

Depreciation expense was \$437 million, \$420 million, and \$412 million for 2018, 2017, and 2016, respectively.

Cumulative construction-period interest of \$115 million and \$111 million, reduced by accumulated depreciation of \$54 million and \$49 million, is included in net properties at December 31, 2018 and 2017, respectively.

Eastman capitalized \$4 million of interest in 2018, \$8 million of interest in 2017, and \$7 million of interest in 2016.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

4. GOODWILL AND OTHER INTANGIBLE ASSETS

Changes in the carrying amount of goodwill follow:

(Dollars in millions)	Additives & Functional Products	Advanced Materials	Chemical Intermediates	Other	Total
Balance at December 31, 2016	\$ 2,416	\$ 1,275	\$ 760	\$ 10	\$4,461
Acquisitions	17	—	—	—	17
Goodwill written off as a result of sale of business	(1)	—	—	—	(1)
Currency translation adjustments	27	14	9	—	50
Balance at December 31, 2017	2,459	1,289	769	10	4,527
Impairments recognized	(38)	—	—	—	(38)
Currency translation adjustments	(11)	(6)	(5)	—	(22)
Balance at December 31, 2018	\$ 2,410	\$ 1,283	\$ 764	\$ 10	\$4,467

In fourth quarter 2018, as a result of the annual impairment test of goodwill, the Company recognized a \$38 million goodwill impairment in the crop protection reporting unit (part of the Additives & Functions Products ("AFP") segment). The impairment was primarily driven by an increase in the WACC applied to the impairment analysis and the estimated impact of future regulatory changes. The Company used an income approach and applied a fair value methodology based on discounted cash flows in testing the carrying value of goodwill for the crop protection reporting unit.

As of December 31, 2018, the reported balance of goodwill included accumulated impairment losses of \$61 million, \$12 million, and \$14 million in the AFP segment, Chemical Intermediates ("CI") segment, and other segments, respectively. As of December 31, 2017, the reported balance of goodwill included accumulated impairment losses of \$23 million, \$12 million, and \$14 million in the AFP segment, CI segment, and other segments, respectively.

The carrying amounts of intangible assets follow:

(Dollars in millions)	Estimated Useful Life in Years	December 31, 2018			December 31, 2017		
		Gross Carrying Value	Accumulated Amortization	Net Carrying Value	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Amortizable intangible assets:							
Customer relationships	8 - 25	\$1,567	\$ 419	\$ 1,148	\$1,583	\$ 345	\$ 1,238
Technology	7 - 20	680	294	386	690	247	443
Contracts	5	180	147	33	180	111	69
Other	5 - 37	102	23	79	102	19	83
Indefinite-lived intangible assets:							
Tradenames		529	—	529	530	—	530
Other		10	—	10	10	—	10
Total identified intangible assets		\$3,068	\$ 883	\$ 2,185	\$3,095	\$ 722	\$ 2,373

Amortization expense of definite-lived intangible assets was \$164 million, \$164 million, and \$166 million for 2018, 2017, and 2016, respectively. Estimated amortization expense for future periods is \$165 million in 2019, \$130 million in 2020, and \$120 million each year for 2021 through 2023.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

5. EQUITY INVESTMENTS

In June 2016, Eastman sold its 50 percent interest in Primester, a joint venture which manufactures cellulose acetate at the Company's Kingsport, Tennessee site, to an affiliate of the joint venture partner for \$35 million. This investment was accounted for under the equity method. Eastman's net investment in the joint venture at the date of sale was \$18 million. Such amounts were included in "Other noncurrent assets" in the Consolidated Statements of Financial Position and the gain of \$17 million was recorded in "Other (income) charges, net" in the Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings.

Eastman owns a 50 percent or less interest in other joint ventures which are accounted for under the equity method and included in "Other noncurrent assets". These include a 50 percent interest in a joint venture that has a manufacturing facility in Nanjing, China. The Nanjing facility produces EastotacTM hydrocarbon tackifying resins for pressure-sensitive adhesives, caulks, and sealants. These also include a joint venture with a 50 percent interest for the manufacture of compounded cellulose diacetate ("CDA") in Shenzhen, China. CDA is a bio-derived material, which is used in various injection molded applications, including but not limited to ophthalmic frames, tool handles, and other end use products. The Company owns a 45 percent interest in a joint venture with China National Tobacco Corporation that manufactures acetate tow in Hefei, China. At December 31, 2018 and 2017, the Company's total investment in these joint ventures was \$100 million and \$95 million, respectively, included in "Other noncurrent assets" in the Consolidated Statements of Financial Position.

6. PAYABLES AND OTHER CURRENT LIABILITIES

(Dollars in millions)	December 31,	
	2018	2017
Trade creditors	\$914	\$842
Accrued payrolls, vacation, and variable-incentive compensation	197	199
Accrued taxes	94	111
Other	403	437
Total payables and other current liabilities	\$1,608	\$1,589

The "Other" above consists primarily of accruals for other miscellaneous payables, dividends payable, post-employment obligations, interest payable, hedging liability, and the current portion of environmental liabilities.

7. INCOME TAXES

As previously reported, the Company recognized a provisional net tax benefit for the year ended December 31, 2017, resulting from the Tax Reform Act. In 2017, the Company recognized a \$339 million estimated net tax benefit, primarily resulting from the Tax Reform Act and a tax loss from outside-U.S. entity reorganizations as part of the formation of an international treasury services center. The net tax benefit included a \$533 million benefit from the one-time revaluation of deferred tax liabilities, partially offset by a one-time transition tax on deferred foreign income of \$71 million and \$123 million in changes in valuation of deferred tax assets associated with tax law changes and outside-U.S. entity reorganizations as part of the formation of an international treasury services center.

As of December 31, 2018 the Company considers the accounting under SAB 118 for the impacts of the Tax Reform Act to be complete. In preparing the amounts as of December 31, 2018 the Company considered notices, revenue procedures, and proposed regulations issued by the Internal Revenue Service and authoritative accounting guidance to date. In 2018, the Company recognized an adjustment to the 2017 net tax benefit which decreased earnings by \$20 million primarily related to the one-time transition tax on deferred foreign income and changes in valuation of deferred tax assets associated with tax law changes and outside-U.S. entity reorganizations as part of the formation of an international treasury services center.

As of December 31, 2018, the U.S. Department of Treasury has issued a number of proposed regulations related to implementation of the provisions of the Tax Reform Act and certain states may issue clarifying guidance regarding state income tax conformity to the current federal tax code. Finalization of these regulations in 2019 or future periods may result in changes in the period of enactment to the amounts currently reported in the Consolidated Statements of Financial Position.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

The income tax payable for the transition tax will be paid over eight years. As of December 31, 2018 and 2017, a non-current income tax payable of approximately \$56 million and \$60 million, respectively, attributable to the transition tax is reflected in "Other long-term liabilities" of the Consolidated Statements of Financial Position.

In conjunction with its evaluation of the provisions of the Tax Reform Act, in 2018, the Company made an accounting policy election to account for taxes resulting from GILTI as a component of the provision for income taxes.

Components of earnings before income taxes and the provision for (benefit from) U.S. and other income taxes from operations follow:

(Dollars in millions)	For years ended December 31,		
	2018	2017	2016
Earnings before income taxes			
United States	\$718	\$654	\$422
Outside the United States	592	635	627
Total	\$1,310	\$1,289	\$1,049
Provision for (benefit from) income taxes			
United States Federal			
Current ⁽¹⁾	\$161	\$220	\$(80)
Deferred ⁽²⁾	(11)	(383)	214
Outside the United States			
Current	86	62	91
Deferred	(22)	2	(18)
State and other			
Current	30	13	2
Deferred	(18)	(13)	(19)
Total	\$226	\$(99)	\$190

⁽¹⁾ A one-time transition tax of \$71 million on deferred foreign income tax is included for 2017.

Includes a one-time benefit of \$517 million primarily due to the re-measurement of certain net deferred tax

⁽²⁾ liabilities using the lower U.S. corporate income tax rate and a one-time \$72 million valuation allowance on deferred tax assets for foreign tax credit carryforwards for 2017.

The following represents the deferred tax (benefit) charge recorded as a component of AOCI in the Consolidated Statements of Financial Position:

(Dollars in millions)	For years ended December 31,		
	2018	2017	2016
Defined benefit pension and other postretirement benefit plans	\$(10)	\$(16)	\$21
Derivatives and hedging	3	8	105
Total	\$(7)	\$(8)	\$126

Total income tax expense (benefit) included in the consolidated financial statements was composed of the following:

(Dollars in millions)	For years ended December 31,		
	2018	2017	2016
Earnings before income taxes	\$226	\$(99)	\$190
Other comprehensive income	(7)	(8)	126
Total	\$219	\$(107)	\$316

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Differences between the provision for (benefit from) income taxes and income taxes computed using the U.S. Federal statutory income tax rate follow:

(Dollars in millions)	For years ended		
	December 31,		
	2018	2017	2016
Amount computed using the statutory rate	\$274	\$450	\$366
State income taxes, net	6	(4)	(18)
Foreign rate variance	(52)	(150)	(121)
Domestic manufacturing deduction	—	(18)	(7)
Change in reserves for tax contingencies	21	20	—
General business credits	(60)	(65)	(20)
U.S. tax on foreign earnings	8	29	25
Foreign tax credits	(12)	(26)	(10)
Tax law changes and tax loss from outside-U.S. entity reorganizations ⁽¹⁾	20	(339)	—
Other	21	4	(25)
Provision for (benefit from) income taxes	\$226	\$(99)	\$190
Effective income tax rate	17 %	(8)%	18 %

Includes a one-time net benefit primarily due to the re-measurement of certain net deferred tax liabilities using the lower U.S. corporate income tax rate partially offset by the transition tax on deferred foreign income and changes ⁽¹⁾ in the valuation of deferred tax assets associated with tax law changes and the tax impact from intercompany reorganization activities in 2017 and a net incremental adjustment to those amounts under the Tax Reform Act in 2018.

The 2018 effective tax rate includes the impact of the U.S. corporate tax rate reduction resulting from the Tax Reform Act and the repeal of the domestic manufacturing deduction. The 2018 effective tax rate also includes a \$20 million increase to the provision for income taxes resulting from adjustments to the provisional net tax benefit recognized in fourth quarter 2017 resulting from tax law changes, primarily the Tax Reform Act. These adjustments related to the one-time transition tax on deferred foreign income and changes in valuation of deferred tax assets associated with tax law changes and outside-U.S. entity reorganizations as part of the formation of an international treasury services center.

The 2017 effective tax rate includes a \$339 million net tax benefit, primarily resulting from the Tax Reform Act, and a tax loss from outside-U.S. entity reorganizations as part of the formation of an international treasury services center, a \$20 million benefit due to amendments to prior years' domestic income tax returns, and a \$30 million benefit reflecting the finalization of prior years' foreign income tax returns. The 2017 effective tax rate also includes an \$8 million tax benefit due to a tax ruling permitting deductibility of a liquidation loss on a previously impaired site.

The 2016 effective tax rate includes a tax benefit of \$16 million related to foreign tax credits as a result of the amendment of prior year income tax returns, a \$16 million one-time benefit for the restoration of tax basis for which depreciation deductions were previously limited, and a \$9 million tax benefit primarily due to adjustments to the tax provision to reflect the finalization of 2014 foreign income tax returns.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

The significant components of deferred tax assets and liabilities follow:

(Dollars in millions)	December 31,	
	2018	2017
Deferred tax assets		
Post-employment obligations	\$230	\$242
Net operating loss carryforwards	708	690
Tax credit carryforwards	239	202
Environmental reserves	70	72
Unrealized derivative loss	18	17
Other	94	90
Total deferred tax assets	1,359	1,313
Less: Valuation allowance	466	410
Deferred tax assets less valuation allowance	\$893	\$903
Deferred tax liabilities		
Property, plant, and equipment	\$(856)	\$(835)
Intangible assets	(473)	(535)
Investments	(274)	(274)
Other	(131)	(131)
Total deferred tax liabilities	\$(1,734)	\$(1,775)
Net deferred tax liabilities	\$(841)	\$(872)
As recorded in the Consolidated Statements of Financial Position:		
Other noncurrent assets	\$43	\$21
Deferred income tax liabilities	(884)	(893)
Net deferred tax liabilities	\$(841)	\$(872)

As of December 31, 2018, the Company has accumulated undistributed earnings generated by our foreign subsidiaries of approximately \$1.3 billion. As of December 31, 2017, the Company had accumulated undistributed earnings generated by our foreign subsidiaries of approximately \$1.2 billion, which was subject to the one-time transition tax of \$71 million on deferred foreign income as required by the Tax Reform Act. Beginning January 1, 2019, the Company is not asserting indefinite reinvestment on short-term liquid assets of certain foreign subsidiaries. All other foreign earnings, including basis differences of certain foreign subsidiaries, continue to be considered indefinitely reinvested.

For certain consolidated foreign subsidiaries, income and losses directly flow through to taxable income in the U.S. These entities are also subject to taxation in the foreign tax jurisdictions. Net operating loss carryforwards exist to offset future taxable income in foreign tax jurisdictions and valuation allowances are provided to reduce deferred related tax assets if it is more likely than not that this benefit will not be realized. Changes in the estimated realizable amount of deferred tax assets associated with net operating losses for these entities could result in changes in the deferred tax asset valuation allowance in the foreign tax jurisdiction. At the same time, because these entities are also subject to tax in the U.S., a deferred tax liability for the expected future taxable income will be established concurrently. Therefore, the impact of any reversal of valuation allowances on consolidated income tax expense will be only to the extent that there are differences between the U.S. statutory tax rate and the tax rate in the foreign jurisdiction. A valuation allowance of \$20 million at December 31, 2018 has been provided against the deferred tax asset resulting from these operating loss carryforwards.

At December 31, 2018, foreign net operating loss carryforwards totaled \$2.5 billion. Of this total, \$145 million will expire in 1 to 20 years and \$2.4 billion have no expiration date. A valuation allowance of approximately \$304 million has been provided against such net operating loss carryforwards.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

At December 31, 2018, federal net operating loss carryforwards of \$12 million were available to offset future taxable income, which expire from 2028 to 2030. At December 31, 2018, foreign tax credit carryforwards of approximately \$64 million were available to reduce possible future U.S. income taxes and which expire from 2019 to 2028. As a result of the Tax Reform Act, the Company may no longer be able to utilize the Solutia, Inc. ("Solutia") U.S. foreign tax credit carryforwards; therefore, management established a full valuation allowance of \$48 million on the remaining deferred tax asset as of December 31, 2018.

At December 31, 2018, a valuation allowance of \$36 million was established against state tax credits that the Company may not be able to utilize.

A partial valuation allowance of \$54 million has been established for the Solutia state net operating loss carryforwards. The valuation allowance will be retained until there is sufficient positive evidence to conclude that it is more likely than not that the deferred tax assets will be realized, or the related statute expires.

Amounts due to and from tax authorities as recorded in the Consolidated Statements of Financial Position:

	December 31,	
(Dollars in millions)	2018	2017
Miscellaneous receivables	\$135	\$215
Payables and other current liabilities	\$43	\$58
Other long-term liabilities	162	137
Total income taxes payable	\$205	\$195

A reconciliation of the beginning and ending amounts of unrecognized tax benefits is as follows:

(Dollars in millions)	2018	2017	2016
Balance at January 1	\$142	\$114	\$125
Adjustments based on tax positions related to current year	44	29	(7)
Lapse of statute of limitations	(4)	(1)	(4)
Balance at December 31	\$182	\$142	\$114

All of the unrecognized tax benefits would, if recognized, impact the Company's effective tax rate.

Interest, net of tax, related to unrecognized tax benefits is recorded as a component of income tax expense. As of January 1, 2018, Eastman had accrued a liability of \$6 million for interest, net of tax, and \$1 million for estimated tax penalties. During 2018, the Company recognized \$4 million of expense for interest, net of tax, and no penalties associated with unrecognized tax benefits, no income for interest, net of tax, and no penalties, associated with the expiration of the statute of limitations. At December 31, 2018, the Company had accrued balances of \$10 million for interest, net of tax benefit, and \$1 million for penalties.

As of January 1, 2017, Eastman had accrued a liability of \$4 million for interest, net of tax, and \$1 million for tax penalties. During 2017, the Company recognized \$3 million of expense for interest, net of tax, and no penalties associated with unrecognized tax benefits, offset by \$1 million of income for interest, net of tax, and no penalties, associated with the expiration of the statute of limitations. At December 31, 2017, the Company had accrued balances of \$6 million for interest, net of tax benefit, and \$1 million for penalties.

As of January 1, 2016, Eastman had accrued a liability of \$4 million for interest, net of tax, and \$1 million for tax penalties. During 2016, the Company recognized \$1 million of expense for interest, net of tax, and no penalties associated with unrecognized tax benefits, offset by \$1 million of income for interest, net of tax, and no of penalties,

associated with the expiration of the statute of limitations. At December 31, 2016, the Company had accrued balances of \$4 million for interest, net of tax benefit, and \$1 million for penalties.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Eastman files income tax returns in the United States and various state and foreign jurisdictions. The Company is no longer subject to U.S. Federal income tax examinations by tax authorities for years before 2011 for Eastman legal entities and years before 2002 for Solutia legal entities. With few exceptions, Eastman is no longer subject to state and local income tax examinations by tax authorities for years before 2011. Solutia and related subsidiaries are no longer subject to state and local income tax examinations for years before 2000. With few exceptions, the Company is no longer subject to foreign income tax examinations by tax authorities for tax years before 2011.

It is reasonably possible that, as a result of the resolution of federal, state, and foreign examinations and appeals, and the expiration of various statutes of limitation, unrecognized tax benefits could decrease within the next twelve months by up to \$8 million.

8. BORROWINGS

(Dollars in millions)	December 31,	
	2018	2017
Borrowings consisted of:		
5.5% notes due November 2019	\$—	\$250
2.7% notes due January 2020	250	797
4.5% notes due January 2021	185	185
3.5% notes due December 2021	297	—
3.6% notes due August 2022	739	738
1.50% notes due May 2023 ⁽¹⁾	855	895
7 1/4% debentures due January 2024	197	197
7 5/8% debentures due June 2024	43	43
3.8% notes due March 2025	691	690
1.875% notes due November 2026 ⁽¹⁾	566	592
7.60% debentures due February 2027	195	195
4.5% notes due December 2028	492	—
4.8% notes due September 2042	493	493
4.65% notes due October 2044	872	871
Commercial paper and short-term borrowings	243	389
Credit facilities borrowings	50	200
Capital leases and other	—	5
Total borrowings	6,168	6,540
Borrowings due within one year	243	393
Long-term borrowings	\$5,925	\$6,147

The carrying value of the euro-denominated 1.50% notes due May 2023 and 1.875% notes due November 2026 ⁽¹⁾ will fluctuate with changes in the euro exchange rate. The carrying value of these euro-denominated borrowings have been designated as non-derivative net investment hedges of a portion of the Company's net investments in euro functional-currency denominated subsidiaries to offset foreign currency fluctuations.

In fourth quarter 2018, the Company sold 3.5% notes due December 2021 in the principal amount of \$300 million and 4.5% notes due December 2028 in the principal amount of \$500 million. Net proceeds from the notes were \$789 million and were used, together with available cash, for the early and full repayment of the 5.5% notes due November 2019 (\$250 million principal) and the partial redemption of the 2.7% notes due January 2020 (\$550 million principal). Total consideration for these redemptions were \$806 million (\$800 million total principal and \$6 million for the early redemption premiums) and are reported as financing activities on the Consolidated Statements of Cash Flows. The early repayment resulted in a charge of \$7 million for early debt extinguishment costs which were primarily attributable to the early redemption premiums and related unamortized costs. The book value of the redeemed debt was \$799 million.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Credit Facilities and Commercial Paper Borrowings

In December 2016, the Company borrowed \$300 million under a five-year term loan agreement ("2021 Term Loan"). Borrowings under the 2021 Term Loan agreement were subject to interest at varying spreads above quoted market rates. As of December 31, 2017, the 2021 Term Loan outstanding balance was \$200 million with an interest rate of 2.60 percent. In 2018, the 2021 Term Loan was repaid using available cash.

The Company has access to a \$1.50 billion revolving credit agreement (the "Credit Facility") that was amended in October 2018 to increase the available borrowing amount from \$1.25 billion and to extend the maturity to October 2023. Borrowings under the Credit Facility are subject to interest at varying spreads above quoted market rates and a commitment fee is paid on the total unused commitment. The Credit Facility provides available liquidity for general corporate purposes and supports commercial paper borrowings. Commercial paper borrowings are classified as short-term. At December 31, 2018 and 2017, the Company had no outstanding borrowings under the Credit Facility. At December 31, 2018, commercial paper borrowings were \$130 million with a weighted average interest rate of 2.91 percent. At December 31, 2017, the Company's commercial paper borrowings were \$280 million with a weighted average interest rate of 1.61 percent.

The Company has access to a \$250 million accounts receivable securitization agreement (the "A/R Facility") that expires April 2020. Eastman Chemical Financial Corporation ("ECFC"), a subsidiary of the Company, has an agreement to sell interests in trade receivables under the A/R Facility to a third party purchaser. Third party creditors of ECFC have first priority claims on the assets of ECFC before those assets would be available to satisfy the Company's general obligations. Borrowings under the A/R Facility are subject to interest rates based on a spread over the lender's borrowing costs, and ECFC pays a fee to maintain availability of the A/R Facility. At December 31, 2018, the Company's borrowings under the A/R Facility were \$50 million supported by trade receivables with an interest rate of 3.39 percent. At December 31, 2017, the Company had no borrowings under the A/R Facility.

The Company has access to borrowings of up to €150 million (\$172 million) under a receivables facility based on the discounted value of selected customer accounts receivable. This facility expires December 2020 and renews for another one year period if not terminated with 90 days notice by either party. These arrangements include receivables in the United States, Belgium, and Finland, and are subject to various eligibility requirements. Borrowings under this facility are subject to interest at an agreed spread above LIBOR and EURIBOR plus administration and insurance fees and are classified as short-term. The amount of outstanding borrowings under this facility were \$112 million at December 31, 2018 with a weighted average interest rate of 1.70 percent.

The Credit and A/R Facilities and other borrowing agreements contain customary covenants and events of default, some of which require the Company to maintain certain financial ratios that determine the amounts available and terms of borrowings. The Company was in compliance with all covenants at both December 31, 2018 and December 31, 2017.

Fair Value of Borrowings

Eastman has classified its total borrowings at December 31, 2018 and 2017 under the fair value hierarchy as defined in the accounting policies in Note 1, "Significant Accounting Policies". The fair value for fixed-rate debt securities is based on quoted market prices for the same or similar debt instruments and is classified as Level 2. The fair value for the Company's other borrowings primarily under the 2021 Term Loan, commercial paper, A/R Facility, and receivables facility equals the carrying value and is classified as Level 2. At December 31, 2018 and 2017, the fair value of total borrowings was \$6,216 million and \$6,980 million, respectively. The Company had no borrowings classified as Level 1 or Level 3 as of December 31, 2018 and 2017.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

9. DERIVATIVE AND NON-DERIVATIVE FINANCIAL INSTRUMENTS

Overview of Hedging Programs

Eastman is exposed to market risks, such as changes in foreign currency exchange rates, commodity prices, and interest rates. To mitigate these market risks and their effects on the cash flows of the underlying transactions and investments in foreign subsidiaries, the Company uses various derivative and non-derivative financial instruments, when appropriate, in accordance with the Company's hedging strategy and policies. Designation is performed on a specific exposure basis to support hedge accounting. The Company does not enter into derivative transactions for speculative purposes.

Cash Flow Hedges

Cash flow hedges are derivative instruments designated as and used to hedge the exposure to variability in expected future cash flows that are attributable to a particular risk. The derivative instruments that are designated and qualify as a cash flow hedge are reported on the balance sheet at fair value and the changes in fair value of these hedging instruments are offset in part or in whole by corresponding changes in the anticipated cash flows of the underlying exposures being hedged. The change in the hedge instrument is reported as a component of AOCI located in the Consolidated Statements of Financial Position and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings.

Foreign Currency Exchange Rate Hedging

Eastman manufactures and sells its products in a number of countries throughout the world and, as a result, is exposed to changes in foreign currency exchange rates. To manage the volatility relating to these exposures, the Company nets the exposures on a consolidated basis to take advantage of natural offsets. To manage the remaining exposure, the Company enters into currency option and forward cash flow hedges to hedge probable anticipated, but not yet committed, export sales and purchase transactions expected within a rolling three year period and denominated in foreign currencies (principally the euro). Additionally, the Company, from time to time, enters into forward exchange contract cash flow hedges to hedge certain firm commitments denominated in foreign currencies.

Commodity Hedging

Certain raw material and energy sources used by Eastman, as well as sales of certain commodity products by the Company, are subject to price volatility caused by weather, supply and demand conditions, economic variables and other unpredictable factors. This volatility is primarily related to the market pricing of propane, ethane, natural gas, paraxylene, ethylene, and benzene. In order to mitigate expected fluctuations in market prices, from time to time, the Company enters into option and forward contracts and designates these contracts as cash flow hedges. The Company currently hedges commodity price risks using derivative financial instrument transactions within a rolling three year period. The Company weights its hedge portfolio more heavily in the first year with declining coverage over the remaining periods.

Interest Rate Hedging

Eastman's policy is to manage interest expense using a mix of fixed and variable rate debt. To manage interest rate risk effectively, the Company, from time to time, enters into cash flow interest rate derivative instruments, primarily forward starting swaps and treasury locks, to hedge the Company's exposure to movements in interest rates prior to anticipated debt offerings. These instruments are designated as cash flow hedges.

Fair Value Hedges

Fair value hedges are defined as derivative or non-derivative instruments designated as and used to hedge the exposure to changes in the fair value of an asset or a liability or an identified portion thereof that is attributable to a particular risk. The derivative instruments that are designated and qualify as fair value hedges are recognized on the balance sheet at fair value and the changes in fair value of these hedging instruments are offset in part or in whole by corresponding changes in the anticipated fair value of the underlying exposures being hedged. The net of the change in the hedge instrument and item being hedged for qualifying fair value hedges is recognized in earnings in the same period or periods during which the hedged transaction affects earnings.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Interest Rate Hedging

Eastman's policy is to manage interest expense using a mix of fixed and variable rate debt. To manage the Company's mix of fixed and variable rate debt effectively, from time to time, the Company enters into interest rate swaps in which the Company agrees to exchange the difference between fixed and variable interest amounts calculated by reference to an agreed upon notional principal amount. These swaps are designated as hedges of the fair value of the underlying debt obligations and the interest rate differential is reflected as an adjustment to interest expense over the life of the swaps.

Net Investment Hedges

Net investment hedges are defined as derivative or non-derivative instruments designated as and used to hedge the foreign currency exposure of the net investment in certain foreign operations. The net of the change in the hedge instrument and item being hedged for qualifying net investment hedges is reported as a component of the CTA within AOCI located in the Consolidated Statements of Financial Position. Recognition in earnings of amounts previously recognized in CTA is limited to circumstances such as complete or substantially complete liquidation of the net investment in the hedged foreign operation.

For derivative cross-currency interest rate swap net investment hedges, gains and losses representing hedge components excluded from the assessment of effectiveness are recognized in CTA within AOCI and recognized in earnings through the periodic swap interest accruals. The cross-currency interest rate swaps designated as net investment hedges are included as part of "Other long-term liabilities" or "Other noncurrent assets" within the Consolidated Statements of Financial Position.

In January 2018, Eastman entered into fixed-to-fixed cross-currency swaps and designated these swaps to hedge a portion of its net investment in a euro functional currency denominated subsidiary against foreign currency fluctuations. These contracts involve the exchange of fixed U.S. dollars with fixed euro interest payments periodically over the life of the contracts and an exchange of the notional amounts at maturity. The fixed-to-fixed cross-currency swaps include €150 million (\$180 million) maturing January 2021 and €266 million (\$320 million) maturing August 2022.

In October 2018, Eastman entered into fixed-to-fixed cross-currency swaps and designated these swaps to hedge a portion of its net investment in a euro functional currency denominated subsidiary against foreign currency fluctuations. These contracts involve the exchange of fixed U.S. dollars with fixed euro interest payments periodically over the life of the contracts and an exchange of the notional amounts at maturity. The fixed-to-fixed cross-currency swaps include €165 million (\$190 million) maturing January 2024, €104 million (\$120 million) maturing March 2025, and €165 million (\$190 million) maturing February 2027.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Summary of Financial Position and Financial Performance of Hedging Instruments

The following table presents the notional amounts outstanding at December 31, 2018 and 2017 associated with Eastman's hedging programs.

Notional Outstanding	December 31, 2018	December 31, 2017
Derivatives designated as cash flow hedges:		
Foreign Exchange Forward and Option Contracts (in millions)		
EUR/USD (in EUR)	€263	€525
Commodity Forward and Collar Contracts		
Feedstock (in million barrels)	5	7
Energy (in million british thermal units)	40	23
Derivatives designated as fair value hedges:		
Fixed-for-floating interest rate swaps (in millions)	\$75	\$75
Derivatives designated as net investment hedges:		
Cross-currency interest rate swaps (in millions)		
EUR/USD (in EUR)	€851	—
Non-derivatives designated as net investment hedges:		
Foreign Currency Net Investment Hedges (in millions)		
EUR/USD (in EUR)	€1,241	€1,240

Fair Value Measurements

For additional information on fair value measurement, see Note 1, "Significant Accounting Policies".

All the Company's derivative assets and liabilities are currently classified as Level 2. Level 2 fair value is based on estimates using standard pricing models. These standard pricing models use inputs that are derived from or corroborated by observable market data such as interest rate yield curves and currency spot and forward rates. The fair value of commodity contracts is derived using forward curves supplied by an industry recognized and unrelated third party. In addition, on an ongoing basis, the Company tests a subset of its valuations against valuations received from the transaction's counterparty to validate the accuracy of its standard pricing models. Counterparties to these derivative contracts are highly rated financial institutions which the Company believes carry minimal risk of nonperformance and the Company diversifies its positions among such counterparties to reduce its exposure to counterparty risk and credit losses. The Company monitors the creditworthiness of its counterparties on an ongoing basis. The Company did not realize a credit loss during the years ended December 31, 2018 or 2017.

All the Company's derivative contracts are subject to master netting arrangements, or similar agreements, which provide for the option to settle contracts on a net basis when they settle on the same day and in the same currency. In addition, these arrangements provide for a net settlement of all contracts with a given counterparty in the event that the arrangement is terminated due to the occurrence of default or a termination event. The Company does not have any cash collateral due under such agreements.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

The Company has elected to present derivative contracts on a gross basis within the Consolidated Statements of Financial Position. The following table presents the financial assets and liabilities valued on a recurring and gross basis and includes where the financial assets and liabilities are located within the Consolidated Statements of Financial Position as of December 31, 2018 and 2017.

The Financial Position and Fair Value Measurements of Hedging Instruments on a Gross Basis
(Dollars in millions)

Derivative Type	Statements of Financial Position Location	December 31, 2018 Level 2	December 31, 2017 Level 2
Derivatives designated as cash flow hedges:			
Commodity contracts	Other current assets	\$ 4	\$ 9
Commodity contracts	Other noncurrent assets	—	4
Foreign exchange contracts	Other current assets	15	23
Foreign exchange contracts	Other noncurrent assets	4	2
Derivatives designated as fair value hedges:			
Fixed-for-floating interest rate swap	Other current assets	1	1
Derivatives designated as net investment hedges:			
Cross-currency interest rate swaps	Other noncurrent assets	26	—
Total Derivative Assets		\$ 50	\$ 39
Derivatives designated as cash flow hedges:			
Commodity contracts	Payables and other current liabilities	\$ 24	\$ 28
Commodity contracts	Other long-term liabilities	5	10
Foreign exchange contracts	Payables and other current liabilities	—	6
Foreign exchange contracts	Other long-term liabilities	—	4
Derivatives designated as fair value hedges:			
Fixed-for-floating interest rate swap	Long-term borrowings	4	4
Total Derivative Liabilities		\$ 33	\$ 52
Total Net Derivative Assets (Liabilities)		\$ 17	\$ (13)

In addition to the fair value associated with derivative instruments designated as cash flow hedges, fair value hedges, and net investment hedges noted in the table above, the Company had a carrying value of \$1.4 billion and \$1.5 billion associated with non-derivative instruments designated as foreign currency net investment hedges as of December 31, 2018 and 2017, respectively. The designated foreign currency-denominated borrowings are included as part of "Long-term borrowings" within the Consolidated Statements of Financial Position.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

As of December 31, 2018 and 2017, the following amounts were included within the Consolidated Statements of Financial Position related to cumulative basis adjustments for fair value hedges.

(Dollars in millions)	Carrying amount of the hedged liabilities	Cumulative amount of fair value hedging loss adjustment included in the carrying amount of the hedged liability	
		December 31, 2018	December 31, 2017
Line item in the Consolidated Statements of Financial Position in which the hedged item is included			
Long-term borrowings ⁽¹⁾	\$759	\$760	\$(12)

⁽¹⁾ At December 31, 2018 and 2017, the cumulative amount of fair value hedging loss adjustment remaining for hedged liabilities for which hedge accounting has been discontinued was \$7 million and \$6 million, respectively.

The following table presents the effect of the Company's hedging instruments on OCI and financial performance for the twelve months ended December 31, 2018 and 2017:

(Dollars in millions)	Change in amount of after tax gain/(loss) recognized in OCI on Derivatives		Pre-tax amount of gain/(loss) reclassified from AOCI into income	
	December 31, 2018	December 31, 2017	December 31, 2018	December 31, 2017
Hedging Relationships				
Derivatives in cash flow hedging relationships:				
Commodity contracts	\$ —	\$ 62	\$(3)	\$(43)
Foreign exchange contracts	3	(50)	29	35
Forward starting interest rate and treasury lock swap contracts	4	3	(5)	(5)
Non-derivatives in net investment hedging relationships (pre-tax):				
Net investment hedges	67	(180)	—	—
Derivatives in net investment hedging relationships (pre-tax):				
Cross-currency interest rate swaps	26	—	—	—
Cross-currency interest rate swaps excluded component	—	—	—	—

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

The following table presents the effect of fair value and cash flow hedge accounting on the Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings for 2018 and 2017.

Location and Amount of Gain or (Loss) Recognized in Earnings on Fair Value and Cash Flow Hedging Relationships

(Dollars in millions)	Twelve Months 2018			2017		
	Sales	Cost of Sales	Net interest expense	Sales	Cost of Sales	Net interest expense
Total amounts of income and expense line items presented in the Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings in which the effects of fair value or cash flow hedges are recognized	\$10,151	\$7,672	\$ 235	\$9,549	\$7,186	\$ 241
The effects of fair value and cash flow hedging:						
Gain or (loss) on fair value hedging relationships:						
Interest contracts (fixed-for-floating interest rate swaps):						
Hedged items			—			(4)
Derivatives designated as hedging instruments			—			4
Gain or (loss) on cash flow hedging relationships:						
Interest contracts (forward starting interest rate and treasury lock swap contracts):						
Amount reclassified from AOCI into earnings			(5)			(5)
Commodity Contracts:						
Amount reclassified from AOCI into earnings			(3)			(43)
Foreign Exchange Contracts:						
Amount reclassified from AOCI into earnings	29			35		

The Company enters into foreign exchange derivatives denominated in multiple currencies which are transacted and settled in the same quarter. These derivatives are not designated as hedges due to the short-term nature and the gains or losses on these derivatives are marked-to-market in line item "Other (income) charges, net" of the Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings. The Company recognized a net loss of \$13 million and net gain of \$1 million during 2018 and 2017, respectively, on these derivatives.

Pre-tax monetized positions and MTM gains and losses from raw materials and energy, currency, and certain interest rate hedges that were included in AOCI included losses of \$112 million at December 31, 2018 and losses of \$214 million at December 31, 2017. Losses in AOCI decreased in 2018 compared to 2017 primarily as a result of a decrease in foreign currency exchange rates, particularly the euro. If realized, approximately \$10 million in pre-tax losses will be reclassified into earnings during the next 12 months.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

10. RETIREMENT PLANS

As described below, Eastman offers various postretirement benefits to its employees.

Defined Contribution Plans

Eastman sponsors a defined contribution employee stock ownership plan (the "ESOP"), which is a component of the Eastman Investment Plan and Employee Stock Ownership Plan ("EIP/ESOP"), under Section 401(a) of the Internal Revenue Code. Eastman made a contribution in February 2019 to the EIP/ESOP for substantially all U.S. employees equal to 5 percent of their eligible compensation for the 2018 plan year. Employees may allocate contributions to other investment funds within the EIP from the ESOP at any time without restrictions. Allocated shares in the ESOP totaled 2,119,614; 2,130,176; and 2,183,950 shares as of December 31, 2018, 2017, and 2016, respectively. Dividends on shares held by the EIP/ESOP are charged to retained earnings. All shares held by the EIP/ESOP are treated as outstanding in computing earnings per share.

In 2006, the Company amended its EIP/ESOP to provide a Company match of 50 percent of the first 7 percent of an employee's compensation contributed to the plan for employees who are hired on or after January 1, 2007. Employees who are hired on or after January 1, 2007, are also eligible for the contribution to the ESOP as described above.

Charges for domestic contributions to the EIP/ESOP were \$67 million, \$64 million, and \$63 million for 2018, 2017, and 2016, respectively.

Defined Benefit Pension Plans and Other Postretirement Benefit Plans

Pension Plans

Eastman maintains defined benefit pension plans that provide eligible employees with retirement benefits.

Effective January 1, 2000, the Company's Eastman Retirement Assistance Plan, a U.S. defined benefit pension plan, was amended. Employees' accrued pension benefits earned prior to January 1, 2000 are calculated based on previous plan provisions using the employee's age, years of service, and final average compensation as defined in the plans. The amended plan uses a pension equity formula to calculate an employee's retirement benefits from January 1, 2000 forward. Benefits payable will be the combined pre-2000 and post-1999 benefits. Employees hired on or after January 1, 2007 are not eligible to participate in Eastman's U.S. defined benefit pension plans.

Benefits are paid to employees from trust funds. Contributions to the trust funds are made as permitted by laws and regulations. The pension trust funds do not directly own any of the Company's common stock.

Pension coverage for employees of Eastman's non-U.S. operations is provided, to the extent deemed appropriate, through separate plans. The Company systematically provides for obligations under such plans by depositing funds with trustees, under insurance policies, or by book reserves.

Other Postretirement Benefit Plans

Under its other postretirement benefit plans in the U.S., Eastman provides life insurance for eligible retirees hired prior to January 1, 2007. Eastman provides a subsidy for pre-Medicare health care and dental benefits to eligible retirees hired prior to January 1, 2007 that will end on December 31, 2021. Company funding is also provided for eligible Medicare retirees hired prior to January 1, 2007 with a health reimbursement arrangement. A few of the Company's non-U.S. operations have supplemental health benefit plans for certain retirees, the cost of which is not

significant to the Company.

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NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Below is a summary balance sheet of the change in plan assets during 2018 and 2017, the funded status of the plans and amounts recognized in the Consolidated Statements of Financial Position.

Summary of Changes

(Dollars in millions)	Pension Plans				Postretirement Benefit Plans	
	2018		2017		2018	2017
	U.S.	Non-U.S.	U.S.	Non-U.S.		
Change in projected benefit obligation:						
Benefit obligation, beginning of year	\$2,154	\$ 893	\$2,141	\$ 801	\$738	\$737
Service cost	35	14	37	13	—	3
Interest cost	67	20	66	20	22	23
Actuarial (gain) loss	(119)	(20)	94	(11)	(33)	30
Plan participants' contributions	—	1	—	1	11	12
Effect of currency exchange	—	(45)	—	90	(1)	1
Federal subsidy on benefits paid	—	—	—	—	—	1
Benefits paid	(178)	(23)	(184)	(21)	(65)	(69)
Benefit obligation, end of year	\$1,959	\$ 840	\$2,154	\$ 893	\$672	\$738
Change in plan assets:						
Fair value of plan assets, beginning of year	\$2,054	\$ 773	\$1,959	\$ 667	\$148	\$149
Actual return on plan assets	(61)	(19)	271	31	(6)	22
Effect of currency exchange	—	(39)	—	76	—	—
Company contributions	5	20	8	19	43	43
Reserve for third party contributions	—	—	—	—	4	(10)
Plan participants' contributions	—	1	—	1	11	12
Benefits paid	(178)	(23)	(184)	(21)	(65)	(69)
Federal subsidy on benefits paid	—	—	—	—	—	1
Fair value of plan assets, end of year	\$1,820	\$ 713	\$2,054	\$ 773	\$135	\$148
Funded status at end of year	\$(139)	\$(127)	\$(100)	\$(120)	\$(537)	\$(590)
Amounts recognized in the Consolidated Statements of Financial Position consist of:						
Other noncurrent assets	\$2	\$ —	\$12	\$ 8	\$41	\$38
Current liabilities	(4)	(1)	(3)	(1)	(45)	(44)
Post-employment obligations	(137)	(126)	(109)	(127)	(533)	(584)
Net amount recognized, end of year	\$(139)	\$(127)	\$(100)	\$(120)	\$(537)	\$(590)
Accumulated benefit obligation	\$1,900	\$ 796	\$2,031	\$ 845		
Amounts recognized in accumulated other comprehensive income consist of:						
Prior service (credit) cost	\$2	\$ —	\$1	\$ 1	\$(182)	\$(222)

Information for pension plans with projected benefit obligations in excess of plan assets:

(Dollars in millions)	2018		2017	
	U.S.	Non-U.S.	U.S.	Non-U.S.
Projected benefit obligation	\$1,726	\$ 840	\$1,709	\$ 658
Fair value of plan assets	1,585	713	1,597	530

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Information for pension plans with accumulated benefit obligations in excess of plan assets:

(Dollars in millions)	2018		2017	
	U.S.	Non-U.S.	U.S. (1)	Non-U.S.
Projected benefit obligation	\$ 1,726	\$ 568	\$ 170	\$ 618
Accumulated benefit obligation	1,667	547	159	596
Fair value of plan assets	1,585	448	117	492

(1) Return on assets during 2017, including returns on \$200 million contributions made in 2016, resulted in the fair value of plan assets exceeding the accumulated benefit obligation for a significant U.S. pension plan.

Summary of Benefit Costs and Other Amounts Recognized in Other Comprehensive Income

(Dollars in millions)	Pension Plans						Postretirement Benefit Plans		
	2018		2017		2016		2018	2017	2016
	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.			
Components of net periodic benefit (credit) cost:									
Service cost	\$35	\$ 14	\$37	\$ 13	\$39	\$ 12	\$—	\$3	\$5
Interest cost	67	20	66	20	74	23	22	23	27
Expected return on plan assets	(147)	(37)	(140)	(35)	(138)	(32)	(5)	(5)	(6)
Amortization of:									
Prior service (credit) cost	(1)	1	(4)	1	(4)	—	(40)	(40)	(44)
Mark-to-market pension and other postretirement benefits (gain) loss, net	89	36	(37)	(7)	34	52	(26)	23	11
Net periodic benefit (credit) cost	\$43	\$ 34	\$(78)	\$(8)	\$5	\$ 55	\$(49)	\$4	\$(7)
Other changes in plan assets and benefit obligations recognized in other comprehensive income:									
Current year prior service credit (cost)	\$—	\$ —	\$—	\$ —	\$(3)	\$ —	\$—	\$—	\$106
Amortization of:									
Prior service (credit) cost	(1)	1	(4)	1	(4)	—	(40)	(40)	(44)
Total	\$(1)	\$ 1	\$(4)	\$ 1	\$(7)	\$ —	\$(40)	\$(40)	\$62

In fourth quarter 2016, Eastman changed benefits provided to retirees by an Eastman other postretirement benefit plan which triggered a remeasurement of the plan's obligation. The remeasurement resulted in a pre-tax reduction in the accumulated postretirement benefit obligation of approximately \$106 million which will be amortized as a prior service credit from AOCI over approximately eight years. The remeasurement was included in the 2016 year end remeasurement process.

In third quarter 2016, the Company announced a change to a UK defined benefit pension plan which triggered an interim remeasurement of the plan obligation resulting in a MTM loss of \$30 million. The MTM loss was primarily due to a lower discount rate at the third quarter 2016 remeasurement date compared to December 31, 2015. The lower discount rate was reflective of changes in global market conditions and interest rates on high-grade corporate bonds. The plan was remeasured in fourth quarter 2016 as part of the annual MTM remeasurement process.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

In first quarter 2016, the Company changed the approach used to calculate service and interest cost components of net periodic benefit costs for its significant defined benefit pension and other postretirement benefit plans. The Company elected to calculate service and interest costs by applying the specific spot rates along the yield curve to the plans' projected cash flows. The change does not affect the measurement of the total benefit obligation or the annual net periodic benefit cost or credit of the plans because the change in the service and interest costs will be offset in the MTM actuarial gain or loss which typically is recognized in the fourth quarter of each year or in any other quarters in which an interim remeasurement is triggered. The change in the approach for full-year 2016 pre-tax expense was an increase to service cost of approximately \$2 million and a reduction in interest cost of approximately \$22 million compared to the previous method. The net reduction of approximately \$20 million was offset by a MTM loss as part of the annual remeasurement of the plans in fourth quarter 2016.

The estimated prior service credit for the other postretirement benefit plans that will be amortized from AOCI into net periodic cost in 2019 is \$39 million.

Plan Assumptions

The assumptions used to develop the projected benefit obligation for Eastman's significant U.S. and non-U.S. defined benefit pension plans and U.S. postretirement benefit plans are provided in the following tables.

	Pension Plans						Postretirement Benefit Plans		
	2018		2017		2016		2018	2017	2016
Weighted-average assumptions used to determine benefit obligations for years ended December 31:	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.			
Discount rate	4.29%	2.35 %	3.57%	2.25 %	3.89%	2.33 %	4.26 %	3.54 %	3.91 %
Rate of compensation increase	3.25%	2.94 %	3.25%	2.95 %	3.25%	2.94 %	3.25 %	3.25 %	3.25 %
Health care cost trend									
Initial							6.50 %	6.75 %	7.00 %
Decreasing to ultimate trend of in year							5.00 %	5.00 %	5.00 %
							2025	2025	2021

	U.S.		Non-U.S.		U.S.		Non-U.S.		U.S.		Non-U.S.	
	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.
Discount rate	3.57%	2.25 %	3.89%	2.33 %	4.13%	3.26 %	3.54 %	3.91 %	4.17 %			
Discount rate for service cost	3.64%	2.25 %	3.89%	2.33 %	4.13%	3.26 %	3.28 %	4.31 %	4.57 %			
Discount rate for interest cost	3.18%	2.25 %	3.24%	2.33 %	3.33%	3.26 %	3.14 %	3.28 %	3.42 %			
Expected return on assets	7.48%	4.83 %	7.49%	5.02 %	7.60%	5.11 %	3.75 %	3.75 %	3.75 %			
Rate of compensation increase	3.25%	2.95 %	3.25%	2.94 %	3.50%	3.00 %	3.25 %	3.25 %	3.50 %			
Health care cost trend												
Initial							6.75 %	7.00 %	7.50 %			
Decreasing to ultimate trend of in year							5.00 %	5.00 %	5.00 %			
							2025	2021	2021			

A 6.50 percent rate of increase in per capita cost of covered health care benefits is assumed for 2019. The rate is assumed to decrease gradually to five percent in 2025 and remain at that level thereafter. A one percent increase or decrease in health care cost trend would have had no material impact on the 2018 service and interest costs or the 2018 benefit obligation, because the Company's contributions for benefits are fixed.

In 2017, the Company performed a five year experience study on assumptions for the U.S. plans, including a review of the mortality tables. As a result of the study, the Company has updated the mortality assumptions used to a modified RP-2017 table with a modified MP-2017 improvement scale and no collar adjustment.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

The fair value of plan assets for the U.S. pension plans at December 31, 2018 and 2017 was \$1.8 billion and \$2.1 billion, respectively, while the fair value of plan assets at December 31, 2018 and 2017 for non-U.S. pension plans was \$713 million and \$773 million, respectively. At December 31, 2018 and 2017, the expected weighted-average long-term rate of return on U.S. pension plan assets was 7.43 percent and 7.48 percent, respectively. The expected weighted-average long-term rate of return on non-U.S. pension plans assets was 4.49 percent and 4.83 percent at December 31, 2018 and 2017, respectively.

Plan Assets

The following tables reflect the fair value of the defined benefit pension plans assets.

Description	Total Fair Value		Fair Value Measurements at December 31, 2018					
			Quoted Prices in Active Markets for Identical Assets (Level 1)		Significant Other Observable Inputs (Level 2)		Significant Unobservable Inputs (Level 3)	
	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.
Pension Assets:								
Cash & Cash Equivalents ⁽¹⁾	\$16	\$ 53	\$16	\$ 53	\$ —	\$ —	\$ —	\$ —
Public Equity - United States ⁽²⁾	2	—	2	—	—	—	—	—
Other Investments ⁽³⁾	—	51	—	—	—	—	—	51
Total Assets at Fair Value	\$18	\$ 104	\$18	\$ 53	\$ —	\$ —	\$ —	\$ 51
Investments Measured at Net Asset Value ⁽⁴⁾	1,802	609						
Total Assets	\$1,820	\$ 713						

Description	Total Fair Value		Fair Value Measurements at December 31, 2017					
			Quoted Prices in Active Markets for Identical Assets (Level 1)		Significant Other Observable Inputs (Level 2)		Significant Unobservable Inputs (Level 3)	
	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.
Pension Assets:								
Cash & Cash Equivalents ⁽¹⁾	\$20	\$ 57	\$20	\$ 57	\$ —	\$ —	\$ —	\$ —
Public Equity - United States ⁽²⁾	4	—	4	—	—	—	—	—
Other Investments ⁽³⁾	—	51	—	—	—	—	—	51
Total Assets at Fair Value	\$24	\$ 108	\$24	\$ 57	\$ —	\$ —	\$ —	\$ 51
Investments Measured at Net Asset Value ⁽⁴⁾	2,030	665						
Total Assets	\$2,054	\$ 773						

(1) Cash & Cash Equivalents: Funds generally invested in actively managed collective trust funds or interest bearing accounts.

(2) Public Equity - United States: Common stock equity securities which are primarily valued using a market approach based on the quoted market prices.

Other Investments: Primarily consist of insurance contracts which are generally valued using a crediting rate that approximates market returns and investments in underlying securities whose market values are unobservable and determined using pricing models, discounted cash flow methodologies, or similar techniques.

(4) Investments Measured at Net Asset Value: The underlying debt and public equity investments in this category are generally held in common trust funds, which are either actively or passively managed investment vehicles, that are valued at the net asset value per unit/share multiplied by the number of units/shares held as of the measurement

date. The other alternative investments in this category are valued under the practical expedient method which is based on the most recently reported net asset value provided by the management of each private investment fund, adjusted as appropriate, for any lag between the date of the financial reports and the measurement date.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

The following tables reflect the fair value of the postretirement benefit plan assets. The postretirement benefit plan is for the voluntary employees' beneficiary association ("VEBA") trust the Company assumed as part of the Solutia acquisition.

Description	Total Fair Value	Fair Value Measurements at December 31, 2018			
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
Postretirement Benefit Plan Assets:					
Cash & Cash Equivalents ⁽¹⁾	\$ 3	\$ 3	\$ —	\$ —	—
Debt ⁽²⁾ :					
Fixed Income (U.S.)	78	—	78	—	—
Fixed Income (Non-U.S.)	26	—	26	—	—
Total	\$ 107	\$ 3	\$ 104	\$ —	—

Description	Total Fair Value	Fair Value Measurements at December 31, 2017			
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
Postretirement Benefit Plan Assets:					
Cash & Cash Equivalents ⁽¹⁾	\$ 2	\$ 2	\$ —	\$ —	—
Debt ⁽²⁾ :					
Fixed Income (U.S.)	82	—	82	—	—
Fixed Income (Non-U.S.)	31	—	31	—	—
Total	\$ 115	\$ 2	\$ 113	\$ —	—

(1) Cash & Cash Equivalents: Funds generally invested in actively managed collective trust funds or interest bearing accounts.

(2) Debt: The fixed income securities are primarily valued upon a market approach, using matrix pricing and considering a security's relationship to other securities for which quoted prices in an active market may be available, or an income approach, converting future cash flows to a single present value amount. Inputs used in developing fair value estimates include reported trades, broker quotes, benchmark yields, and base spreads.

The Company valued assets with unobservable inputs (Level 3), primarily insurance contracts, using a crediting rate that approximates market returns and investments in underlying securities whose market values are unobservable and

determined using pricing models, discounted cash flow methodologies, or similar techniques.

Fair Value
 Measurements
 Using
 Significant
 Unobservable
 Inputs (Level
 3)
 Other
 Investments⁽¹⁾
 Non-U.S.
 Pension Plans

(Dollars in millions)

Balance at December 31, 2016	\$	44
Unrealized gains		7
Balance at December 31, 2017		51
Unrealized gains		—
Balance at December 31, 2018	\$	51

⁽¹⁾ Primarily consists of insurance contracts.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

The following table reflects the target allocation for the Company's U.S. and non-U.S. pension and postretirement benefit plans assets for 2019 and the asset allocation at December 31, 2018 and 2017, by asset category.

Asset category	U.S. Pension Plans			Non-U.S. Pension Plans			Postretirement Benefit Plan		
	2019 Target Allocation	Plan Assets at December 31, 2018	Plan Assets at December 31, 2017	2019 Target Allocation	Plan Assets at December 31, 2018	Plan Assets at December 31, 2017	2019 Target Allocation	Plan Assets at December 31, 2018	Plan Assets at December 31, 2017
Equity securities	43%	43%	48%	23%	19%	22%	—%	—%	—%
Debt securities	40%	44%	40%	54%	54%	55%	100%	100%	100%
Real estate	2%	2%	2%	5%	8%	7%	—%	—%	—%
Other investments ⁽¹⁾	15%	11%	10%	18%	19%	16%	—%	—%	—%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

⁽¹⁾ U.S. primarily consists of private equity and natural resource and energy related limited partnership investments.

Non-U.S. primarily consists of annuity contracts and alternative investments.

Investment Strategy

Eastman's investment strategy for its defined benefit pension plans is to maximize the long-term rate of return on plan assets within an acceptable level of risk in order to meet or exceed the plan's actuarially assumed long-term rate of return and to minimize the cost of providing pension benefits. A periodic asset/liability study is conducted in order to assist in the determination and, if necessary, modification of the appropriate long-term investment policy for the plan. The investment policy establishes a target allocation range for each asset class and the fund is managed within those ranges. The plans use a number of investment approaches including investments in equity, real estate, and fixed income funds in which the underlying securities are marketable in order to achieve this target allocation. The plans also invest in private equity and other funds. Diversification is created through investments across various asset classes, geographies, fund managers, and individual securities. This investment process is designed to provide for a well-diversified portfolio with no significant concentration of risk. The investment process is monitored by an investment committee that includes senior management.

Eastman's investment strategy for its VEBA trust is to invest in intermediate-term, well diversified, high quality investment instruments, with a primary objective of capital preservation.

The expected rate of return for all plans was determined primarily by modeling the expected long-term rates of return for the categories of investments held by the plans and the targeted allocation percentage against various potential economic scenarios.

The Company made no contributions to its U.S. defined benefit pension plans in 2018 or 2017. For 2019 calendar year, there are no minimum required cash contributions for the U.S. defined benefit pension plans under the Employee Retirement Income Security Act of 1974, as amended, and the Internal Revenue Code of 1986, as amended.

The estimated future benefit payments, reflecting expected future service, as appropriate, are as follows:

Pension Plans	Postretirement Benefit Plans
---------------	------------------------------

(Dollars in millions)	U.S.	Non-U.S.	
2019	\$200	\$ 22	\$ 57
2020	168	25	57
2021	159	24	57
2022	156	25	53
2023	151	27	47
2024-2028	718	167	225

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NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

11. COMMITMENTS AND OFF BALANCE SHEET ARRANGEMENTS

Eastman's obligations are summarized in the following table.

(Dollars in millions) Payments Due for

Period	Debt Securities	Credit Facilities and Other	Interest Payable	Purchase Obligations	Operating Leases	Other Liabilities	Total
2019	\$—	\$ 243	\$ 210	\$ 275	\$ 63	\$ 250	\$1,041
2020	250	50	194	227	51	79	851
2021	482	—	189	136	40	92	939
2022	739	—	176	87	29	99	1,130
2023	855	—	157	77	18	96	1,203
2024 and beyond	3,549	—	1,553	2,046	47	1,010	8,205
Total	\$5,875	\$ 293	\$ 2,479	\$ 2,848	\$ 248	\$ 1,626	\$13,369

Estimated future payments of debt securities assumes the repayment of principal upon stated maturity, and actual amounts and the timing of such payments may differ materially due to repayment or other changes in the terms of such debt prior to maturity.

Eastman had various purchase obligations at December 31, 2018 totaling approximately \$2.8 billion over a period of approximately 30 years for materials, supplies, and energy incident to the ordinary conduct of business. The Company also had various lease commitments for property and equipment under noncancelable operating leases totaling \$248 million over a period of approximately 40 years. Of the total lease commitments, approximately 50 percent relate to real property, including office space, storage facilities, and land; approximately 40 percent relate to railcars; and approximately 10 percent relate to machinery and equipment, including computer and communications equipment and production equipment. Rental expense, net of sublease income, was \$103 million, \$94 million, and \$90 million in 2018, 2017, and 2016, respectively.

Amounts in other liabilities represent the current estimated cash payments required to be made by the Company primarily for pension and other postretirement benefits, environmental loss contingency reserves, accrued compensation benefits, uncertain tax liabilities, one-time transition tax on deferred foreign income under the Tax Reform Act, and commodity and foreign exchange hedging in the periods indicated. Due to uncertainties in the timing of the effective settlement of tax positions with respect to taxing authorities, management is unable to determine the timing of payments related to uncertain tax liabilities and these amounts are included in the "2024 and beyond" line item.

Guarantees

Eastman has operating leases with terms that require the Company to guarantee a portion of the residual value of the leased assets upon termination of the lease as well as other guarantees. Disclosures about each group of similar guarantees are provided below.

Residual Value Guarantees

The Company has operating leases with terms that require the Company to guarantee a portion of the residual value of the leased assets upon termination of the lease. These residual value guarantees totaled \$68 million at December 31, 2018 and consist primarily of leases for railcars that will expire beginning in second quarter 2019. Residual guarantee payments that become probable and estimable are recognized as rent expense over the remaining life of the applicable lease. Management's current expectation is that the likelihood of material residual guarantee payments is remote.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Other Guarantees

Guarantees and claims also arise during the ordinary course of business from relationships with customers, suppliers, joint venture partners, and other parties when the Company undertakes an obligation to guarantee the performance of others if specified triggering events occur. Non-performance under a contract could trigger an obligation of the Company. The Company's current other guarantees include guarantees relating to intellectual property, environmental matters, and other indemnifications and have arisen through the normal course of business. The ultimate effect on future financial results is not subject to reasonable estimation because considerable uncertainty exists as to the final outcome of these claims, if they were to occur. These other guarantees have terms up to 30 years with maximum potential future payments of approximately \$35 million in the aggregate, with none of these guarantees being individually significant to the Company's operating results, financial position, or liquidity. Management's current expectation is that future payment or performance related to non-performance under other guarantees is remote.

Other Off Balance Sheet Arrangements

The Company has off balance sheet uncommitted non-recourse factoring facilities that include customer specific receivables in the United States and Europe. The Company sells the receivables at face value, less a transaction fee, which substantially equals the carrying value and fair value with no gain or loss recognized. There is no continuing involvement with these receivables once sold and no credit loss exposure. The total amount of receivables sold during 2018 and 2017 were \$169 million and \$35 million, respectively.

In October 2018, Eastman added an uncommitted non-recourse factoring facility under which the Company sells undivided interests in certain receivables and provides servicing at market rates with no credit loss exposure. The Company sells the receivables at face value, less a transaction fee, which substantially equals the carrying value and fair value with no gain or loss recognized. The total amount of receivables sold during 2018 was \$50 million.

12. ENVIRONMENTAL MATTERS AND ASSET RETIREMENT OBLIGATIONS

Certain Eastman manufacturing facilities generate hazardous and nonhazardous wastes, the treatment, storage, transportation, and disposal of which are regulated by various governmental agencies. In connection with the cleanup of various hazardous waste sites, the Company, along with many other entities, has been designated a potentially responsible party ("PRP") by the U.S. Environmental Protection Agency under the Comprehensive Environmental Response, Compensation and Liability Act, which potentially subjects PRPs to joint and several liability for certain cleanup costs. In addition, the Company will incur costs for environmental remediation and closure and post-closure under the federal Resource Conservation and Recovery Act. Reserves for environmental contingencies have been established in accordance with Eastman's policies described in Note 1, "Significant Accounting Policies". Although the resolution of uncertainties related to these environmental matters may have a material adverse effect on the Company's consolidated results of operations in the period recognized, because of the availability of legal defenses, the Company's preliminary assessment of actions that may be required, and, if applicable, the expected sharing of costs, management does not believe that the Company's liability for these environmental matters, individually or in the aggregate, will be material to the Company's consolidated financial position, results of operations, or cash flows. The Company's total reserve for environmental loss contingencies was \$296 million and \$304 million at December 31, 2018 and December 31, 2017, respectively.

Environmental Remediation and Environmental Asset Retirement Obligations

The Company's total environmental reserve that management believes to be probable and reasonably estimable for environmental contingencies, including remediation costs and asset retirement obligations, is included as part of "Payables and other current liabilities" and "Other long-term liabilities" in the Consolidated Statements of Financial

Position as follows:

(Dollars in millions)	December 31, 2018 2017	
Environmental contingent liabilities, current	\$25	\$25
Environmental contingent liabilities, long-term	271	279
Total	\$296	\$304

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NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Environmental Remediation

Estimated future environmental expenditures for undiscounted remediation costs ranged from the best estimate or minimum of \$271 million to the maximum of \$508 million and from the best estimate or minimum of \$280 million to the maximum of \$483 million at December 31, 2018 and December 31, 2017, respectively. The best estimate or minimum estimated future environmental expenditures are considered to be probable and reasonably estimable and include the amounts accrued at both December 31, 2018 and December 31, 2017.

Costs of certain remediation projects included in the environmental reserve are subject to a cost-sharing arrangement with Monsanto Company ("Monsanto") under the provisions of the Amended and Restated Settlement Agreement effective February 28, 2008 (the "Effective Date"), into which Solutia entered with Monsanto upon its emergence from bankruptcy (the "Monsanto Settlement Agreement"). Under the provisions of the Monsanto Settlement Agreement, Solutia, which became a wholly-owned subsidiary of Eastman on July 2, 2012, shares responsibility with Monsanto for remediation at certain locations outside of the boundaries of plant sites in Anniston, Alabama and Sauget, Illinois (the "Shared Sites"). Solutia is responsible for the funding of environmental liabilities at the Shared Sites up to a total of \$325 million from the Effective Date. If remediation costs for the Shared Sites exceed this amount, such costs will thereafter be shared equally between Solutia and Monsanto. Including payments by Solutia prior to its acquisition by Eastman, \$93 million had been paid for costs at the Shared Sites as of December 31, 2018. As of December 31, 2018, an additional \$203 million has been accrued for estimated future remediation costs at the Shared Sites, over a period of approximately 30 years.

Reserves for environmental remediation include liabilities expected to be paid within approximately 30 years. The amounts charged to pre-tax earnings for environmental remediation and related charges are included within "Cost of sales" in the Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings. Changes in the reserves for environmental remediation liabilities for twelve months ended 2018 are summarized below:

(Dollars in millions)	Environmental Remediation Liabilities
Balance at December 31, 2017	\$ 280
Changes in estimates recorded to earnings and other	7
Cash reductions	(16)
Balance at December 31, 2018	\$ 271

Environmental Asset Retirement Obligations

An asset retirement obligation is an obligation for the retirement of a tangible long-lived asset that is incurred upon the acquisition, construction, development, or normal operation of that long-lived asset. Eastman recognizes asset retirement obligations in the period in which they are incurred if a reasonable estimate of fair value can be made. The asset retirement obligations are discounted to expected present value and subsequently adjusted for changes in fair value. The associated estimated asset retirement costs are capitalized as part of the carrying value of the long-lived assets and depreciated over their useful life. Environmental asset retirement obligations consist of primarily closure and post-closure costs. For sites that have environmental asset retirement obligations, the best estimate recognized to date for these environmental asset retirement obligation costs was \$25 million and \$24 million at December 31, 2018 and December 31, 2017, respectively.

Other

Environmental costs are capitalized if they extend the life of the related property, increase its capacity, or mitigate the possibility of future contamination. The cost of operating and maintaining environmental control facilities is charged

to expense as incurred. Eastman's cash expenditures related to environmental protection and improvement were \$274 million, \$257 million, and \$267 million in 2018, 2017, and 2016, respectively, and include operating costs associated with environmental protection equipment and facilities, engineering costs, and construction costs. The cash expenditures above include environmental capital expenditures of approximately \$44 million, \$38 million, and \$45 million in 2018, 2017, and 2016, respectively.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

The Company also has contractual asset retirement obligations not associated with environmental liabilities. Eastman's non-environmental asset retirement obligations are primarily associated with the future closure of leased manufacturing assets at Pace, Florida and Oulu, Finland. These recognized non-environmental asset retirement obligations were \$46 million and \$49 million at December 31, 2018 and December 31, 2017, respectively, and is included as part of "Other long-term liabilities" in the Consolidated Statements of Financial Position.

13. LEGAL MATTERS

From time to time, Eastman and its operations are parties to, or targets of, lawsuits, claims, investigations and proceedings, including product liability, personal injury, asbestos, patent and intellectual property, commercial, contract, environmental, antitrust, health and safety, and employment matters, which are handled and defended in the ordinary course of business. While the Company is unable to predict the outcome of these matters, it does not believe, based upon currently available facts, that the ultimate resolution of any such pending matters will have a material adverse effect on its overall financial condition, results of operations, or cash flows.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

14. STOCKHOLDERS' EQUITY

A reconciliation of the changes in stockholders' equity for 2018, 2017, and 2016 is provided below:

(Dollars in millions)	Common Stock at Par Value	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock at Cost	Total Eastman Stockholders' Equity	Noncontrolling Interest	Total Equity
Balance at December 31, 2015	\$ 2	\$ 1,863	\$ 5,146	\$ (390)	\$(2,680)	\$ 3,941	\$ 80	\$ 4,021
Net Earnings	—	—	854	—	—	854	5	859
Cash Dividends ⁽¹⁾	—	—	(279)	—	—	(279)	—	(279)
Other Comprehensive Income	—	—	—	109	—	109	—	109
Share-Based Compensation Expense ⁽²⁾	—	35	—	—	—	35	—	35
Stock Option Exercises	—	21	—	—	—	21	—	21
Other	—	(4)	—	—	—	(4)	(1)	(5)
Share Repurchase	—	—	—	—	(145)	(145)	—	(145)
Distributions to noncontrolling interest	—	—	—	—	—	—	(8)	(8)
Balance at December 31, 2016	\$ 2	\$ 1,915	\$ 5,721	\$ (281)	\$(2,825)	\$ 4,532	\$ 76	\$ 4,608
Net Earnings	—	—	1,384	—	—	1,384	4	1,388
Cash Dividends ⁽¹⁾	—	—	(303)	—	—	(303)	—	(303)
Other Comprehensive Income	—	—	—	72	—	72	—	72
Share-Based Compensation Expense ⁽²⁾	—	52	—	—	—	52	—	52
Stock Option Exercises	—	22	—	—	—	22	—	22
Other	—	(6)	—	—	—	(6)	1	(5)
Share Repurchase	—	—	—	—	(350)	(350)	—	(350)
Distributions to noncontrolling interest	—	—	—	—	—	—	(4)	(4)
Balance at December 31, 2017	\$ 2	\$ 1,983	\$ 6,802	\$ (209)	\$(3,175)	\$ 5,403	\$ 77	\$ 5,480
Cumulative Effect of Adoption of New Accounting Standards ⁽³⁾	—	—	16	—	—	16	—	16
Net Earnings	—	—	1,080	—	—	1,080	4	1,084
Cash Dividends ⁽¹⁾	—	—	(325)	—	—	(325)	—	(325)
Other Comprehensive (Loss)	—	—	—	(36)	—	(36)	—	(36)
Share-Based Compensation Expense ⁽²⁾	—	64	—	—	—	64	—	64
Stock Option Exercises	—	18	—	—	—	18	—	18
Other ⁽⁴⁾	—	(17)	—	—	—	(17)	(1)	(18)
Share Repurchase	—	—	—	—	(400)	(400)	—	(400)
Distributions to noncontrolling interest	—	—	—	—	—	—	(5)	(5)
Balance at December 31, 2018	\$ 2	\$ 2,048	\$ 7,573	\$ (245)	\$(3,575)	\$ 5,803	\$ 75	\$ 5,878

⁽¹⁾ Cash dividends includes cash dividends paid and dividends declared, but unpaid.

⁽²⁾ Share-based compensation expense is the fair value of share-based awards.

On January 1, 2018, the Company adopted new accounting standards for revenue recognition, income taxes, and derivatives and hedging, which resulted in adjustments to beginning retained earnings. See Note 1, "Significant Accounting Policies", for specific amounts related to each standard.

- (4) Additional paid-in capital includes value of shares withheld for employees' taxes on vesting of share-based compensation awards.

Eastman is authorized to issue 400 million shares of all classes of stock, of which 50 million may be preferred stock, par value \$0.01 per share, and 350 million may be common stock, par value \$0.01 per share. The Company declared dividends per share of \$2.30 in 2018, \$2.09 in 2017, and \$1.89 in 2016.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

The Company established a benefit security trust in 1997 to provide a degree of financial security for unfunded obligations under certain unfunded plans and contributed to the trust a warrant to purchase up to 6 million shares of common stock of the Company for par value. The warrant, which remains outstanding, is exercisable by the trustee if the Company does not meet certain funding obligations, which obligations would be triggered by certain occurrences, including a change in control or potential change in control, as defined, or failure by the Company to meet its payment obligations under certain covered unfunded plans. Such warrant is excluded from the computation of diluted earnings per share because the conditions upon which the warrant becomes exercisable have not been met.

The additions to paid-in capital in 2018, 2017, and 2016 are primarily for compensation expense of equity awards and employee stock option exercises.

In February 2014, the Company's Board of Directors authorized repurchase of up to \$1 billion of the Company's outstanding common stock. The Company completed the \$1 billion of repurchases in May 2018, acquiring a total of 12,215,950 shares. In February 2018, the Company's Board of Directors authorized repurchase of up to \$2 billion of the Company's outstanding common stock at such times, in such amounts, and on such terms, as determined by management to be in the best interests of the Company. As of December 31, 2018, a total of 2,470,755 shares have been repurchased under this authorization for a total of \$248 million. During 2018, the Company repurchased 3,959,878 shares of common stock for a cost of approximately \$400 million. During 2017, the Company repurchased 4,184,637 shares of common stock for a cost of approximately \$350 million. During 2016, the Company repurchased 2,131,501 shares of common stock for a cost of approximately \$145 million.

The Company's charitable foundation held 50,798 issued and outstanding shares of the Company's common stock at December 31, 2018, 2017, and 2016 which are included in treasury stock in the Consolidated Statements of Financial Position and excluded from calculations of diluted earnings per share.

The following table sets forth the computation of basic and diluted earnings per share ("EPS"):

(In millions, except per share amounts)	For years ended		
	December 31,		
	2018	2017	2016
Numerator			
Net earnings attributable to Eastman	\$1,080	\$1,384	\$854
Denominator			
Weighted average shares used for basic EPS	141.2	144.8	147.3
Dilutive effect of stock options and other award plans	1.7	1.3	1.1
Weighted average shares used for diluted EPS	142.9	146.1	148.4
EPS ⁽¹⁾			
Basic	\$7.65	\$9.56	\$5.80
Diluted	\$7.56	\$9.47	\$5.75

⁽¹⁾ Earnings per share are calculated using whole dollars and shares.

Stock options excluded from the 2018, 2017, and 2016 calculations of diluted earnings per share were 619,706, 204,978, and 1,072,468, respectively, because the market value of option exercises for these awards were less than the cash proceeds that would be received from these exercises.

Shares of common stock issued, including shares held in treasury, are presented below:

For years ended December 31,		
2018	2017	2016

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Balance at beginning of year	218,369,992	217,707,600	216,899,964
Issued for employee compensation and benefit plans	770,531	662,392	807,636
Balance at end of year	219,140,523	218,369,992	217,707,600

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NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Accumulated Other Comprehensive Income (Loss)

(Dollars in millions)	Cumulative Translation Adjustment	Benefit Plans Unrecognized Prior Service Credits	Unrealized		Accumulated Other Comprehensive Income (Loss)
			Gains (Losses) on Cash Flow Hedges	Unrealized Losses on Investments	
Balance at December 31, 2016	\$ (381)	\$ 163	\$ (62)	\$ (1)	\$ (281)
Period change	85	(27)	14	—	72
Balance at December 31, 2017	(296)	136	(48)	(1)	(209)
Period change	(13)	(30)	7	—	(36)
Balance at December 31, 2018	\$ (309)	\$ 106	\$ (41)	\$ (1)	\$ (245)

Amounts of other comprehensive income (loss) are presented net of applicable taxes. Eastman records deferred income taxes on the cumulative translation adjustment related to branch operations and income from other entities included in the Company's consolidated U.S. tax return. No deferred income taxes are provided on the cumulative translation adjustment of other subsidiaries outside the United States, as the cumulative translation adjustment is considered to be a component of indefinitely invested, unremitted earnings of these foreign subsidiaries.

Components of total other comprehensive income (loss) recorded in the Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings are presented below, before tax and net of tax effects:

(Dollars in millions)	For years ended December 31,					
	2018	2017	2016	2018	2017	2016
	Before Tax	Net of Tax	Before Tax	Net of Tax	Before Tax	Net of Tax
Change in cumulative translation adjustment	\$ (13)	\$ (13)	\$ 85	\$ 85	\$ (97)	\$ (97)
Defined benefit pension and other postretirement benefit plans:						
Prior service credit arising during the period	—	—	—	—	103	64
Amortization of unrecognized prior service credits included in net periodic costs	(40)	(30)	(43)	(27)	(48)	(30)
Change in defined benefit pension and other postretirement benefit plans	(40)	(30)	(43)	(27)	55	34
Derivatives and hedging:						
Unrealized gain (loss) during period	30	22	11	7	150	93
Reclassification adjustment for (gains) losses included in net income, net	(20)	(15)	11	7	127	79
Change in derivatives and hedging	10	7	22	14	277	172
Total other comprehensive income (loss)	\$ (43)	\$ (36)	\$ 64	\$ 72	\$ 235	\$ 109

For additional information regarding the impact of reclassifications into earnings, refer to Note 9, "Derivative and Non-Derivative Financial Instruments", and Note 10, "Retirement Plans".

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

15. ASSET IMPAIRMENTS AND RESTRUCTURING CHARGES, NET

Components of asset impairments and restructuring charges, net, are presented below:

(Dollars in millions)	For years ended		
	December 31,		
	2018	2017	2016
Asset impairments	\$—	\$ 1	\$12
Gain on sale of assets, net	—	—	(2)
Intangible asset and goodwill impairments	39	—	—
Severance charges	6	6	32
Site closure and restructuring charges	—	1	3
Total	\$45	\$ 8	\$45

2018

In 2018 asset impairments and restructuring charges, net consisted of restructuring charges of approximately \$6 million for severance. As a result of the annual impairment test of goodwill, the Company recognized a \$38 million goodwill impairment in the crop protection reporting unit (part of the AFP segment). Additionally, the Company recognized an intangible asset impairment of \$1 million in the Advanced Materials ("AM") segment.

2017

In 2017 asset impairments and restructuring charges, net were \$3 million of asset impairment and restructuring charges, including severance, in the AFP segment related to the closure of a facility in China and restructuring charges of approximately \$5 million for severance.

2016

The Company impaired a capital project in the AFP segment that resulted in a charge of \$12 million and recognized a gain of \$2 million in the AFP segment for the sale of previously impaired assets at the Crystex™ insoluble sulfur research and development ("R&D") site in France.

The Company recognized restructuring charges of \$35 million, primarily for severance, related to an announced plan to reduce costs primarily in 2017.

Reconciliations of the beginning and ending restructuring liability amounts are as follows:

(Dollars in millions)	Balance		Non-cash Reductions/ Additions	Cash Reductions	Balance	
	at January 1, 2018	Provision/ Adjustments			at December 31, 2018	
Non-cash charges	\$ —	\$ 39	\$ (39)	\$ —	\$ —	
Severance costs	19	6	1	(20)	6	
Site closure & restructuring costs	10	—	—	(2)	8	
Total	\$ 29	\$ 45	\$ (38)	\$ (22)	\$ 14	
(Dollars in millions)	Balance at January 1,	Provision/ Adjustments	Non-cash Reductions/ Additions	Cash Reductions	Balance at December 31,	

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	2017			2017		
Non-cash charges	\$ —	\$ 1	\$ (1)	\$ —	\$ —	
Severance costs	42	6	—	(29)	19	
Site closure & restructuring costs	13	1	1	(5)	10	
Total	\$ 55	\$ 8	\$ —	\$ (34)	\$ 29	

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(Dollars in millions)	Balance at January 1, 2016	Provision/ Adjustments	Non-cash Reductions/ Additions	Cash Reductions	Balance at December 31, 2016
Non-cash charges	\$ —	\$ 12	\$ (12)	\$ —	\$ —
Severance costs	55	32	—	(45)	42
Site closure & restructuring costs	11	1	4	(3)	13
Total	\$ 66	\$ 45	\$ (8)	\$ (48)	\$ 55

Substantially all costs remaining for severance are expected to be applied to the reserves within one year.

16. OTHER (INCOME) CHARGES, NET

(Dollars in millions)	For years ended December 31,		
	2018	2017	2016
Foreign exchange transaction losses (gains), net ⁽¹⁾	\$12	\$ 5	\$27
Currency transaction costs resulting from tax law changes and outside-U.S. entity reorganizations	13	—	—
(Income) loss from equity investments and other investment (gains) losses, net	(17)	(12)	(13)
Coal gasification incident property insurance	(65)	—	—
Cost of disposition of claims against discontinued Solutia operations	—	9	5
Gains from sale of businesses ⁽²⁾	—	(3)	(17)
Other, net	4	5	(6)
Other (income) charges, net	\$(53)	\$ 4	\$(4)

⁽¹⁾ Net impact of revaluation of foreign entity assets and liabilities and effects of foreign exchange non-qualifying derivatives.

Gains resulting from the sale of the formulated electronic cleaning solution business in the AFP segment in 2017

⁽²⁾ and the sale of the Company's interest in the Primester joint venture equity investment in the Fibers segment in 2016.

17. SHARE-BASED COMPENSATION PLANS AND AWARDS

2017 Omnibus Stock Compensation Plan

Eastman's 2017 Omnibus Stock Compensation Plan ("2017 Omnibus Plan") was approved by stockholders at the May 4, 2017 Annual Meeting of Stockholders and shall remain in effect until its fifth anniversary. The 2017 Omnibus Plan authorizes the Compensation and Management Development Committee of the Board of Directors to grant awards, designate participants, determine the types and numbers of awards, determine the terms and conditions of awards and determine the form of award settlement. Under the 2017 Omnibus Plan, the aggregate number of shares reserved and available for issuance is 10 million, which consist of shares not previously authorized for issuance under any other plan. The number of shares covered by an award is counted against this share reserve as of the grant date of the award. Shares covered by full value awards (e.g. performance shares and restricted stock awards) are counted against the total number of shares available for issuance or delivery under the plan as 2.5 shares for every one share covered by the award. Any stock distributed pursuant to an award may consist of, in whole or in part, authorized and unissued stock, treasury stock, or stock purchased on the open market. Under the 2017 Omnibus Plan and previous plans, the forms of awards have included restricted stock and restricted stock units, stock options, stock appreciation rights ("SARs"), and performance shares. The 2017 Omnibus Plan is flexible as to the number of specific forms of awards, but provides that stock options and SARs are to be granted at an exercise price not less than 100 percent of the per share fair market

value on the date of the grant.

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NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Director Stock Compensation Subplan

Eastman's 2018 Director Stock Compensation Subplan ("Directors' Subplan"), a component of the 2017 Omnibus Plan, remains in effect until terminated by the Board of Directors or the earlier termination of the 2017 Omnibus Plan. The Directors' Subplan provides for structured awards of restricted shares to non-employee members of the Board of Directors. Restricted shares awarded under the Directors' Subplan are subject to the same terms and conditions of the 2017 Omnibus Plan. The Directors' Subplan does not constitute a separate source of shares for grant of equity awards and all shares awarded are part of the 10 million shares authorized under the 2017 Omnibus Plan. Shares of restricted stock are granted on the first day of a non-employee director's initial term of service and shares of restricted stock are granted each year to each non-employee director on the date of the annual meeting of stockholders.

It has been the Company's practice to issue new shares rather than treasury shares for equity awards for compensation plans, including the 2017 Omnibus Plan and the Directors' Subplan, that require settlement by the issuance of common stock and to withhold or accept back shares awarded to cover the related income tax obligations of employee participants. Shares of unrestricted common stock owned by non-employee directors are not eligible to be withheld or acquired to satisfy the withholding obligation related to their income taxes. Shares of unrestricted common stock owned by specified senior management level employees are accepted by the Company to pay the exercise price of stock options in accordance with the terms and conditions of their awards.

Compensation Expense

For 2018, 2017, and 2016, total share-based compensation expense (before tax) of approximately \$64 million, \$52 million, and \$36 million, respectively, was recognized in "Selling, general and administrative expense" in the Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings for all share-based awards of which approximately \$9 million, \$8 million, and \$7 million, respectively, related to stock options. The compensation expense is recognized over the substantive vesting period, which may be a shorter time period than the stated vesting period for qualifying termination eligible employees as defined in the forms of award notice. Approximately \$3 million for 2018, and \$2 million for both 2017 and 2016, of stock option compensation expense was recognized each year due to qualifying termination eligibility preceding the requisite vesting period.

Stock Option Awards

Options have been granted on an annual basis to non-employee directors under the Directors' Subplan and predecessor plans and by the Compensation and Management Development Committee of the Board of Directors under the 2017 Omnibus Plan and predecessor plans to employees. Option awards have an exercise price equal to the closing price of the Company's stock on the date of grant. The term of options is 10 years with vesting periods that vary up to three years. Vesting usually occurs ratably over the vesting period or at the end of the vesting period. The Company utilizes the Black Scholes Merton option valuation model which relies on certain assumptions to estimate an option's fair value.

The weighted average assumptions used in the determination of fair value for stock options awarded in 2018, 2017, and 2016 are provided in the table below:

Assumptions	2018	2017	2016
Expected volatility rate	19.03%	20.45%	23.71%
Expected dividend yield	2.48%	2.64%	2.31%
Average risk-free interest rate	2.61%	1.91%	1.23%
Expected term years	5.1	5.0	5.0

The volatility rate of grants is derived from historical Company common stock price volatility over the same time period as the expected term of each stock option award. The volatility rate is derived by mathematical formula utilizing the weekly high closing stock price data over the expected term.

The expected dividend yield is calculated using the Company's average of the last four quarterly dividend yields.

The average risk-free interest rate is derived from United States Department of Treasury published interest rates of daily yield curves for the same time period as the expected term.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

The weighted average expected term reflects the analysis of historical share-based award transactions and includes option swap and reload grants which may have much shorter remaining expected terms than new option grants.

A summary of the activity of the Company's stock option awards for 2018, 2017, and 2016 is presented below:

	2018		2017		2016	
	Options	Weighted-Average Exercise Price	Options	Weighted-Average Exercise Price	Options	Weighted-Average Exercise Price
Outstanding at beginning of year	2,614,100	\$ 70	2,363,700	\$ 61	2,434,600	\$ 53
Granted	619,700	104	745,800	80	554,000	65
Exercised	(323,000)	55	(489,300)	44	(618,500)	33
Cancelled, forfeited, or expired	(5,200)	78	(6,100)	74	(6,400)	77
Outstanding at end of year	2,905,600	\$ 79	2,614,100	\$ 70	2,363,700	\$ 61
Options exercisable at year-end	1,606,800		1,335,500		1,378,000	
Available for grant at end of year	8,174,614		9,943,033		3,807,724	

The following table provides the remaining contractual term and weighted average exercise prices of stock options outstanding and exercisable at December 31, 2018:

Range of Exercise Prices	Options Outstanding		Weighted-Average Exercise Price	Options Exercisable	
	Number Outstanding at December 31, 2018	Weighted-Average Remaining Contractual Life (Years)		Number Exercisable at December 31, 2018	Weighted-Average Exercise Price
\$38-\$50	182,500	2.5	\$ 39	182,500	\$ 39
\$51-\$73	742,300	6.2	67	557,500	67
\$74-\$89	1,361,100	7.1	80	866,800	79
\$90-\$104	619,700	9.2	104	0	—
	2,905,600	7.0	\$ 79	1,606,800	\$ 70

The range of exercise prices of options outstanding at December 31, 2018 is approximately \$38 to \$104 per share. The aggregate intrinsic value of total options outstanding and total options exercisable at December 31, 2018 is \$11 million and \$10 million, respectively. Intrinsic value is the amount by which the closing market price of the stock at December 31, 2018 exceeds the exercise price of the option grants.

The weighted average remaining contractual life of all exercisable options at December 31, 2018 is 5.8 years.

The weighted average fair value of options granted during 2018, 2017, and 2016 was \$15.90, \$11.79, and \$10.97, respectively. The total intrinsic value of options exercised during the years ended December 31, 2018, 2017, and 2016, was \$15 million, \$19 million, and \$23 million, respectively. Cash proceeds received by the Company from option exercises and the related tax benefit totaled \$18 million and \$3 million, respectively, for 2018, \$22 million and \$5 million, respectively, for 2017, and \$21 million and \$7 million, respectively, for 2016. The total fair value of shares vested during the years ended December 31, 2018, 2017, and 2016 was \$7 million, \$6 million, and \$6 million, respectively.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

A summary of the changes in the Company's nonvested options during the year ended December 31, 2018 is presented below:

Nonvested Options	Number of Options	Weighted-Average Grant Date Fair Value
Nonvested at January 1, 2018	1,278,600	\$11.82
Granted	619,700	\$15.90
Vested	(594,300)	\$12.10
Forfeited or expired	(5,200)	\$12.74
Nonvested options at December 31, 2018	1,298,800	\$13.63

For nonvested options at December 31, 2018, approximately \$3 million in compensation expense will be recognized over the next two years.

Other Share-Based Compensation Awards

In addition to stock option awards, Eastman has awarded long-term performance share awards, restricted stock awards, and SARs. The long-term performance share awards are based upon actual return on capital compared to a target return on capital and total stockholder return compared to a peer group ranking by total stockholder return over a three year performance period. The awards are valued using a Monte Carlo Simulation based model and vest pro-rata over the three year performance period. The number of long-term performance award target shares granted for the 2018-2020, 2017-2019, and 2016-2018 periods were 310 thousand, 357 thousand, and 427 thousand, respectively. The target shares granted are assumed to be 100 percent. At the end of the three-year performance period, the actual number of shares awarded can range from zero percent to 250 percent of the target shares granted based on the award notice. The number of restricted stock awards granted during 2018, 2017, and 2016 were 160 thousand, 172 thousand, and 190 thousand, respectively. The fair value of a restricted stock award is equal to the closing stock price of the Company's stock on the date of grant and normally vests over a period of three years. The recognized compensation expense before tax for these other share-based awards in the years ended December 31, 2018, 2017, and 2016 was approximately \$55 million, \$44 million, and \$29 million, respectively. The unrecognized compensation expense before tax for these same type awards at December 31, 2018 was approximately \$60 million and will be recognized primarily over a period of two years.

18. SUPPLEMENTAL CASH FLOW INFORMATION

Included in the line item "Other items, net" of the "Operating activities" section of the Consolidated Statements of Cash Flows are specific changes to certain balance sheet accounts as follows:

(Dollars in millions)	For years ended		
	December 31,		
	2018	2017	2016
Current assets	\$(47)	\$13	\$(35)
Other assets	43	29	37
Current liabilities	(38)	59	(98)
Long-term liabilities and equity	87	43	(29)
Total	\$45	\$144	\$(125)

The above changes included transactions such as accrued taxes, deferred taxes, environmental liabilities, monetized positions from raw material and energy, currency, and certain interest rate hedges, prepaid insurance, miscellaneous deferrals, value-added taxes, and other miscellaneous accruals.

Cash flows from derivative financial instruments accounted for as hedges are classified in the same category as the item being hedged.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Cash paid for interest and income taxes is as follows:

(Dollars in millions)	For years ended December 31,		
	2018	2017	2016
Interest, net of amounts capitalized	\$239	\$263	\$280
Income taxes	202	97	120
Non-cash investing and financing activities:			
Outstanding trade payables related to capital expenditures	18	27	34
(Gain) loss from equity investments	(17)	(14)	(15)

19. SEGMENT INFORMATION

The Company's products and operations are managed and reported in four operating segments: Additives & Functional Products ("AFP"), Advanced Materials ("AM"), Chemical Intermediates ("CI"), and Fibers. Beginning January 1, 2018:

Eastman's primary measure of operating performance for all periods presented is EBIT on a consolidated and segment basis. Previously, the Company's primary measure of operating performance was operating earnings;

As a result of recent changes in the management of products and operations to better align resources for growth initiatives, products previously reported in the CI operating segment are reported in the AFP operating segment; and Sales revenue and innovation costs from the nonwovens and textiles innovation products previously reported in "Other" are reported in the Fibers operating segment due to accelerating commercial progress of growth initiatives.

Additives & Functional Products Segment

In the AFP segment, the Company manufactures chemicals for products in the transportation, consumables, building and construction, animal nutrition, crop protection, energy, personal and home care, and other markets.

The products the Company manufactures in the coatings and inks additives product line can be broadly classified as polymers and additives and solvents and include specialty coalescents, specialty solvents, paint additives, and specialty polymers. The adhesives resins product line consists of hydrocarbon and rosin resins. The tire additives product line includes insoluble sulfur rubber additives, antidegradant rubber additives, and performance resins. The care chemicals business consists of amine derivative-based building blocks for the production of flocculants and intermediates for surfactants. In the specialty fluids product line, the Company produces heat transfer and aviation fluids products. The animal nutrition business consists of organic acid-based solutions product lines. The crop protection business consists of metam-based soil fumigants, thiram and ziram-based fungicides, and plant growth regulator products.

Product Lines	Percentage of Total Segment Sales		
	2018	2017	2016
Coatings and Inks Additives	23%	23%	24%
Adhesives Resins	16%	18%	21%
Tire Additives	17%	17%	17%
Care Chemicals	17%	17%	15%
Specialty Fluids	13%	13%	11%
Animal Nutrition and Crop Protection	14%	12%	12%
Total	100%	100%	100%

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

	Percentage of Total Segment Sales		
Sales by Customer Location	2018	2017	2016
United States and Canada	36%	35%	37%
Asia Pacific	24%	23%	21%
Europe, Middle East, and Africa	34%	36%	35%
Latin America	6%	6%	7%
Total	100%	100%	100%

Advanced Materials Segment

In the AM segment, the Company produces and markets polymers, films, and plastics with differentiated performance properties for value-added end-uses in transportation, consumables, building and construction, durable goods, and health and wellness markets.

The specialty plastics product line consists of two primary products: copolyesters and cellulose esters. The advanced interlayers product line includes polyvinyl butyral sheet and specialty polyvinyl butyral intermediates. The performance films product line primarily consists of window film and protective film products for aftermarket applied films.

	Percentage of Total Segment Sales		
Product Lines	2018	2017	2016
Specialty Plastics	49%	51%	50%
Advanced Interlayers	33%	33%	34%
Performance Films	18%	16%	16%
Total	100%	100%	100%

	Percentage of Total Segment Sales		
Sales by Customer Location	2018	2017	2016
United States and Canada	35%	36%	37%
Asia Pacific	33%	33%	32%
Europe, Middle East, and Africa	27%	26%	26%
Latin America	5%	5%	5%
Total	100%	100%	100%

Chemical Intermediates Segment

The CI segment leverages large scale and vertical integration from the cellulose and acetyl, olefins, and alkylamines streams to support the Company's specialty operating segments with advantaged cost positions. The CI segment sells excess intermediates beyond the Company's internal specialty needs into markets such as industrial chemicals and processing, building and construction, health and wellness, and agrochemicals.

In the intermediates product line, the Company produces olefin derivatives, acetyl derivatives, ethylene, and commodity solvents. The plasticizers product line consists of a unique set of primary non-phthalate and phthalate

plasticizers and a range of niche non-phthalate plasticizers. The functional amines product lines include methylamines and salts, and higher amines and solvents.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

Product Lines	Percentage of Total Segment Sales		
	2018	2017	2016
Intermediates	60%	64%	65%
Plasticizers	20%	19%	20%
Functional Amines	20%	17%	15%
Total	100%	100%	100%

Sales by Customer Location	Percentage of Total Segment Sales		
	2018	2017	2016
United States and Canada	64%	68%	69%
Asia Pacific	15%	14%	12%
Europe, Middle East, and Africa	15%	12%	13%
Latin America	6%	6%	6%
Total	100%	100%	100%

Fibers Segment

In the Fibers segment, Eastman manufactures and sells cellulose acetate tow for use in filtration media, primarily cigarette filters. The acetyl chemicals product line consists of triacetin, cellulose acetate flake, and acetyl raw materials for other acetate fiber producers. The acetate yarn product line consists of natural (undyed) acetate and polyester yarn and solution-dyed acetate yarn for use in apparel, home furnishings, and industrial fabrics. The nonwovens product line consists primarily of the nonwovens innovation products previously reported in "Other".

Product Lines	Percentage of Total Segment Sales		
	2018	2017	2016
Acetate Tow	69%	77%	80%
Acetyl Chemical Products	15%	15%	13%
Acetate Yarn	10%	8%	7%
Nonwovens	6%	—%	—%
Total	100%	100%	100%

Sales by Customer Location	Percentage of Total Segment Sales		
	2018	2017	2016
United States and Canada	26%	22%	21%
Asia Pacific	33%	37%	44%
Europe, Middle East, and Africa	37%	37%	29%
Latin America	4%	4%	6%
Total	100%	100%	100%

Other

Sales revenue in the table below for "Other" in 2017 and 2016 is primarily sales from the nonwovens innovation products. Beginning first quarter 2018, sales revenue and innovation costs from the nonwovens and textiles innovation products previously reported in "Other" are reported in the Fibers operating segment due to accelerating commercial progress of growth initiatives.

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NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

(Dollars in millions)	For years ended		
	December 31,		
	2018	2017	2016
Sales by Segment			
Additives & Functional Products	\$3,647	\$3,343	\$2,979
Advanced Materials	2,755	2,572	2,457
Chemical Intermediates	2,831	2,728	2,534
Fibers	918	852	992
Total Sales by Operating Segment	\$10,151	\$9,495	\$8,962
Other	—	54	46
Total Sales	\$10,151	\$9,549	\$9,008

(Dollars in millions)	For years ended December 31,		
	2018	2017	2016
Earnings Before Interest and Taxes by Segment			
Additives & Functional Products	\$639	\$653	\$607
Advanced Materials	509	483	472
Chemical Intermediates	308	255	171
Fibers	257	181	331
Total EBIT by Operating Segment	1,713	1,572	1,581
Other			
Growth initiatives and businesses not allocated to operating segments	(114)	(114)	(82)
Pension and other postretirement benefit plans income (expense), net not allocated to operating segments	(17)	93	(44)
Restructuring and acquisition integration and transaction costs	(6)	(5)	(44)
Other income (charges), net not allocated to operating segments	(24)	(16)	(22)
Total EBIT	\$1,552	\$1,530	\$1,389

(Dollars in millions)	December 31,	
	2018	2017
Assets by Segment ⁽¹⁾		
Additives & Functional Products	\$6,545	\$6,648
Advanced Materials	4,456	4,379
Chemical Intermediates	2,934	3,000
Fibers	978	929
Total Assets by Operating Segment	14,913	14,956
Corporate Assets	1,082	1,043
Total Assets	\$15,995	\$15,999

(1) The chief operating decision maker holds operating segment management accountable for accounts receivable, inventory, fixed assets, goodwill, and intangible assets.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

(Dollars in millions)	For years ended		
	December 31,		
	2018	2017	2016
Depreciation and Amortization Expense by Segment			
Additives & Functional Products	\$219	\$213	\$208
Advanced Materials	169	164	160
Chemical Intermediates	151	148	157
Fibers	64	58	51
Total Depreciation and Amortization Expense by Operating Segment	603	583	576
Other	1	4	4
Total Depreciation and Amortization Expense	\$604	\$587	\$580

(Dollars in millions)	For years ended		
	December 31,		
	2018	2017	2016
Capital Expenditures by Segment			
Additives & Functional Products	\$150	\$229	\$212
Advanced Materials	187	248	244
Chemical Intermediates	137	116	128
Fibers	50	52	38
Total Capital Expenditures by Operating Segment	524	645	622
Other	4	4	4
Total Capital Expenditures	\$528	\$649	\$626

Sales are attributed to geographic areas based on customer location and long-lived assets are attributed to geographic areas based on asset location.

(Dollars in millions)	For years ended		
	December 31,		
Geographic Information	2018	2017	2016
Sales			
United States	\$4,118	\$3,999	\$3,803
All foreign countries	6,033	5,550	5,205
Total	\$10,151	\$9,549	\$9,008

	December 31,		
	2018	2017	2016
Net properties			
United States	\$4,228	\$4,203	\$4,066
All foreign countries	1,372	1,404	1,210
Total	\$5,600	\$5,607	\$5,276

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

20. QUARTERLY SALES AND EARNINGS DATA – UNAUDITED

(Dollars in millions, except per share amounts)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2018				
Sales	\$ 2,607	\$ 2,621	\$ 2,547	\$ 2,376
Gross profit	581	704	728	466
Asset impairments and restructuring charges, net	2	4	—	39
Net earnings attributable to Eastman	290	344	412	34
Net earnings per share attributable to Eastman ⁽¹⁾				
Basic	\$ 2.03	\$ 2.42	\$ 2.93	\$ 0.25
Diluted	\$ 2.00	\$ 2.39	\$ 2.89	\$ 0.24

(1) Each quarter is calculated as a discrete period; the sum of the four quarters may not equal the calculated full year amount.

(Dollars in millions, except per share amounts)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2017				
Sales	\$ 2,303	\$ 2,419	\$ 2,465	\$ 2,362
Gross profit	605	630	671	457
Asset impairments and restructuring charges, net	—	—	—	8
Net earnings attributable to Eastman	278	292	323	491
Net earnings per share attributable to Eastman ⁽¹⁾				
Basic	\$ 1.90	\$ 2.01	\$ 2.24	\$ 3.42
Diluted	\$ 1.89	\$ 2.00	\$ 2.22	\$ 3.39

(1) Each quarter is calculated as a discrete period; the sum of the four quarters may not equal the calculated full year amount.

21. RESERVE ROLLFORWARDS

Valuation and Qualifying Accounts

(Dollars in millions)

	Balance at January 1, 2018	Additions Charges (Credits) to Other Cost Accounts and Expense			Deductions	Balance at December 31, 2018
Reserve for:						
Doubtful accounts and returns	\$ 12	\$ —	\$ —	\$ 1		\$ 11
LIFO inventory	288	44	5	—		337
Non-environmental asset retirement obligations	49	(2)	—	1		46
Environmental contingencies	304	9	—	17		296
Deferred tax valuation allowance	410	60	(4)	—		466
	\$ 1,063	\$ 111	\$ 1	\$ 19		\$ 1,156

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

(Dollars in millions)

	Balance at January 1, 2017	Additions Charges (Credits) to Other Cost Accounts and Expense		Deductions	Balance at December 31, 2017
Reserve for:					
Doubtful accounts and returns	\$ 10	\$ 3	\$ —	\$ 1	\$ 12
LIFO inventory	264	24	—	—	288
Non-environmental asset retirement obligations	46	2	1	—	49
Environmental contingencies	321	8	4	29	304
Deferred tax valuation allowance	278	126	6	—	410
	\$ 919	\$ 163	\$ 11	\$ 30	\$ 1,063

(Dollars in millions)

	Balance at January 1, 2016	Additions Charges (Credits) to Other Cost Accounts and Expense		Deductions	Balance at December 31, 2016
Reserve for:					
Doubtful accounts and returns	\$ 13	\$(2)	\$ —	\$ 1	\$ 10
LIFO inventory	296	(32)	—	—	264
Non-environmental asset retirement obligations	46	—	—	—	46
Environmental contingencies	336	10	1	26	321
Deferred tax valuation allowance	254	20	4	—	278
	\$ 945	\$(4)	\$ 5	\$ 27	\$ 919

22. REVENUE RECOGNITION

On January 1, 2018, Eastman adopted ASU 2014-09 Revenue Recognition (ASC 606). Under this standard, the Company recognizes revenue when performance obligations of the sale are satisfied. Eastman sells to customers through master sales agreements or standalone purchase orders. The majority of the Company's terms of sale have a single performance obligation to transfer products. Accordingly, the Company recognizes revenue when control has been transferred to the customer, generally at the time of shipment of products. Under the previous revenue recognition accounting standard, the Company recognized revenue upon the transfer of title and risk of loss, generally upon delivery of goods. For further information, see Note 1, "Significant Accounting Policies".

The Company's arrangement with a customer may include the act of shipping product to customers after the performance obligation related to that product has been satisfied. The Company has elected to account for shipping and handling as activities to fulfill the promise to transfer the good and has not allocated revenue to the shipping activity. All related shipping and handling costs are recognized at the time of shipment. Further, the Company's sales arrangements may include the collection of sales and other similar taxes that are then remitted to the related taxing authority. The Company has elected to present the amounts collected for these taxes net of the related tax expense rather than presenting them as additional revenue.

The Company has elected to adopt several practical expedients as part of the adoption of ASU 2014-09 / ASC 606. The Company has elected the practical expedient to recognize the incremental cost of obtaining a sale (selling

expense) as an expense when incurred given the potential amortization period for such asset is one year or less. Further, the Company has elected to use the practical expedient that allows the Company to ignore the possible existence of a significant financing component within sales arrangements where the time between cash collection and performance is less than one year. Finally, the Company has elected the practical expedient to not disclose unfulfilled obligations as customer purchase order commitments have an original expected duration of one year or less and no consideration from customers was excluded from the transaction price.

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

The timing of billings does not always match the timing of revenue recognition. When the Company is entitled to bill a customer in advance of the recognition of revenue, a contract liability is recognized. When the Company is not entitled to bill a customer until a period after the related recognition of revenue, a contract asset is recognized. Contract assets represent the Company's right to consideration for the exchange of goods under a contract, but which are not yet billable to a customer for consignment inventory or pursuant to certain shipping terms. Contract liabilities were not material as of January 1, 2018 or December 31, 2018. Contract assets were \$42 million as of January 1, 2018 and \$62 million as of December 31, 2018 and are included as a component of "Miscellaneous receivables" in the Consolidated Statements of Financial Position.

The economic factors that impact the nature, amount, timing, and uncertainty of revenue and cash flows vary between the Company's business operating segments and the geographical regions in which they serve. For disaggregation of revenue by major product lines and regions for each business operating segment, see Note 19, "Segment Information".

The tables below summarize the impact of adopting the new standard on fourth quarter and full year 2018 financial statements:

(Dollars in millions, except per share amounts)	Fourth Quarter 2018			Twelve Months 2018		
	Previous Standard	Change	Current Standard	Previous Standard	Change	Current Standard
Sales	\$2,387	\$(11)	\$ 2,376	\$10,108	\$ 43	\$ 10,151
Cost of sales	1,909	1	1,910	7,642	30	7,672
Gross profit	478	(12)	466	2,466	13	2,479
EBIT	147	(12)	135	1,539	13	1,552
Net earnings attributable to Eastman	44	(10)	34	1,069	11	1,080
Basic earnings per share attributable to Eastman	\$0.33	\$(0.08)	\$ 0.25	\$7.58	\$ 0.07	\$ 7.65
Diluted earnings per share attributable to Eastman	\$0.31	\$(0.07)	\$ 0.24	\$7.49	\$ 0.07	\$ 7.56

(Dollars in millions)	Fourth Quarter 2018			Twelve Months 2018		
	Previous Standard	Change	Current Standard	Previous Standard	Change	Current Standard
Additives & Functional Products						
Sales	\$853	\$(2)	\$ 851	\$3,642	\$ 5	\$ 3,647
EBIT	87	(2)	85	634	5	639
Advanced Materials						
Sales	640	(16)	624	2,741	14	2,755
EBIT	82	(11)	71	506	3	509
Chemical Intermediates						
Sales	682	7	689	2,831	—	2,831
EBIT	41	3	44	312	(4)	308
Fibers						
Sales	212	—	212	894	24	918
EBIT	49	(2)	47	248	9	257
Other						
Sales	—	—	—	—	—	—
EBIT	(112)	—	(112)	(161)	—	(161)

NOTES TO THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS

(Dollars in millions)	As of December 31,		
	2018	Previous Standard	Change Current Standard
Trade receivables, net of allowance for doubtful accounts	\$968	\$ 186	\$ 1,154
Miscellaneous receivables	282	47	329
Inventories	1,739	(156)	1,583
Total current assets	3,288	77	3,365

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Eastman maintains a set of disclosure controls and procedures designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the Securities Exchange Act of 1934 is recorded, processed, summarized, and reported within the time periods specified in Securities and Exchange Commission rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to provide reasonable assurance that information required to be disclosed by the Company in the reports that it files or submits under the Securities Exchange Act of 1934 is accumulated and communicated to the Company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. An evaluation was carried out under the supervision and with the participation of the Company's management, including the Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), of the effectiveness of the Company's disclosure controls and procedures. Based on that evaluation, the CEO and CFO have concluded that as of December 31, 2018, the Company's disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed was accumulated and communicated to management as appropriate to allow timely decisions regarding required disclosure.

Management necessarily applies its judgment in assessing the costs and benefits of such controls and procedures, which, by their nature, can provide only reasonable assurance regarding management's control objectives. Management, including the CEO and CFO, does not expect that the Company's disclosure controls and procedures can prevent all possible errors or fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance; judgments in decision-making can be faulty; and breakdowns can occur because of simple errors or mistakes. Additionally, controls can be circumvented by the individual acts of one or more persons. The design of any system of controls is based in part upon certain assumptions about the likelihood of future events, and while the Company's disclosure controls and procedures are designed to be effective under circumstances where they should reasonably be expected to operate effectively, there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Because of the inherent limitations in any control system, misstatements due to possible errors or fraud may occur and not be detected.

Management's Report on Internal Control Over Financial Reporting

Management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting. The Company's internal control over financial reporting is a process designed under the supervision of the Company's CEO and CFO to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the Company's financial statements for external purposes in accordance with U.S. generally accepted accounting principles.

The Company's internal control over financial reporting includes policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and acquisitions and dispositions of assets of the Company;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles, and that receipts and

expenditures of the Company are being made only in accordance with authorizations of management and the directors of the Company; and

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 Company's 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.

Management has assessed the effectiveness of its internal control over financial reporting as of December 31, 2018 based on the framework established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management has determined that the Company's internal control over financial reporting was effective as of December 31, 2018.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2018 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears herein.

Changes in Internal Control Over Financial Reporting

There has been no change in the Company's internal control over financial reporting that occurred during the quarter ended December 31, 2018 that has materially affected, or is reasonably likely to materially effect, the Company's internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The material under the heading "Proposals to be Voted On at the Annual Meeting--Item 1--Election of Directors" to (but not including) the subheading "The Board of Directors and Corporate Governance" and under the subheading "Board Committees--Audit Committee" (except for the material under the subheading "Board Committees--Audit Committee--Audit Committee Report", which is not incorporated by reference herein), each as included and to be filed in the definitive Proxy Statement for the 2019 Annual Meeting of Stockholders (the "2019 Proxy Statement"), is incorporated by reference herein in response to this Item. Certain information concerning executive officers of Eastman is set forth under the heading "Executive Officers of the Company" in Part I of this Annual Report on Form 10-K (this "Annual Report").

The Company has adopted a Code of Ethics and Business Conduct applicable to the Chief Executive Officer, the Chief Financial Officer, and the Controller of the Company. The Company has posted such Code of Ethics and Business Conduct on its website (www.eastman.com) in the "Investors -- Corporate Governance" section.

ITEM 11. EXECUTIVE COMPENSATION

The material under the heading "Proposals to be Voted On at the Annual Meeting--Item 1--Election of Directors—Board Committees – Compensation and Management Development Committee – Compensation Committee Report", under the subheading "Director Compensation", and under the heading "Executive Compensation", each as included and to be filed in the 2019 Proxy Statement, is incorporated by reference herein in response to this Item.

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

The material under the headings "Stock Ownership of Directors and Executive Officers--Common Stock" and "Principal Stockholders" as included and to be filed in the 2019 Proxy Statement is incorporated by reference herein in response to this Item.

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

Equity Compensation Plans Approved by Stockholders

Stockholders approved the Company's 2007 Omnibus Long-Term Compensation Plan, the 2012 Omnibus Stock Compensation Plan, and the 2017 Omnibus Stock Compensation Plan. Although stock and stock-based awards are still outstanding under the 2007 Omnibus Long-Term Compensation Plan, the 2012 Omnibus Stock Compensation Plan, and the 2017 Director Stock Compensation Subplan, a component of the 2017 Omnibus Stock Compensation Plan, no shares are available under these plans for future awards. All future share-based awards are made from the 2017 Omnibus Stock Compensation Plan and the 2018 Director Stock Compensation Subplan, a component of the 2017 Omnibus Stock Compensation Plan.

Equity Compensation Plans Not Approved by Stockholders

Stockholders have approved all compensation plans under which shares of Eastman common stock are authorized for issuance.

Summary Equity Compensation Plan Information Table

The following table sets forth certain information as of December 31, 2018 with respect to compensation plans under which shares of Eastman common stock may be issued.

Plan Category	Number of Securities to be Issued upon Exercise of Outstanding Options (a)	Weighted-Average Exercise Price of Outstanding Options (b)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities reflected in Column (a)) (c)
Equity compensation plans approved by stockholders	2,905,600	(1)\$ 79	8,174,614 (2)
Equity compensation plans not approved by stockholders	—	—	—
TOTAL	2,905,600	\$ 79	8,174,614

Represents shares of common stock issuable upon exercise of outstanding options granted under Eastman Chemical Company's 2007 Omnibus Long-Term Compensation Plan, the 2012 Omnibus Stock Compensation Plan, the 2017 Omnibus Stock Compensation Plan, and the 2017 Director Stock Compensation Subplan, a component of the 2017 Omnibus Stock Compensation Plan.

Shares of common stock available for future awards under the Company's 2017 Omnibus Stock Compensation Plan, including the 2018 Director Stock Compensation Subplan, a component of the 2017 Omnibus Stock Compensation Plan.

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

The material under the heading "Proposals to be Voted On at the Annual Meeting--Item 1--Election of Directors", subheadings "Director Independence" and "Transactions with Directors, Executive Officers, and Related Persons", each as included and to be filed in the 2019 Proxy Statement, is incorporated by reference herein in response to this Item.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information concerning amounts billed for professional services rendered by the principal accountant and pre-approval of such services by the Audit Committee of the Company's Board of Directors under the heading "Item 3 - Ratification of Appointment of Independent Registered Public Accounting Firm" as included and to be filed in the 2019 Proxy Statement is incorporated by reference herein in response to this Item.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

	Page
(a)	<p>1. Consolidated Financial Statements:</p> <p><u>Management's Responsibility for Financial Statements</u> 66</p> <p><u>Report of Independent Registered Public Accounting Firm</u> 67</p> <p><u>Consolidated Statements of Earnings, Comprehensive Income and Retained Earnings</u> 69</p> <p><u>Consolidated Statements of Financial Position</u> 70</p> <p><u>Consolidated Statements of Cash Flows</u> 71</p> <p><u>Notes to Company's Consolidated Financial Statements</u> 72</p> <p>2. <u>Exhibits filed as part of this report are listed in the Exhibit Index beginning at page</u> 127</p>
(b)	<p><u>The required Exhibits to this report are included subsequent to page</u> 131</p>

ITEM 16. FORM 10-K SUMMARY

None.

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Exhibit Number	EXHIBIT INDEX Description
3.01	<u>Amended and Restated Certificate of Incorporation of Eastman Chemical Company (incorporated herein by reference to Exhibit 3.01 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2012)</u>
3.02	<u>Amended and Restated Bylaws of Eastman Chemical Company (incorporated herein by reference to Exhibit 3.02 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017)</u>
4.01	<u>Form of Eastman Chemical Company common stock certificate as amended February 1, 2001 (incorporated herein by reference to Exhibit 4.01 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2001)</u>
4.02	Indenture, dated as of January 10, 1994, between Eastman Chemical Company and The Bank of New York, as Trustee (the "Indenture") (incorporated herein by reference to Exhibit 4(a) to the Company's Current Report on Form 8-K dated January 10, 1994)
4.03	<u>Indenture, dated as of June 5, 2012, between Eastman Chemical Company and Wells Fargo Bank, as Trustee (incorporated herein by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated June 5, 2012)</u>
4.04	Form of 7 1/4% Debentures due January 15, 2024 (incorporated herein by reference to Exhibit 4(d) to the Company's Current Report on Form 8-K dated January 10, 1994)
4.05	Officers' Certificate pursuant to Sections 201 and 301 of the Indenture related to 7 5/8% Debentures due 2024 (incorporated herein by reference to Exhibit 4(a) to the Company's Current Report on Form 8-K dated June 8, 1994)
4.06	Form of 7 5/8% Debentures due June 15, 2024 (incorporated herein by reference to Exhibit 4(b) to the Company's Current Report on Form 8-K dated June 8, 1994)
4.07	<u>Form of 7.60% Debentures due February 1, 2027 (incorporated herein by reference to Exhibit 4.08 to the Company's Annual Report on Form 10-K for the year ended December 31, 1996)</u>
4.08	<u>Officer's Certificate pursuant to Sections 201 and 301 of the Indenture related to 7.60% Debentures due February 1, 2027 (incorporated herein by reference to Exhibit 4.09 to the Company's Annual Report on Form 10-K for the year ended December 31, 1996)</u>
4.09	<u>Form of 4.5% Note due 2021 (incorporated herein by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K dated December 10, 2010)</u>
4.10	<u>Form of 3.6% Note due 2022 (incorporated herein by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K dated June 5, 2012)</u>
4.11	<u>Form of 4.8% Note due 2042 (incorporated herein by reference to Exhibit 4.4 to the Company's Current Report on Form 8-K dated June 5, 2012)</u>
4.12	<u>Form of 4.65% Note due 2044 (incorporated herein by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K dated May 15, 2014)</u>

- 4.13 Form of 2.70% Note due 2020 (incorporated herein by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K dated November 20, 2014)
- 4.14 Form of 3.80% Note due 2025 (incorporated herein by reference to Exhibit 4.18 to the Company's Annual Report on Form 10-K for the year ended December 31, 2014)
- 4.15 Form of 1.50% Note due 2023 (incorporated herein by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K dated May 26, 2016 and Exhibit 1.1 to the Company's Current Report on Form 8-K dated November 21, 2016)
- 4.16 Form of 1.875% Note due 2026 (incorporated herein by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K dated November 21, 2016)
- 4.17 Form of 3.5% Note due 2021 (incorporated herein by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K dated November 6, 2018)
- 4.18 Form of 4.5% Note due 2028 (incorporated herein by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K dated November 6, 2018)

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Exhibit Number	EXHIBIT INDEX Description
10.01	Amended and Restated \$250,000,000 Accounts Receivable Securitization Agreement dated July 9, 2008 (amended August 31, 2016 and April 2, 2018) between the Company and The Bank of Tokyo-Mitsubishi UFJ, Ltd., as agent (incorporated herein by reference to <u>Exhibit 10.01 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2015</u> , <u>Exhibit 10.01 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2016</u> , and <u>Exhibit 10.01 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018</u>)
10.02	<u>Amended and Restated Five-Year Credit Agreement dated as of October 25, 2018 among Eastman Chemical Company, the initial lenders named herein, and Citibank, N.A., as administrative agent, Citibank, N.A., JPMorgan Chase Bank, N.A. and Merrill Lynch, Pierce, Fenner & Smith Incorporate, as joint lead arrangers (incorporated herein by reference to Exhibit 10.01 to the Company's Quarterly Report on Form 10-K for the quarter ended September 30, 2018)</u>
10.03	<u>Five-Year Senior Term Loan Credit Agreement (incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated December 15, 2016)</u>
10.04	Amended and Restated Non-Recourse Account Receivable Purchase Agreement dated December 21, 2012 (amended March 28, 2013, July 30, 2013, March 22, 2016, December 16, 2016 and December 28, 2017) between BNP Paribas Fortis Factor N.V. and Taminco US LLC (incorporated herein by reference to <u>Exhibit 10.01 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016</u> , <u>Exhibit 10.36 to the Company's Annual Report on Form 10-K for the year ended December 31, 2016</u> , and <u>Exhibit 10.36 to the Company's Annual Report on Form 10-K for the year ended December 31, 2017</u>)
10.05	Amended and Restated Non-Recourse Accounts Receivable Purchase Agreement dated October 31, 2012 (amended March 28, 2013, May 23, 2013, July 30, 2013, December 10, 2013, January 7, 2014, March 22, 2016, December 16, 2016, and December 28, 2017) between BNP Paribas Fortis Factor N.V. and Taminco B.V.B.A. (initial agreement incorporated herein by reference to <u>Exhibit 10.8 to Taminco Corporation Amendment No. 1 to Registration Statement on Form S-1, File No. 333-185244, filed with the SEC January 18, 2013</u> and <u>Exhibit 10.02 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016</u> , <u>Exhibit 10.37 to the Company's Annual Report on Form 10-K for the year ended December 31, 2016</u> , and <u>Exhibit 10.37 to the Company's Annual Report on Form 10-K for the year ended December 31, 2017</u>)
10.06	Non-Recourse Accounts Receivable Purchase agreement dated April 25, 2014 (amended May 13, 2014, November 21, 2014, March 22, 2016, December 16, 2016, and December 28, 2017) between BNP Parisbas Fortis Factor N.V. and Taminco Finland Oy (incorporated herein by reference to <u>Exhibit 10.03 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016</u> , <u>Exhibit 10.38 to the Company's Annual Report on Form 10-K for the year ended December 31, 2016</u> , and <u>Exhibit 10.35 to the Company's Annual Report on Form 10-K for the year ended December 31, 2017</u>)
10.07	<u>Eastman Excess Retirement Income Plan (incorporated herein by reference to Exhibit 10.02 to the Company's Annual Report on Form 10-K for the year ended December 31, 2008) **</u>
10.08	<u>Form of Executive Change in Control Severance Agreements (incorporated herein by reference to Exhibit 10.02 to the Company's Annual Report on Form 10-K for the year ended December 31, 2010) **</u>
10.09	<u>Eastman Unfunded Retirement Income Plan (incorporated herein by reference to Exhibit 10.04 to the Company's Annual Report on Form 10-K for the year ended December 31, 2008) **</u>

10.10 Eastman Chemical Company Benefit Security Trust dated December 24, 1997, as amended May 1, 1998 and February 1, 2001 and Amendment Number Three to the Eastman Chemical Company Benefit Security Trust dated January 2, 2002 (incorporated herein by reference to Exhibit 10.01 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2001 and Exhibit 10.04 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2002) **

10.11 Amended and Restated Warrant to Purchase Shares of Common Stock of Eastman Chemical Company, dated January 2, 2002 (incorporated herein by reference to Exhibit 10.02 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2002) **

10.12 Amended and Restated Registration Rights Agreement, dated January 2, 2002 (incorporated herein by reference to Exhibit 10.03 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2002) **

10.13 Amended and Restated Eastman Executive Deferred Compensation Plan (incorporated herein by reference to Exhibit 10.13 to the Company's Annual Report on Form 10-K for the year ended December 31, 2014) **

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Exhibit Number	EXHIBIT INDEX Description
10.14	<u>Amended and Restated Eastman Directors' Deferred Compensation Plan (incorporated herein by reference to 10.04 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2016) **</u>
10.15	<u>Eastman Unit Performance Plan as amended and restated effective December 5, 2012 (incorporated herein by reference to Exhibit 10.12 to the Company's Annual Report on Form 10-K for the year ended December 31, 2012) **</u>
10.16	<u>Form of Indemnification Agreements with Directors and Executive Officers (incorporated herein by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K for the year ended December 31, 2003) **</u>
10.17	<u>Forms of Award Notices for Stock Options Granted to Executive Officers under the 2007 Omnibus Long-Term Compensation Plan (incorporated herein by reference to Exhibit 10.08 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2007, Exhibits 10.01 and 10.02 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2008, and Exhibits 10.01 and 10.02 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2010)**</u>
10.18	<u>2007 Omnibus Long-Term Compensation Plan (incorporated herein by reference to Exhibit 10.01 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2007) **</u>
10.19	<u>Forms of Performance Share Awards to Executive Officers (2016 – 2018 Performance Period) (incorporated herein by reference to Exhibit 10.23 to the Company's Annual Report on Form 10-K for the year ended December 31, 2015) **</u>
10.20	<u>Forms of Performance Share Awards to Executive Officers (2017 – 2019 Performance Period) (incorporated herein by reference to Exhibit 10.23 to the Company's Annual Report on Form 10-K for the year ended December 31, 2016) **</u>
10.21	<u>Forms of Performance Share Awards to Executive Officers (2018 – 2020 Performance Period) (incorporated herein by reference to Exhibit 10.22 to the Company's Annual Report on Form 10-K for the year ended December 31, 2017)**</u>
10.22*	<u>Forms of Performance Share Awards to Executive Officers (2019 – 2021 Performance Period) **</u>
10.23	<u>UPP performance measures and goals, specific target objectives with respect to such performance goals, the method for computing the amount of the UPP award allocated to the award pool if the performance goals are attained, and the eligibility criteria for employee participation in the UPP, for the 2018 performance year (incorporated herein by reference to the Company's Current Report on Form 8-K dated December 6, 2017) **</u>
10.24	<u>UPP performance measures and goals, specific target objectives with respect to such performance goals, the method for computing the amount of the UPP award allocated to the award pool if the performance goals are attained, and the eligibility criteria for employee participation in the UPP, for the 2019 performance year (incorporated herein by reference to the Company's Current Report on Form 8-K dated December 5, 2018) **</u>
10.25	

2012 Omnibus Stock Compensation Plan (incorporated herein by reference to Appendix A to the Company's 2012 Annual Meeting Proxy Statement dated March 21, 2012) **

10.26 2017 Omnibus Stock Compensation Plan (incorporated herein by reference to Appendix A of the Company's 2017 Annual Meeting Proxy Statement dated March 23, 2017) **

10.27 2017 Director Stock Compensation Subplan of the 2017 Omnibus Stock Compensation Plan and Form of Restricted Stock Award Notice (incorporated herein by reference to Exhibit 10.02 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017) **

10.28* 2018 Director Stock Compensation Subplan of the 2017 Omnibus Stock Compensation Plan and form of Restricted Stock Award Notice **

10.29 Forms of Award Notices for Stock Options and Stock Appreciation Rights Granted to Executive Officers under the 2012 Omnibus Stock Compensation Plan (incorporated herein by reference to Exhibit 10.01 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013, Exhibit 10.29 to the Company's Annual Report on Form 10-K for the year ended December 31, 2013, and Exhibit 10.01 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016) **

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Exhibit Number	EXHIBIT INDEX Description
10.30	Form of Award Notice for Stock Options and Restricted Stock Unit Awards Granted to Executive Officers under the 2017 Omnibus Stock Compensation Plan (incorporated by reference to Exhibit 10.31 , Exhibit 10.33 , and Exhibit 10.34 to the Company's Annual Report on Form 10-K for the year ended December 31, 2017) **
10.31	<u>Eastman Chemical Company Executive Incentive Pay Clawback Policy (incorporated herein by reference to Exhibit 10.01 to the Company's Current Report on Form 8-K dated February 3, 2015) **</u>
21.01*	<u>Subsidiaries of the Company</u>
23.01*	<u>Consent of Independent Registered Public Accounting Firm</u>
31.01*	<u>Rule 13a – 14(a) Certification by Mark J. Costa, Chief Executive Officer, for the year ended December 31, 2018</u>
31.02*	<u>Rule 13a – 14(a) Certification by Curtis E. Espeland, Executive Vice President and Chief Financial Officer, for the year ended December 31, 2018</u>
32.01*	<u>Section 1350 Certification by Mark J. Costa, Chief Executive Officer, for the year ended December 31, 2018</u>
32.02*	<u>Section 1350 Certification by Curtis E. Espeland, Executive Vice President and Chief Financial Officer, for the year ended December 31, 2018</u>
99.01*	<u>2018 Company and Segment Revenue by End-Use Market</u>
99.02*	<u>Product and Raw Material Information</u>
99.03*	<u>Quarterly Non-GAAP Earnings (Loss) Before Interest and Taxes Reconciliations</u>
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema
101.CAL*	XBRL Taxonomy Calculation Linkbase
101.DEF*	XBRL Definition Linkbase Document
101.LAB*	XBRL Taxonomy Label Linkbase
101.PRE*	XBRL Presentation Linkbase Document

* Denotes exhibit filed or furnished herewith.

** Management contract or compensatory plan or arrangement filed pursuant to Item 601(b) (10) (iii) of Regulation S-K.

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.

Eastman Chemical Company

By: /s/ Mark J. Costa
Mark J. Costa
Chief Executive Officer

Date: February 27, 2019

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
PRINCIPAL EXECUTIVE OFFICER AND DIRECTOR:		
/s/ Mark J. Costa Mark J. Costa	Chief Executive Officer and Director	February 27, 2019

PRINCIPAL FINANCIAL OFFICER:

/s/ Curtis E. Espeland Curtis E. Espeland	Executive Vice President and Chief Financial Officer	February 27, 2019
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PRINCIPAL ACCOUNTING OFFICER:

/s/ Scott V. King Scott V. King	Vice President, Corporate Controller and Chief Accounting Officer	February 27, 2019
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SIGNATURE	TITLE	DATE
DIRECTORS (other than Mark J. Costa, who also signed as Principal Executive Officer):		
/s/ Humberto P. Alfonso Humberto P. Alfonso	Director	February 27, 2019
/s/ Brett D. Begemann Brett D. Begemann	Director	February 27, 2019
/s/ Michael P. Connors Michael P. Connors	Director	February 27, 2019
/s/ Stephen R. Demeritt Stephen R. Demeritt	Director	February 27, 2019
/s/ Robert M. Hernandez Robert M. Hernandez	Director	February 27, 2019
/s/ Julie F. Holder Julie F. Holder	Director	February 27, 2019
/s/ Renée J. Hornbaker Renée J. Hornbaker	Director	February 27, 2019
/s/ Lewis M. Kling Lewis M. Kling	Director	February 27, 2019
/s/ Kim A. Mink Kim A. Mink	Director	February 27, 2019
/s/ James J. O'Brien James J. O'Brien	Director	February 27, 2019
/s/ David W. Raisbeck David W. Raisbeck	Director	February 27, 2019