

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K

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

For the fiscal year ended **December 31, 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 : **001-38196**

DOWDUPONT INC.

(Exact name of registrant as specified in its charter)

Delaware

81-1224539

State or other jurisdiction of incorporation or organization

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

c/o The Dow Chemical Company
2211 H.H. Dow Way, Midland, MI 48674
(989) 636-1000

c/o E. I. du Pont de Nemours and Company
974 Centre Road, Wilmington, DE 19805
(302) 774-1000

(Address of principal executive offices) (Zip Code)
Registrant's telephone number, including area code
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

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

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

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

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

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. ☐

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

Large accelerated filer ☒

Accelerated filer ☐

Non-accelerated filer ☐

Smaller reporting company ☐

Emerging growth company ☐

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

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

The aggregate market value of the common equity held by non-affiliates of the registrant as of June 30, 2018, (the last day of the registrant's most recently completed second fiscal quarter), was approximately \$151.8 billion based on the last reported closing price of \$65.92 per share as reported on the New York Stock Exchange on such date. For purposes of this computation, it is assumed that the shares of voting stock held by Directors and Officers would be deemed to be stock held by affiliates. Non-affiliated common stock outstanding at June 30, 2018, was 2,303,312,652 shares.

Total DowDuPont common stock outstanding at January 31, 2019 was 2,254,762,058 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Part III: Proxy Statement for the 2019 Annual Meeting of Stockholders to be filed not later than 120 days after the end of the fiscal year covered by this Form 10-K.

DowDuPont Inc.

ANNUAL REPORT ON FORM 10-K For the fiscal year ended December 31, 2018

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DowDuPont Inc.

PART I

ITEM 1. BUSINESS

THE COMPANY

Throughout this Annual Report on Form 10-K, except as otherwise noted by the context, the terms "Company" or "DowDuPont" used herein mean DowDuPont Inc. and its consolidated subsidiaries. DowDuPont is a holding company comprised of The Dow Chemical Company ("Historical Dow") and E. I. du Pont de Nemours and Company ("Historical DuPont") with the intent to form strong, independent, publicly traded companies in the agriculture, materials science and specialty products sectors that will lead their respective industries through productive, science-based innovation to meet the needs of customers and help solve global challenges. DowDuPont is a Delaware corporation formed on December 9, 2015, for the purpose of effecting an all-stock merger of equals transactions between Historical Dow and Historical DuPont. Pursuant to the Agreement and Plan of Merger, dated December 11, 2015, as amended on March 31, 2017, Historical Dow and Historical DuPont each merged with subsidiaries of DowDuPont and, as a result, became subsidiaries of DowDuPont.

The Company's principal executive offices are located at:

c/o The Dow Chemical Company
2211 H.H. Dow Way
Midland, Michigan 48674

c/o E. I. du Pont de Nemours and Company
974 Centre Road
Wilmington, Delaware 19805

Available Information

The Company's annual report on Form 10-K, quarterly reports on Form 10-Q and 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, are available free of charge through the Investor Relations section of the Company's website (www.dow-dupont.com/investors), as soon as reasonably practicable after the reports are electronically filed or furnished with the U.S. Securities and Exchange Commission ("SEC"). The SEC maintains a website that contains these reports as well as proxy statements and other information regarding issuers that file electronically. The SEC's website is at www.sec.gov . The Company's website and its content are not deemed incorporated by reference into this report.

THE INTENDED BUSINESS SEPARATIONS

DowDuPont plans to separate into three, independent, publicly traded companies - one for each of its agriculture, materials science and specialty products businesses (the "Intended Business Separations" and the transactions to accomplish the Intended Business Separations, the "separations"). DowDuPont has formed two wholly owned subsidiaries: Dow Holdings Inc., to serve as a holding company for its materials science business, and Corteva, Inc., to serve as a holding company for its agriculture business.

In furtherance of the Intended Business Separations, DowDuPont is engaged in a series of internal reorganization and realignment steps (the "Internal Reorganization") to realign its businesses into three subgroups: agriculture, materials science and specialty products. As part of the Internal Reorganization, the assets and liabilities aligned with the materials science business will be transferred or conveyed to legal entities that will ultimately be subsidiaries of Dow Holdings Inc. and the assets and liabilities aligned with the agriculture business will be transferred or conveyed to legal entities that will ultimately be subsidiaries of Corteva, Inc.

Following the Internal Reorganization, DowDuPont expects to distribute its materials science and agriculture businesses through two separate U.S. federal tax-free spin-offs in which DowDuPont stockholders, at the time of such spin-offs, will receive a pro rata dividend of the shares of the capital stock of Dow Holdings Inc. and of Corteva, Inc., as applicable (the "distributions"). The materials science business, after the consummation of the applicable Internal Reorganization, will be referred to as "Dow" and the agriculture business, after the consummation of the applicable Internal Reorganization, will be referred to as "Corteva." Following the separation and distribution of Dow, which is targeted to occur on April 1, 2019, DowDuPont, as the remaining company, will continue to hold the agriculture and specialty products businesses. DowDuPont is then targeted to complete the separation and distribution of Corteva on June 1, 2019, resulting in DowDuPont holding the specialty products businesses of the combined Company. After the distribution of Corteva, it is expected that DowDuPont will become known as "DuPont."

Prior to the distribution of Dow, DowDuPont intends to enter into a separation agreement with Corteva and Dow (the “separation agreement”) setting forth the agreement among the parties regarding the principal actions to be taken in connection with the separations. Under the separation agreement, certain environmental and legal liabilities will be allocated among DuPont, Dow and Corteva. Those liabilities primarily related to DowDuPont’s specialty products businesses, materials science business and agriculture business will generally be retained or assumed by DuPont, Dow and Corteva, respectively, unless otherwise specifically allocated.

With respect to environmental and legal liabilities from discontinued and/or divested operations and businesses, those of Historical Dow will be retained or assumed by Dow and those of Historical DuPont will be retained or assumed by Corteva or DuPont according to the terms of the separation agreement.

These liability allocations will be implemented through transfer or substitution, if possible, or indemnity.

In the fourth quarter of 2018, DowDuPont consummated a public underwritten offer of eight series of senior unsecured notes (the “DowDuPont Notes”) in an aggregate principal amount of \$12.7 billion. (See the discussion of the DowDuPont Notes in Liquidity and Capital Resources in Part II, Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations).

FORWARD-LOOKING STATEMENTS

This communication contains “forward-looking statements” within the meaning of the federal securities laws, including Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. In this context, forward-looking statements often address expected future business and financial performance and financial condition, and often contain words such as “expect,” “anticipate,” “intend,” “plan,” “believe,” “seek,” “see,” “will,” “would,” “target,” and similar expressions and variations or negatives of these words.

Forward-looking statements by their nature address matters that are, to varying degrees, uncertain, including statements about the Intended Business Separations, the separations and distributions. Forward-looking statements, including those related to the DowDuPont’s ability to complete, or to make any filing or take any other action required to be taken to complete, the separations and distributions, are not guarantees of future results and are subject to risks, uncertainties and assumptions that could cause actual results to differ materially from those expressed in any forward-looking statements. Forward-looking statements also involve risks and uncertainties, many of which are beyond DowDuPont’s control. Some of the important factors that could cause DowDuPont’s, Historical Dow’s or Historical DuPont’s actual results (including DowDuPont’s agriculture business, materials science business or specialty products business as conducted by and through Historical Dow and Historical DuPont) to differ materially from those projected in any such forward-looking statements include, but are not limited to: (i) ability and costs to achieve all the expected benefits, including anticipated cost and growth synergies, from the integration of Historical Dow and Historical DuPont and the Intended Business Separations, (either directly or as conducted through Historical Dow and Historical DuPont); (ii) the incurrence of significant costs in connection with the integration of Historical Dow and Historical DuPont and the Intended Business Separations; (iii) risks outside the control of DowDuPont, Historical Dow and Historical DuPont which could impact the decision of the DowDuPont Board of Directors to proceed with the Intended Business Separations, including, among others, global economic conditions, instability in credit markets, declining consumer and business confidence, fluctuating commodity prices and interest rates, volatile foreign currency exchange rates, tax considerations, a full or partial shutdown of the U.S. federal government, other challenges that could affect the global economy, specific market conditions in one or more of the industries of the businesses proposed to be separated, and changes in the regulatory or legal environment and the requirement to redeem \$12.7 billion of DowDuPont notes if the Intended Business Separations are abandoned or delayed beyond May 1, 2020; (iv) potential liability arising from fraudulent conveyance and similar laws in connection with the separations and distributions; (v) disruptions or business uncertainty, including from the Intended Business Separations, could adversely impact DowDuPont’s business (either directly or as conducted by and through Historical Dow or Historical DuPont), or financial performance and its ability to retain and hire key personnel; (vi) uncertainty as to the long-term value of DowDuPont common stock; (vii) potential inability to access the capital markets; and (viii) risks to DowDuPont’s, Historical Dow’s and Historical DuPont’s business, operations and results of operations from: the availability of and fluctuations in the cost of feedstocks and energy; balance of supply and demand and the impact of balance on prices; failure to develop and market new products and optimally manage product life cycles; ability, cost and impact on business operations, including the supply chain, of responding to changes in market acceptance, rules, regulations and policies and failure to respond to such changes; outcome of significant litigation, environmental matters and other commitments and contingencies; failure to appropriately manage process safety and product stewardship issues; global economic and capital market conditions, including the continued availability of capital and financing, as well as inflation, interest and currency exchange rates; changes in political conditions, including trade disputes and retaliatory actions; business or supply disruptions; security threats, such as acts of sabotage, terrorism or war, natural disasters and weather events and patterns which could result in a significant operational event for DowDuPont, adversely impact demand or production; ability to discover, develop and protect new technologies and to protect and enforce DowDuPont’s intellectual property rights; failure to effectively manage acquisitions,

divestitures, alliances, joint ventures and other portfolio changes; unpredictability and severity of catastrophic events, including, but not limited to, acts of terrorism or outbreak of war or hostilities, as well as management's response to any of the aforementioned factors. These risks are and will be more fully discussed in DowDuPont's current, quarterly and annual reports and other filings made with the SEC as well as the preliminary registration statements on Form 10 of each of Dow and Corteva, in each case as may be amended from time to time in future filings with the SEC. While the list of factors presented here is considered representative, no such list should be considered to be a complete statement of all potential risks and uncertainties. Unlisted factors may present significant additional obstacles to the realization of forward-looking statements. Consequences of material differences in results as compared with those anticipated in the forward-looking statements could include, among other things, business disruption, operational problems, financial loss, legal liability to third parties and similar risks, any of which could have a material adverse effect on DowDuPont's, Historical Dow's, Historical DuPont's, Dow's or Corteva's consolidated financial condition, results of operations, credit rating or liquidity. A detailed discussion of some of the significant risks and uncertainties which may cause results and events to differ materially from such forward-looking statements is included in the section titled "Risk Factors" (Part I, Item 1A) of this annual report.

BUSINESS SEGMENTS AND PRODUCTS

DowDuPont's worldwide operations are managed through global businesses, which are reported in eight reportable segments: Agriculture; Performance Materials & Coatings; Industrial Intermediates & Infrastructure; Packaging & Specialty Plastics; Electronics & Imaging; Nutrition & Biosciences; Transportation & Advanced Polymers; and, Safety & Construction. Corporate contains the reconciliation between the totals for the reportable segments and the Company's totals. See Part II, Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations and Note 24 to the Consolidated Financial Statements for additional information concerning the Company's operating segments.

AGRICULTURE

The Agriculture segment leverages the Company's technology, customer relationships and industry knowledge to improve the quantity, quality and safety of the global food supply and the global agriculture industry. Land available for worldwide agricultural production is increasingly limited so production growth will need to be achieved principally through improving crop yields and productivity. The segment's two global businesses, Seed and Crop Protection, deliver a broad portfolio of products and services that are specifically targeted to achieve gains in crop yields and productivity, including well-established brands of seed products, crop chemicals, seed treatment, agronomy and digital services. Research and development ("R&D") focuses on leveraging germplasm and plant science technology to increase farmer productivity and to enhance the value of grains and oilseeds through improved seed traits, superior seed germplasm and effective use of crop protection solutions.

Seed

Seed is a global leader in developing and supplying advanced plant genetic products and technologies. The Seed business is a global leader in developing, producing and marketing hybrid corn seed and soybean seed varieties, primarily under the Pioneer[®] brand name, which improve the productivity and profitability of its customers. Additionally, the Seed business develops, produces and markets sunflowers, wheat, alfalfa, canola, cotton, rice and sorghum, as well as silage inoculants.

Crop Protection

Crop Protection serves the global agriculture industry with crop protection products for field crops such as wheat, corn, soybean, sunflower, canola/oilseed rape and rice, and specialty crops such as fruit, nut, vine, sugarcane, coffee and vegetables. Principle crop protection products are weed control, disease control and insect control offerings for foliar or soil application or as a seed treatment.

Merger Remedies - Historical Dow and Historical DuPont

As a condition of regulatory approval for the Merger, in addition to other requirements, Historical Dow was required to divest a portion of Dow AgroSciences' Brazil Corn Seed business and Historical DuPont was required to divest certain assets related to its crop protection business and R&D organization, as discussed below.

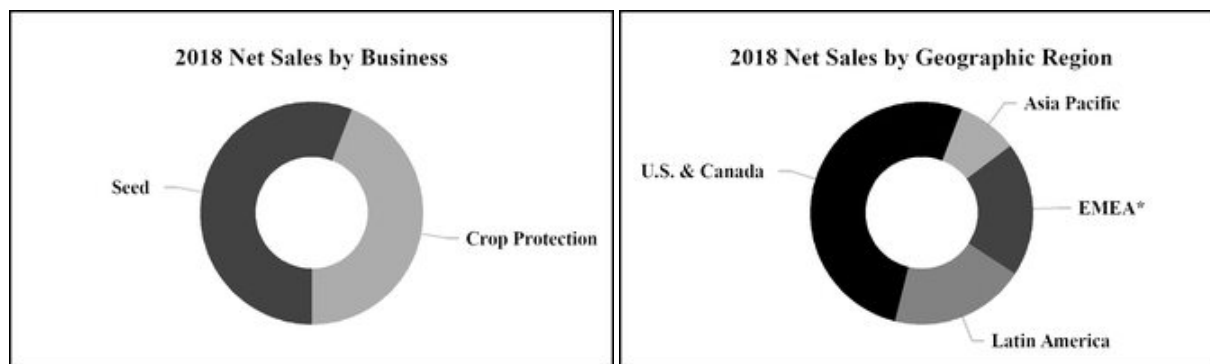
Historical Dow Merger Remedy - Divestiture of a Portion of Dow AgroSciences' Brazil Corn Seed Business

On July 11, 2017, Historical Dow announced it had entered into a definitive agreement with CITIC Agri Fund to sell a select portion of Dow AgroSciences' corn seed business in Brazil, including some corn seed production sites and research centers, a copy of Dow AgroSciences' Brazilian corn germplasm bank, certain commercial and pipeline hybrids, the MORGAN[™] trademark and a license to the DOW SEMENTES[™] trademark for a certain period of time (the "DAS Divested Ag Business"). On November 30, 2017, the sale was completed. See Note 5 to the Consolidated Financial Statements for further information regarding the divestiture.

Historical DuPont Merger Remedy - Divested Agriculture Business

Historical DuPont was required to divest certain assets related to its Crop Protection business and R&D organization. On March 31, 2017, Historical DuPont entered into a definitive agreement (the "FMC Transaction Agreement") with FMC Corporation ("FMC"), under which and effective upon the closing of the transaction on November 1, 2017, FMC acquired Historical DuPont's Cereal Broadleaf Herbicides and Chewing Insecticides portfolios, including Rynaxypyr®, Cyazypyr®, and Indoxacarb as well as the Crop Protection R&D pipeline and organization, excluding seed treatment, nematocides, and late-stage R&D programs (the "Divested Ag Business"), and Historical DuPont acquired certain assets related to FMC's Health and Nutrition segment, excluding its Omega-3 products (the "H&N Business") (collectively, the "FMC Transactions"). See Notes 3 and 5 to the Consolidated Financial Statements for further information regarding the acquisition and divestiture, respectively. The sale of the Divested Ag Business met the criteria for discontinued operations and as such, earnings were included within income from discontinued operations after income taxes in the Consolidated Statements of Income for all periods subsequent to the Merger.

Details on Agriculture's 2018 net sales, by business and geographic region, are as follows:



* Europe, Middle East and Africa.

Products

Key product lines, including crop application, are listed below:

Key Product Lines	Crop Application									
	Canola	Cereals	Corn	Cotton	Range and Pasture	Rice	Soybeans	Sunflower	Trees, Fruits and Vegetables	Others
Seeds	x	x	x	x		x	x	x		x
Insecticides	x	x	x	x		x	x	x	x	x
Fungicides		x	x			x	x		x	x
Herbicides	x	x	x	x	x	x	x	x	x	x
Other	x		x	x						

Major brands and technologies, by key product line, are listed below:

<i>Key Product Lines</i>	<i>Brands and Technologies</i>
Seed Brands	Pioneer®; BREVANT™ SEEDS; DAIRYLAND SEED®; MYCOGEN®; HOEGEMEYER®; NUTECH®; SEED CONSULTANTS®; TERRAL SEED®; AGVENTURE®; ALFOREX®; PHYTOGEN®; PANNAR®; VP MAXX®; RPM®; HPT®; G2®; SUPREME EX®; XL®; POWER PLUS®
Seed Traits and Technologies	ENLIST™ weed control system; ENLIST DUO® herbicide; ENLIST E3™ soybeans; EXZACT™ Precision Technology; HERCULEX® Insect Protection; Pioneer® brand hybrids with Leptra® insect protection technology offering protection against above ground pests; POWERCORE® Insect Trait Technology ¹ ; Pioneer® brand Optimum® AcreMax® family of products offering above and below ground insect protection; REFUGE ADVANCED® powered by SMARTSTAX® ¹ ; SMARTSTAX® Insect Trait Technology ¹ ; NEXERA® seed offering increased canola yield potential; Omega-9 Healthier Oils; Pioneer® brand Optimum® AQUAmax® hybrids; Pioneer® brand corn hybrids; Pioneer® brand A-Series soybeans; Pioneer® brand Plenish® high oleic soybeans; Pioneer® brand sunflowers with the DuPont™ ExpressSun® trait; Pioneer Protector® products for canola and sunflower; Pioneer MAXIMUS® rapeseed hybrids; PROFOUND™
Insecticides	CLOSER®, DELEGATE®, INTREPID®, ISOCLAST®, LANNATE®, EXALT™, PEXALON™, TRANSFORM®, VYDATE®, OPTIMUM®, RADIANT™, SENTRICON®, ENTRUST® SC, GF-120® and TRACER™
Fungicides	APPROACH® PRIMA, VESSARYA™, APPROACH POWER™, TALENDO™, TALIOUS™, EQUATION PRO™, EQUATION CONTACT™, ZORVEC®, DITHANE®, INATREQ™, CURZATE®, TANOS®, FONTELIS®, ACANTO™ and GALILEO™
Herbicides	ARIGO™, ARYLEX®, ENLIST DUO®, BROADWAY™, RINSKOR®, ZYPAR™, MUSTANG™, GALLANT™, VERDICT™, LANCET™, KERB®, PIXXARO™, QUELEX®, GALLERY®, CENT-7™, SNAPSHOT®, TRELLIS®, CITADEL™, CLIPPER™, GRANITE™, RAINBOW™, PINDAR® GT, VIPER™, WIDEATTACK™, BELKAR™, WIDEMATCH®, PERFECTMATCH®, CLINCHER®, DURANGO®, FENCER™, GARLON®, SONIC®, TEXARO™, KEYSTONE®, PACTO™, LIGATE, DIMENSION®, TOPSHOT™, RICER™, LOYANT®, CLASSIC®, REALM® Q, TRIVENCE®, LONTREL®, GRAZON®, PANZER™, PRIMUS™, RESICORE®, SPIDER™, STARANE®, SURESTART™ and TORDON™
Other	LumiGEN™ technologies seed treatment portfolio of offerings - LUMIDERM™ and LUMIVIA®; GRANULAR®; ACREVALUE®; Encirca® services; INSTINCT®; N-SERVE® Nitrogen Stabilizer; and N-LOCK™

1. SMARTSTAX® and POWERCORE™ multi-event technology developed by Dow AgroSciences LLC and Monsanto Technology LLC. SMARTSTAX®, the SMARTSTAX® logo, POWERCORE™ and the POWERCORE™ logo are trademarks of Monsanto Technology LLC.

U.S. federal regulatory authorizations have been obtained for the commercialization of ENLIST™ corn, ENLIST E3™ soybeans and ENLIST™ cotton, including the U.S. Environmental Protection Agency's registration of ENLIST DUO® and ENLIST ONE™ for use with ENLIST™ corn, soybeans and cotton in 34 states. The Company has also secured cultivation authorizations of ENLIST E3™ soybeans and ENLIST™ corn in Argentina, Brazil, Canada and the U.S.

The Company has received import approval for ENLIST™ corn and ENLIST E3™ soybeans in China, the European Union and many other countries globally. The Company expects to commercialize ENLIST E3™ soybeans during 2019 in the U.S., Canada, and Brazil. Exact timing will vary by country.

In 2017, the Company had a successful full system launch of ENLIST™ cotton and ENLIST DUO™ herbicide in the U.S. In 2018, ENLIST ONE™ herbicide was launched in the U.S., and the total number of ENLIST™ cotton acres more than doubled during the year. Finally, ENLIST™ corn was launched in both North and South America in 2018.

Distribution

The Agriculture segment has a diverse worldwide network which markets and distributes the Company's brands to customers globally. This network consists of the Company's sales and marketing organization partnering with distributors, independent retailers and farmers, cooperatives and agents throughout the world.

Key Raw Materials

The major commodities, raw materials and supplies for the Agriculture segment include: benzene derivatives, other aromatics and carbamic acid related intermediates, corn and soybean seeds, insect control products, natural gas and seed treatments.

Patents, Trademarks and Licenses

The Agriculture segment has significant technology driven growth, propelled by seed/plant biotechnology and crop protection products and technologies, urban pest management solutions and healthy oils. As a result, the Company uses patents, trademarks, licenses and registrations to protect its investment in germplasm, traits and proprietary chemistries and formulations. The Company also licenses plant biotechnology traits from third parties and engages in research collaborations.

Seasonality

The Company's ability to produce seeds can be materially impacted by weather conditions, local political conditions and the availability of reliable contract farmers. Sales and Operating EBITDA are strongest in the first half of the year, aligning with the planting and growing season in the northern hemisphere. Accounts receivable tends to be higher during the first half of the year, consistent with the peak sales period in the northern hemisphere.

Competition

The Agriculture segment competes with producers of seed/plant biotechnology and crop protection products on a global basis. The Company competes on the basis of technology and trait leadership, price, quality and cost competitiveness. Key competitors include BASF, Bayer, FMC and Syngenta, as well as companies trading in generic crop protection chemicals and regional seed companies.

PERFORMANCE MATERIALS & COATINGS

Performance Materials & Coatings includes industry-leading franchises that deliver a wide array of solutions into consumer and infrastructure end-markets. The segment consists of two global businesses: Coatings & Performance Monomers and Consumer Solutions. These businesses primarily utilize the Company's acrylics-, cellulose- and silicone-based technology platforms to serve the needs of the architectural and industrial coatings, home care and personal care end-markets. Both businesses employ materials science capabilities, global reach and unique products and technology to combine chemistry platforms to deliver differentiated offerings to customers.

Coatings & Performance Monomers

Coatings & Performance Monomers consists of two businesses: Coating Materials and Performance Monomers. The Coating Materials business makes critical ingredients and additives that help advance the performance of paints and coatings. The business offers innovative and sustainable products to accelerate paint and coatings performance across diverse market segments, including architectural paints and coatings, as well as industrial coatings applications used in maintenance and protective industries, wood, metal packaging, traffic markings, thermal paper and leather. These products enhance coatings by improving hiding and coverage characteristics, enhancing durability against nature and the elements, reducing volatile organic compounds ("VOC") content, reducing maintenance and improving ease of application. The Performance Monomers business manufactures critical building blocks based on acrylics needed for the production of coatings, textiles, and home and personal care products.

Consumer Solutions

Consumer Solutions consists of three businesses: Performance Silicones; Silicone Feedstocks & Intermediates; and Home & Personal Care. Performance Silicones uses innovative, versatile silicone-based technology to provide ingredients and solutions to customers in high performance building, consumer goods, elastomeric applications and the pressure sensitive adhesives industry that help them meet modern consumer preferences in attributes such as texture, feel, scent, durability and consistency. The Company's wide array of silicone-based products and solutions enables customers to: increase the appeal of their products; extend shelf life; improve performance of products under a wider range of conditions; and provide a more sustainable offering. Silicone Feedstocks & Intermediates provides standalone silicone materials that are used as intermediates in a wide range of applications including adhesion promoters, coupling agents, crosslinking agents, dispersing agents and surface modifiers. The Home & Personal Care business collaborates closely with global and regional brand owners to deliver innovative solutions for creating new and unrivaled consumer benefits and experiences in cleaning, laundry and skin and hair care applications, among others.

Ownership Restructure of Dow Silicones

On June 1, 2016, Dow Silicones Corporation ("Dow Silicones," formerly known as Dow Corning Corporation), previously a 50:50 joint venture with Corning Incorporated ("Corning"), became a wholly owned subsidiary of Historical Dow as a result of an ownership restructure. See Note 3 to the Consolidated Financial Statements for additional information.

Details on Performance Materials & Coatings' 2018 net sales, by business and geographic region, are as follows:



Products

Major applications/market segments and products are listed below by business:

<i>Business</i>	<i>Applications/Market Segments</i>	<i>Major Products</i>
Coatings & Performance Monomers	Acrylic binders for architectural paints and coatings, industrial coatings and paper; adhesives; dispersants; impact modifiers; inks and paints; opacifiers and surfactants for both architectural and industrial applications; plastics additives; processing aids; protective and functional coatings; rheology modifiers	ACOUSTICRYL™ Liquid-Applied Sound Damping Technology; acrylates; ACRY SOL™ Rheology Modifiers; AVANSE™ Acrylic Binders; EVOQUE™ Pre-Composite Polymer; foam cell promoters; FORMASHIELD™ Acrylic Binder; high-quality impact modifiers; MAINCOTE™ Acrylic Epoxy Hybrid; methacrylates; processing aids; RHOPLEX™ Acrylic Resin; TAMOL™ Dispersants; vinyl acetate monomers; weatherable acrylic capstock compounds for thermoplastic and thermosetting materials
Consumer Solutions	Personal care, color cosmetics, baby care, home care and specialty applications with a key focus on hair care, skin care, sun care, cleansing, as well as fabric, dish, floor, hard surface and air care applications; commercial glazing; electrical and high-voltage insulation; lamp and luminaire modules assembly; oil and gas; paints and inks; release liners, specialty films and tapes; sporting goods; 3D printing	Adhesives and sealants; antifoams and surfactants; coatings and controlled release; coupling agents and crosslinkers; EVOLV3D™ Printing Technology; fluids, emulsions and dispersions; formulating and processing aids; granulation and binders; oils; polymers and emollients; opacifiers; reagents; resins, gels and powders; rheology modifiers; rubber; silicone elastomers; solubility enhancers; aerospace composites; surfactants and solvents; SILASTIC™ Silicone Elastomers; DOWSIL™ Silicone Products

Key Raw Materials

The major commodities, raw materials and supplies for the Performance Materials & Coatings segment include: acetone, butyl acrylate, hydrochloric acid, methanol, methyl methacrylate, propylene, silica, silicon metal and styrene.

Competition

Performance Materials & Coatings experiences competition in each business within the segment. Competitors include large multinational chemical firms as well as a number of regional and local competitors. Key competitors include Arkema, BASF, Celanese, Elkem, Evonik, LyondellBasell, Momentive, Nan Ya, Owens-Corning, Shin-Etsu and Wacker Chemie.

Current and Future Investments

Historical Dow has announced investments over the next five years that are expected to enhance competitiveness, including low capital intensity, high return investments in Historical Dow's silicones franchise. The investments include a series of incremental siloxane debottleneck and efficiency improvement projects around the world, a new hydroxyl functional siloxane polymer plant in the U.S. and a new specialty resin plant in China.

INDUSTRIAL INTERMEDIATES & INFRASTRUCTURE

Industrial Intermediates & Infrastructure consists of two customer-centric global businesses - Industrial Solutions and Polyurethanes & CAV - that develop important intermediate chemicals that are essential to manufacturing processes, as well as downstream, customized materials and formulations that use advanced development technologies. These businesses primarily produce and market ethylene oxide, propylene oxide derivatives, cellulose ethers, redispersible latex powders and acrylic emulsions that are aligned to market segments as diverse as appliances, coatings, infrastructure, oil and gas, and building and construction. The global scale and reach of these businesses, world-class technology and R&D capabilities and materials science expertise enable the Company to be a premier solutions provider offering customers value-add sustainable solutions to enhance comfort, energy efficiency, product effectiveness and durability across a wide range of home comfort and appliances, building and construction, adhesives and lubricant applications, among others.

Industrial Solutions

Industrial Solutions is the world’s largest producer of purified ethylene oxide. It provides a broad portfolio of solutions that address world needs by enabling and improving the manufacture of consumer and industrial goods and services. The business’ solutions minimize friction and heat in mechanical processes, manage the oil and water interface, deliver ingredients for maximum effectiveness, facilitate dissolvability, enable product identification and provide the foundational building blocks for the development of chemical technologies. The business supports manufacturers associated with a large variety of end-markets, notably better crop protection offerings in agriculture, coatings, detergents and cleaners, solvents for electronics processing, inks and textiles.

Polyurethanes & CAV

Polyurethanes & CAV consists of three businesses: Polyurethanes, Chlor-Alkali & Vinyl (“CAV”), and Construction Chemicals (“DCC”). The Polyurethanes business is the world’s largest producer of propylene oxide, propylene glycol and polyether polyols, and a leading producer of aromatic isocyanates and fully formulated polyurethane systems for rigid, semi-rigid and flexible foams, and coatings, adhesives, sealants, elastomers and composites that serve energy efficiency, consumer comfort, industrial and enhanced mobility market sectors. The CAV business provides cost advantaged chlorine and caustic soda supply and markets caustic soda, a valuable co-product of the chlor-alkali manufacturing process, and ethylene dichloride and vinyl chloride monomer. The DCC business provides cellulose ethers, redispersible latex powders, silicones and acrylic emulsions used as key building blocks for differentiated building and construction materials across many market segments and applications ranging from roofing and flooring to gypsum-, cement-, concrete- or dispersion-based building materials.

Details on Industrial Intermediates & Infrastructure's 2018 net sales, by business and geographic region, are as follows:



Products

Major applications/market segments and products are listed below by business:

<i>Business</i>	<i>Applications/Market Segments</i>	<i>Major Products</i>
Industrial Solutions	Broad range of products for specialty applications, including agriculture crop protection offerings, aircraft deicing, solvents for coatings, heat transfer fluids for concentrated solar power, construction, solvents for electronics processing, food preservation, fuel markers, home and personal care, infrastructure applications, lubricant additives, paper, transportation and utilities; energy markets including exploration, production, transmission, refining, mining and gas processing to optimize supply, improve efficiencies and manage emissions	Acetone derivatives, butyl glycol ethers, VERSENE™ Chelants, UCAR™ Deicing Fluids, ethanolamines, ethylene oxide, ethyleneamines, UCON™ Fluids, glycol ethers, UCARTHERM™ Heat Transfer Fluids, higher glycols, isopropanolamines, low-VOC solvents, methoxypolyethylene glycol, methyl isobutyl, polyalkylene glycol, CARBOWAX™ SENTRY™ Polyethylene Glycol, TERGITOL™ and TRITON™ Surfactants, demulsifiers, drilling and completion fluids, heat transfer fluids, rheology modifiers, scale inhibitors, shale inhibitors, specialty amine solvents, surfactants, water clarifiers, frothing separating agents
Polyurethanes & CAV	Aircraft deicing fluids; alumina; pulp and paper; appliances; automotive; bedding; building and construction; flooring; footwear; heat transfer fluids; hydraulic fluids; infrastructure; packaging; textiles and transportation; construction; caulks and sealants; cement-based tile adhesives; concrete solutions; elastomeric roof coatings; industrial non-wovens; plasters and renders; roof tiles and siding; sport grounds and tape joint compounds	Aniline, caustic soda, ethylene dichloride, methylene diphenyl diisocyanate (“MDI”), polyether polyols, propylene glycol, propylene oxide, polyurethane systems, toluene diisocyanate (“TDI”), vinyl chloride monomer, AQUASET™ Acrylic Thermosetting Resins, DOW™ Latex Powder, RHOPLEX™ and PRIMAL™ Acrylic Emulsion Polymers, WALOCEL™ Cellulose Ethers

Key Raw Materials

The major commodities, raw materials and supplies for the Industrial Intermediates & Infrastructure segment include: acetone, aniline, aqueous hydrochloric acid, chlorine, electric power, ethylene, methanol, propylene, styrene and hydrogen peroxide.

Competition

Competitors of the Industrial Intermediates & Infrastructure segment include many large multinational chemical firms, chemical divisions of major national and international oil companies, and regional and local competitors. The segment's products have unique performance characteristics that are required by customers who demand a high level of customer service and expertise from our sales force and scientists. Key competitors include Arkema, Ashland, BASF, Covestro, Eastman, Hexion, Huntsman, INEOS, LyondellBasell, Olin, Owens-Corning, SABIC, Sasol, Shell and Yantai Wanhua.

Joint Ventures

The Industrial Intermediates & Infrastructure segment includes a portion of the Company's share of the results of the following joint ventures:

- EQUATE Petrochemical Company K.S.C.C. (“EQUATE”) - a Kuwait-based company that manufactures ethylene, polyethylene and ethylene glycol, and manufactures and markets monoethylene glycol, diethylene glycol and polyethylene terephthalate resins; owned 42.5 percent by the Company.
- The Kuwait Olefins Company K.S.C.C. (“TKOC”) - a Kuwait-based company that manufactures ethylene and ethylene glycol; owned 42.5 percent by the Company.
- Map Ta Phut Olefins Company Limited (“Map Ta Phut”) - a Thailand-based company that manufactures propylene and ethylene; the Company has an effective ownership of 32.77 percent (of which 20.27 percent is owned directly by the Company and aligned with the Industrial Intermediates & Infrastructure segment and 12.5 percent is owned indirectly through the Company's equity interest in Siam Polyethylene Company Limited, an entity that is part of The SCG-Dow Group and aligned with the Packaging & Specialty Plastics segment).
- Sadara Chemical Company (“Sadara”) - a Saudi Arabian company that manufactures chlorine, ethylene, propylene and aromatics for internal consumption and manufactures and sells polyethylene, ethylene oxide and propylene oxide derivative products, and isocyanates; owned 35 percent by the Company.

Historical Dow is responsible for marketing a majority of Sadara products outside of the Middle East zone through Historical Dow's established sales channels. As part of this arrangement, Historical Dow purchases and sells Sadara products for a marketing fee.

PACKAGING & SPECIALTY PLASTICS

Packaging & Specialty Plastics is a world leader in plastics and consists of two highly integrated global businesses: Hydrocarbons & Energy and Packaging and Specialty Plastics. The segment employs the industry’s broadest polyolefin product portfolio, supported by the Company’s proprietary catalyst and manufacturing process technologies, to work at the customer’s design table throughout the value chain to deliver more reliable and durable, higher performing, and more sustainable plastics to customers in food and specialty packaging; industrial and consumer packaging; health and hygiene; caps, closures and pipe applications; consumer durables; and infrastructure.

The Company’s unique advantages compared with its competitors include: the Company’s extensive low-cost feedstock positions around the world; unparalleled scale, footprint, and market reach, with world-class manufacturing sites in every geography; deep customer and brand owner understanding; and market-driven application development and technical support.

The segment remains agile and adaptive by participating in the entire ethylene-to-polyethylene chain integration, enabling the Company to manage market swings, and therefore optimize returns while reducing long-term earnings volatility. The Company’s unrivaled value chain ownership, combined with its Pack Studio locations in every geography, which help customers and brand owners deliver faster and more efficient packaging product commercialization through a global network of laboratories, technical experts and testing equipment, together differentiate the Company from its competitors.

Hydrocarbons & Energy

Hydrocarbons & Energy is the largest global producer of ethylene, an internal feedstock that is consumed primarily within the Packaging & Specialty Plastics segment. In addition to ethylene, the business is a leading producer of propylene and aromatics products that are used to manufacture materials that consumers use every day. The business also produces and procures the power and feedstocks used by the company’s manufacturing sites.

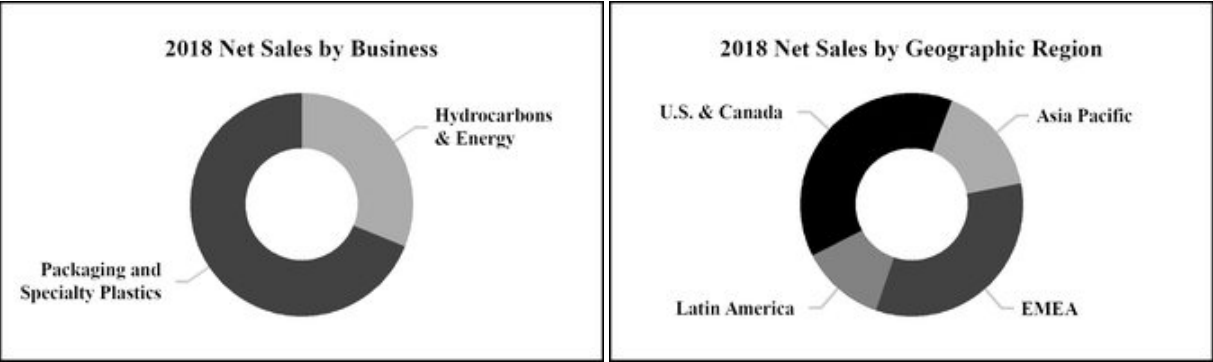
Packaging and Specialty Plastics

Packaging and Specialty Plastics serves growing, high-value sectors using world-class technology, broad existing product lines, and a rich product pipeline that creates competitive advantages for the entire packaging value chain. The business is also a leader in polyolefin elastomers and ethylene propylene diene monomer ("EPDM") rubber serving automotive, consumer, wire and cable and construction markets. Market growth is expected to be driven by major shifts in population demographics; improving socioeconomic status in emerging geographies; consumer and brand owner demand for increased functionality; global efforts to reduce food waste; growth in telecommunications networks; global development of electrical transmission and distribution infrastructure; and renewable energy applications.

Divestiture

On September 1, 2017, Historical Dow sold its global Ethylene Acrylic Acid copolymers and ionomers business to SK Global Chemical Co., Ltd. See Note 5 to the Consolidated Financial Statements for further information.

Details on Packaging & Specialty Plastics' 2018 net sales, by business and geographic region, are as follows:



Products

Major applications/market segments and products are listed below by business:

<i>Business</i>	<i>Applications/Market Segments</i>	<i>Major Products</i>
Hydrocarbons & Energy	Purchaser of feedstocks; production of cost competitive hydrocarbon monomers utilized by Dow derivative businesses; and energy, principally for use in the company's global operations	Ethylene, propylene, benzene, butadiene, octene, aromatics co-products, power, steam, other utilities
Packaging and Specialty Plastics	Adhesives; construction; cosmetics; electrical transmission and distribution; food and supply chain packaging; footwear; housewares; health and hygiene; industrial specialty applications using polyolefin elastomers, ethylene copolymers, and ethylene propylene diene monomer elastomers; irrigation pipe; photovoltaic encapsulants; sporting goods; telecommunications infrastructure; toys and infant products	Acrylics, bio-based plasticizers, elastomers, ethylene copolymer resins, EPDM, ethylene vinyl acetate copolymer, methacrylic acid copolymer resins, polyethylene, high-density polyethylene, low-density polyethylene ("LDPE"), linear low-density polyethylene, polyolefin plastomers, resin additives and modifiers, semiconductive and jacketing compound solutions and wire and cable insulation

Key Raw Materials

The major commodities, raw materials and supplies for the Packaging & Specialty Plastics segment include: butane, condensate, ethane, ethylene, hexene, naphtha, natural gas, octene, propane, propylene and pygas.

Competition

Competition for the Packaging & Specialty Plastics segment includes chemical divisions of major national and international oil companies, which compete in the United States and abroad. The Company competes worldwide on the basis of product quality, product supply, technology, price and customer service. Packaging & Specialty Plastics will continue to benefit from an advantaged feedstock position, including favorable shale gas dynamics in the United States, which will further strengthen the Company's low-cost position and enhance global cost competitiveness. Key competitors include Borealis, Chevron Phillips Chemical, ExxonMobil, INEOS, Lanxess, LyondellBasell, Nova, SABIC, Shell and Sinopec.

Joint Ventures

This segment also includes the results of the following joint ventures of the Company, as well as a portion of the results of EQUATE, TKOC, Map Ta Phut and Sadara:

- The Kuwait Styrene Company K.S.C.C. ("TKSC") - a Kuwait-based company that manufactures styrene monomer; owned 42.5 percent by the Company.
- The SCG-Dow Group - a group of Thailand-based companies (consisting of Siam Polyethylene Company Limited; Siam Polystyrene Company Limited; Siam Styrene Monomer Co., Ltd.; and Siam Synthetic Latex Company Limited) that manufacture polyethylene, polystyrene, styrene, latex and specialty elastomers; owned 50 percent by the Company.

Current and Future Investments

In 2017, Historical Dow announced the startup of its new integrated world-scale ethylene production facility and its new ELITE™ Enhanced Polyethylene production facility, both located in Freeport, Texas. In 2018, Historical Dow also started up its new LDPE production facility and its new NORDEL™ Metallocene EPDM production facility, both located in Plaquemine, Louisiana. These key milestones enable Historical Dow to capture benefits from increasing supplies of U.S. shale gas to deliver differentiated downstream solutions in its core market verticals. Historical Dow also completed debottlenecking of an existing bi-modal gas phase polyethylene production facility in St. Charles, Louisiana, and started up a new High Melt Index (HMI) AFFINITY™ polymer production facility, in Freeport, Texas, in the fourth quarter of 2018.

Additionally, Historical Dow has announced investments over the next five years that are expected to enhance competitiveness. These include:

- Expansion of the capacity of Historical Dow's new ethylene production facility, bringing the facility's total ethylene capacity to 2,000 kilotonnes per annum ("KTA") and making it the largest ethylene facility in the world.
- Incremental debottleneck projects across its global asset network that will deliver approximately 350 KTA of additional polyethylene, the majority of which will be in North America.
- Construction of a 600 KTA polyethylene unit on the U.S. Gulf Coast based on Historical Dow's proprietary Solution Process technology, to meet consumer-driven demand in specialty packaging, health and hygiene, and industrial and consumer packaging applications.

- Construction of a 450 KTA polyolefins facility in Europe to maximize the value of Historical Dow’s ethylene integration in the region and serve growing demand for high-performance pressure pipes and fittings, as well as caps and closures applications.
- A new catalyst production business for key catalysts licensed by Univation Technologies, LLC, a wholly-owned subsidiary of Historical Dow.

ELECTRONICS & IMAGING

Electronics & Imaging is a leading global supplier of differentiated materials and systems for a broad range of consumer electronics including mobile devices, television monitors, personal computers and electronics used in a variety of industries. The segment is a leading supplier of key materials for the manufacturing of photovoltaics ("PV") and solar cells, and of materials and printing systems to the advanced printing industry, and of materials and solutions for the fabrication of semiconductors and integrated circuits addressing both front-end and back-end of the manufacturing process. By providing chemical mechanical planarization ("CMP") pads and slurries, photoresists and advanced coatings for lithography, removers and cleaners, dielectric and metallization solutions for back-end-of-line advanced chip packaging, along with silicones for light emitting diode ("LED") packaging and semiconductor applications, the segment offers the broadest portfolio of semiconductor and advanced packaging materials in the market. Electronics & Imaging also provides permanent and process chemistries for the fabrication of printed circuit boards to include laminates and substrates, electroless and electrolytic metallization solutions, as well as patterning solutions and materials and innovative metallization processes for metal finishing, decorative, and industrial applications. Electronics & Imaging is a leading global supplier of innovative metallization pastes and back sheet materials for the production of solar cells and solar modules for the PV industry (solar modules, which are made up of solar cells and other materials, are installed to generate power) and in the packaging graphics industry providing flexographic printing inks, photopolymer plates, and platemaking systems used in digital printing applications for textile, commercial and home-office use. In addition, the segment provides cutting-edge materials for the manufacturing of rigid and flexible displays for liquid crystal displays ("LCD"), advanced-matrix organic light emitting diode ("AMOLED"), and quantum dot ("QD") applications. Electronics & Imaging addresses all of these markets by leveraging a strong science and technology base to provide the critical materials and solutions for creating a more connected and digital world.

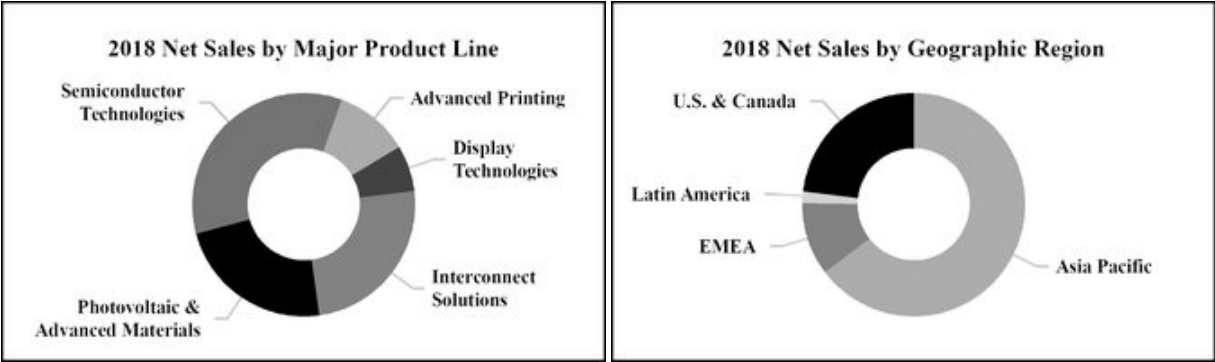
Divestitures

On June 30, 2017, Historical Dow sold its ownership interest in the SKC Haas Display Films group of companies. In January 2017, Historical DuPont divested its Authentications business.

Ownership Restructure of Dow Silicones

On June 1, 2016, Dow Silicones, previously a 50:50 joint venture with Corning, became a wholly owned subsidiary of Historical Dow as a result of an ownership restructure. See Note 3 to the Consolidated Financial Statements for additional information.

Details on Electronics & Imaging's 2018 net sales, by major product line and geographic region, are as follows:



Products

Major applications/market segments and technologies are listed below by major product line:

<i>Major Product Line</i>	<i>Applications/Market Segments</i>	<i>Technologies</i>
Semiconductor Technologies	Integrated circuit fabrication for memory and logic semiconductor fabrication	CMP consumables, photolithography materials, semiconductor fabrication materials, fabrication cleaners and removers, advanced chip packaging materials and thermal management materials
Interconnect Solutions	Printed circuit board, electronic and industrial finishing	Circuit packaging materials, interconnect metallization and imaging process chemistries, dry film laminates, and flexible circuit materials
Photovoltaic and Advanced Materials	Photovoltaics, aerospace/aircraft, automotive, military and consumer electronics	Metallization pastes, thick film pastes, polyvinyl fluoromaterials, silicone encapsulants and silane precursors
Advanced Printing	Flexographic printing and inkjet printing	Flexographic printing plates and materials and digital inks
Display Technologies	Display materials	OLED materials, Cd-free quantum dots, display process chemistries, LED encapsulants and display enhancement solutions

Key Raw Materials

The major commodities, raw materials and supplies for the Electronics & Imaging segment include: acrylic monomers, p-acetoxystyrene, monomers, pigments and dyes, styrenic block copolymers, copper foil, difluoroethane, diglycolamine, dimethylacetamide, hydroxylamine, oxydianiline, precious metals, silicon metal, photoactive compounds, polyester and other polymer films, polyurethane resins and pyromellitic dianhydride.

Competition

Electronics & Imaging's competitors include many large multinational firms as well as a number of regional and local competitors. The segment's products have unique performance characteristics that are required by customers who demand a high-level of customer service and technical expertise from the Company's sales force and scientists; therefore, the Company is well positioned to withstand competitive threats. Key competitors include 3M, Cabot Microsystems, Element Solutions, Entegris, Green Energy, JSR Micro, LONGi, Shin-Etsu and Versum.

Joint Ventures

Electronics & Imaging includes the Company's share of the results of the HSC Group, a U.S.-based group of companies that manufacture and sell polycrystalline silicon products.

NUTRITION & BIOSCIENCES

Nutrition & Biosciences is an innovation-driven and customer-focused segment that provides solutions for the global food and beverage, dietary supplements, pharma, home and personal care, energy and animal nutrition markets. It consists of two operating segments: Nutrition & Health and Industrial Biosciences.

Nutrition & Health

The Nutrition & Health business is one of the world's largest producers of specialty ingredients, developing and manufacturing solutions for the global food and beverage, dietary supplements and pharmaceutical markets. Its innovative and broad portfolio of natural-based ingredients marketed under the DuPont DANISCO® brand serves to improve health and nutrition as well as taste and texture in a wide range of dairy, beverage, bakery and dietary supplement applications. Its probiotics portfolio, including the HOWARU® brand, is world famous for its extensively documented strains that deliver consumers benefits in digestive and immune health. In addition to serving the global food and beverage market, the Nutrition & Health business is one of the world's largest producers of cellulose- and alginates-based pharma excipients, used to improve the functionality and delivery of pharmaceuticals, and enabling the development of more effective pharma solutions.

Industrial Biosciences

The Industrial Biosciences business is an industry pioneer and innovator that works with customers to improve the performance, productivity and sustainability of their products and processes through biotechnology, chemistry and engineering solutions including enzymes, biomaterials, biocides and antimicrobial solutions and process technology. Industrial Biosciences offers better, cleaner and safer solutions to a wide range of industries including animal nutrition, biofuels, textiles, food and beverages, cleaning, personal care, fertilizers, and oil and gas.

Divestitures

In February 2017, Historical DuPont completed the sale of its global food safety diagnostic business, a part of the Nutrition & Health business, to Hygiena LLC. In October 2018, Historical DuPont completed the sale of its heritage alginates business, a part of the Nutrition & Health business, to JRS Group. The sale of the alginates business was a requirement set out by the European Commission ("EC") upon its conditional approval of Historical DuPont's acquisition of the H&N Business in 2017 from FMC. Historical DuPont remains active in the alginates market with the heritage FMC Health & Nutrition alginates portfolio.

Acquisition of Health and Nutrition Business

On March 31, 2017, Historical DuPont entered into the FMC Transaction Agreement with FMC, under which and effective upon the closing of the transaction on November 1, 2017, FMC acquired the Divested Ag Business as required in order to obtain EC approval of the Merger and Historical DuPont agreed to acquire certain assets relating to the H&N Business. The H&N Business has been integrated into the Nutrition & Biosciences segment. Together with the Historical Dow Pharma & Food Solutions business, which is reflected in the Nutrition & Biosciences segment, the Nutrition & Health business has become a world leader in the oral dosage pharma excipients market. See further discussion of the H&N Business acquisition in Note 3 to the Consolidated Financial Statements.

Details on Nutrition & Biosciences' 2018 net sales, by business and geographic region, are as follows:



Products

Major applications and products are listed below by business:

<i>Business</i>	<i>Applications</i>	<i>Major Products</i>
Nutrition & Health	Food and beverage, dietary supplements, infant nutrition, sports nutrition and oral dosage pharmaceuticals excipients	Cellulosic and other technologies help bring new classes of medicines to market and enable foods that are healthier (gluten-free, reduced oil/fat content). Notable technologies include excipients and active pharmaceutical ingredients, solubility enhancers, reagents, granulation and binders, as well as coatings and controlled release Other major products include probiotics, soy protein, fibers, cultures, antioxidants, antimicrobials, emulsifiers, texturants, ingredient systems and sweeteners
Industrial Biosciences	Animal nutrition, detergents, biofuels production, food and beverage, carpet and apparel fiber, sulfuric acid, oil refining, phosphate fertilizer and microbial control solutions for oil and gas production, home and personal care, and other industrial preservation markets	Enzymes, BIO-PDO™ propanediol, SORONA® PTT polymer, yeast, betaine, direct-fed microbials, MECS® sulfuric acid technology, BELCO® clean air technologies, STRATCO® alkylation technology, ISOTHERMING® hydroprocessing, SILVADUR™ antimicrobial, glutaraldehyde, phenoxyethanol

Key Raw Materials

The major commodities, raw materials and supplies for the Nutrition & Biosciences segment include: terephthalic acid, gelatin, glycols, cellulose processed grains (including dextrose and glucose), guar, locust bean gum, organic oils, peels, saccharides, seaweed, soybeans, sugars and yeasts, and vanadium used in catalysts.

Competition

Nutrition & Biosciences' competitors include many large multinational nutrition and biosciences companies as well as a number of regional and local competitors. The segment's products have unique performance characteristics that are required by customers who demand a high-level of customer service and technical expertise from the Company's sales force and scientists; therefore, the Company is well positioned to withstand competitive threats. Key competitors include Chr. Hansen, CP Kelco, Croda, Kerry, Lonza, Royal DSM and Tate & Lyle.

Current and Future Investments

In November 2016, Historical DuPont announced an investment to expand probiotics production capacity in the United States. The investment is the second phase of a broader probiotics expansion project due to the rapidly growing global demand for probiotics. Phase one, supporting current growth, in Madison, Wisconsin, and Rochester, New York, was complete as of the end of 2017. The second phase represents an investment of approximately \$100 million, and increases Historical DuPont's probiotics production capacity by an additional 70 percent. Construction was underway in 2018, and production will be optimized with the installation of new, high-volume fermenters and other processing equipment. The probiotics capacity expansion is expected to be complete in the first quarter of 2019.

TRANSPORTATION & ADVANCED POLYMERS

Transportation & Advanced Polymers provides high-performance engineering resins, adhesives, lubricants and parts to engineers and designers in the transportation, electronics, healthcare, industrial and consumer end-markets to enable systems solutions for demanding applications and environments.

The segment delivers a broad range of polymer-based high-performance materials in its product portfolio, including elastomers and thermoplastic and thermoset engineering polymers which are used by customers to fabricate components for mechanical, chemical and electrical systems. In addition, the segment produces innovative engineering polymer solutions, high performance parts, specialty silicones and differentiated adhesive technologies to meet customer specifications in automotive, aerospace, electronics, industrial, healthcare and consumer markets. Transportation & Advanced Polymers is a global leader of advanced materials that provides technologies that differentiate customers' products with improved performance characteristics.

Pending Divestiture

On October 10, 2017, Historical DuPont, along with Teijin Limited, entered into an agreement to sell DuPont Teijin Films to Indorama Ventures Public Company Limited, a global chemical producer. The transaction is expected to be completed in 2019, subject to regulatory approvals.

Ownership Restructure of Dow Silicones

On June 1, 2016, Dow Silicones, previously a 50:50 joint venture with Corning, became a wholly owned subsidiary of Historical Dow as a result of an ownership restructure. See Note 3 to the Consolidated Financial Statements for additional information.

Details on Transportation & Advanced Polymers' 2018 net sales, by major product line and geographic region, are as follows:



Products

Major applications and products are listed below by major product line, all which serve the transportation industry and electronics, medical, industrial and consumer end-markets.

Major Product Line	Major Products
Performance Resins	HYTREL® polyester thermoplastic elastomer resins, DELRIN® acetal resins, VAMAC® ethylene acrylic elastomer, and MULTIBASE™ TPSiV™ silicones for thermoplastics
Engineering Polymers	DUPONT™ ZYTEL® nylon resins, CRASTIN® PBT thermoplastic polyester resin, RYNITE® PET polyester resin and TYNEX® filaments
Performance Solutions	KALREZ® perfluoroelastomer, VESPEL® parts and shapes, MOLYKOTE® lubricants, DOW CORNING® silicone solutions for healthcare, BETASEAL™, BETAMATE™ and BETAFORCE™ structural and elastic adhesives

Key Raw Materials

The major commodities, raw materials and supplies for the Transportation & Advanced Polymers segment include: adipic acid, butanediol, carbon black, dimethyl terephthalate, epoxy resins, fiberglass, flame retardants, hexamethylene diamine, methanol, polyethylene terephthalate, purified terephthalic acid and silicones.

Competition

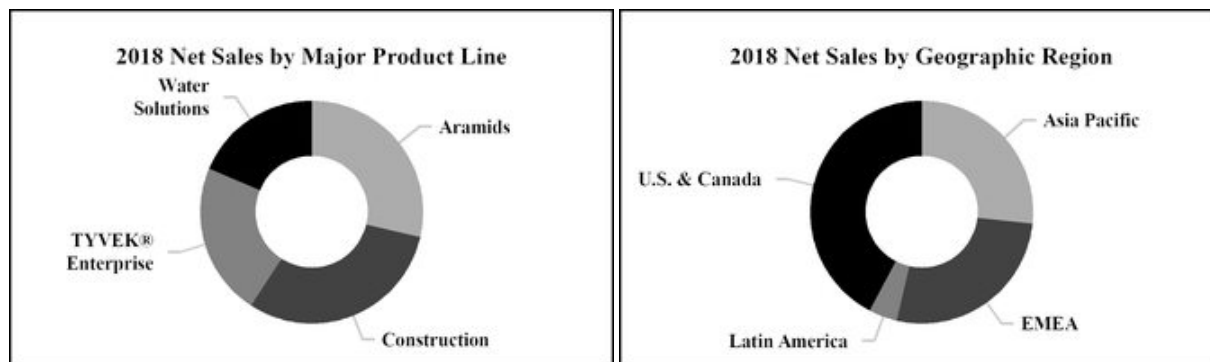
Transportation & Advanced Polymers' competitors include many large multinational chemical firms as well as a number of regional and local competitors. The segment's products have unique performance characteristics that are required by customers who demand a high-level of customer service and technical expertise from the Company's sales force and scientists; therefore, the Company is well positioned to withstand competitive threats. Key competitors include BASF, Celanese, EMS, Henkel, Kluber, Mitsubishi, Royal DSM, Sika, Victrex and Wacker Chemie.

SAFETY & CONSTRUCTION

Safety & Construction is the global leader in providing innovative engineered products and integrated systems for a number of industries including construction, worker safety, energy, oil and gas, transportation, medical devices and water purification and separation. Safety & Construction addresses the growing global needs of businesses, governments and consumers for solutions that make life safer, healthier and better.

Innovation is the business imperative. By uniting market-driven science with the strength of highly regarded brands including DUPONT™ KEVLAR® high-strength material, NOMEX® thermal-resistant material, CORIAN® solid surfaces, TYVEK® selective barriers, DOW FILMTEC™ reverse osmosis elements, DOW STYROFOAM™ insulation and DOW GREAT STUFF™ do-it-yourself products, the segment strives to bring new products and solutions to solve customers' needs faster, better and more cost effectively. Safety & Construction is investing in future growth initiatives such as the protection of perishable and temperature-sensitive foods and pharmaceutical products, new roofing products, flame resistant cargo containers, protective clothing with much higher levels of arc protection for utilities, more comfortable and higher particulate protection hoods for firefighters and high recovery reverse osmosis elements. Through the sustainable solutions services, the segment is a leader in safety consulting, selling training products as well as consulting services, to improve the safety, productivity and sustainability of organizations across a range of industries.

Details on Safety & Construction's 2018 net sales, by major product line and geographic region, are as follows:



Products

Major applications and products are listed below by major product line:

Major Product Line	Applications / Market Segments	Major Products / Technologies
Construction	Rigid and spray foam insulation, weatherization, waterproofing and air sealing, caulks and sealants and roof coatings	STYROFOAM™ brand insulation products, THERMAX™ exterior insulation, WALOCEL™ cellulose ethers, XENERGY™ high performance insulation, LIQUIDARMOR™ flashing and sealant, GREAT STUFF™ insulating foam sealants and adhesives, DUPONT™ CORIAN® solid and quartz surfaces
Aramids	Industrial personnel protection, military and emergency response, medical devices, automotive, aerospace, oil and gas	DUPONT™ KEVLAR® fiber; DUPONT™ NOMEX® fiber and paper
TYVEK® Enterprise	Industrial personnel protection, medical packaging, weatherization, waterproofing and roof coatings	DUPONT™ TYVEK® protective materials; DUPONT™ TYCHEM® protective suits; WEATHERMATE™ house wrap
Water Solutions	Water filtration and purification technology for residential and industrial use. Key industries include municipal, power, electronics, pharmaceuticals, food and beverage, mining and oil and gas applications	DOWEX™ and AMBERLITE™ ion exchange resins, DOW FILMTEC™ reverse osmosis and nanofiltration elements, INTEGRAFLUX™ ultrafiltration modules and FORTILIFE™ challenging water reverse osmosis membranes

Key Raw Materials

The major commodities, raw materials and supplies for the Safety & Construction segment include: alumina trihydrate, aniline, benzene, calcium chloride, carbon monoxide, chlorine, divinyl benzene monomers, high-density polyethylene, isophthalic acid, metaphenylenediamine, methyl methacrylate, methylpentanediol, polyester resin, polypropylene, polystyrene, sulfuric acid and terephthalic acid.

Competition

Safety & Construction's competitors include many large multinational chemical firms as well as a number of regional and local competitors. The segment's products have unique performance characteristics that are required by customers who demand a high level of customer service and expertise from its sales force and scientists; therefore, the Company is well positioned to withstand competitive threats. Key competitors include 3M, Honeywell, Hydranautics, Kingspan, Lanxess, Owens-Corning, Purolite, Royal DSM, Toray and Teijin.

Current and Future Investments

In June 2018, Historical DuPont announced plans to invest more than \$400 million in Safety & Construction to increase capacity for the manufacture of TYVEK® nonwoven materials at its Luxembourg site due to growing global demand. The production expansion, which includes investment in a new building and a third operating line at the site, is scheduled to occur over the next three years, with commercial production expected to begin in 2021.

CORPORATE

Corporate includes certain enterprise and governance activities (including insurance operations, environmental operations, geographic management, etc.); business incubation platforms; non-business aligned joint ventures; gains and losses on the sales of financial assets; non-business aligned litigation expenses; discontinued or non-aligned businesses and pre-commercial activities.

RAW MATERIALS

The Company operates in an integrated manufacturing environment. Basic raw materials are processed through many stages to produce a number of products that are sold as finished goods at various points in those processes. The major raw material stream that feeds the production of the Company's finished goods, primarily in its materials science businesses, is hydrocarbon-based raw materials. The Company purchases hydrocarbon raw materials including ethane, propane, butane, naphtha and condensate as feedstocks. These raw materials are used in the production of both saleable products and energy. The Company also purchases certain monomers, primarily ethylene and propylene, to supplement internal production. The Company purchases natural gas, primarily to generate electricity, and purchases electric power to supplement internal generation. The Company also produces a portion of its electricity needs in Delaware, Louisiana, New Jersey, Texas and Virginia; Alberta, Canada; Belgium, Denmark, Germany and the Netherlands.

The Company had adequate supplies of raw materials during 2018 , and expects to continue to have adequate supplies of raw materials in 2019 .

INDUSTRY SEGMENTS AND GEOGRAPHIC REGION RESULTS

See Note 24 to the Consolidated Financial Statements for information regarding total net sales, pro forma net sales, Operating EBITDA, pro forma Operating EBITDA and total assets by segment, as well as sales and long-lived assets by geographic region.

SIGNIFICANT CUSTOMERS AND PRODUCTS

All products and services are marketed primarily through the Company's sales force, although in some instances more emphasis is placed on sales through distributors. In 2018 , no significant portion of the Company's sales was dependent upon a single customer.

PATENTS, LICENSES AND TRADEMARKS

The Company continually applies for and obtains U.S. and foreign patents and has a substantial number of pending patent applications throughout the world. At December 31, 2018, the Company owned approximately 13,000 active U.S. patents and 42,700 active foreign patents as follows:

Patents Owned at Dec 31, 2018	United States	Foreign
Historical Dow	6,500	32,200
Historical DuPont	6,500	10,500
Total	13,000	42,700

Remaining Life of Patents Owned at Dec 31, 2018	United States	Foreign
Within 5 years	3,000	8,700
6 to 10 years	3,500	14,900
11 to 15 years	5,300	17,900
16 to 20 years	1,200	1,200
Total	13,000	42,700

As a science and technology based company, DowDuPont believes that securing intellectual property is an important part of protecting its research. Some DowDuPont businesses operate in environments in which the availability and protection of intellectual property rights affect competition. The Company, through its consolidated subsidiaries, is party to a substantial number of patent licenses and other technology agreements. The Company also owns or licenses a substantial number of trademarks in the United States and in other countries. Although the Company considers that its patents, licenses and trademarks in the aggregate constitute a valuable asset, it does not regard its business as being materially dependent on any single or group of related patents, licenses or trademarks.

PRINCIPAL PARTLY OWNED COMPANIES

DowDuPont's principal nonconsolidated affiliates at December 31, 2018, including direct or indirect ownership interest for each, are listed below:

Principal Nonconsolidated Affiliate	Country	Ownership Interest	Business Description
EQUATE Petrochemical Company K.S.C.C.	Kuwait	42.50%	Manufactures ethylene, polyethylene and ethylene glycol, and manufactures and markets monoethylene glycol, diethylene glycol and polyethylene terephthalate resins
The HSC Group:			
DC HSC Holdings LLC ¹	United States	50.00%	Manufactures polycrystalline silicon products
Hemlock Semiconductor L.L.C.	United States	50.10%	Sells polycrystalline silicon products
The Kuwait Olefins Company K.S.C.C.	Kuwait	42.50%	Manufactures ethylene and ethylene glycol
The Kuwait Styrene Company K.S.C.C.	Kuwait	42.50%	Manufactures styrene monomer
Map Ta Phut Olefins Company Limited ²	Thailand	32.77%	Manufactures propylene and ethylene
Sadara Chemical Company ³	Saudi Arabia	35.00%	Manufactures chlorine, ethylene, propylene and aromatics for internal consumption and manufactures and sells polyethylene, ethylene oxide and propylene oxide derivative products and isocyanates
The SCG-Dow Group:			
Siam Polyethylene Company Limited	Thailand	50.00%	Manufactures polyethylene
Siam Polystyrene Company Limited	Thailand	50.00%	Manufactures polystyrene
Siam Styrene Monomer Co., Ltd.	Thailand	50.00%	Manufactures styrene
Siam Synthetic Latex Company Limited	Thailand	50.00%	Manufactures latex and specialty elastomers

1. DC HSC Holdings LLC holds an 80.5 percent indirect ownership interest in Hemlock Semiconductor Operations LLC.

2. Historical Dow's effective ownership of Map Ta Phut Olefins Company Limited is 32.77 percent, of which Historical Dow directly owns 20.27 percent and indirectly owns 12.5 percent through its equity interest in Siam Polyethylene Company Limited.

3. Historical Dow is responsible for marketing the majority of Sadara products outside of the Middle East zone through Historical Dow's established sales channels. Under this arrangement, Historical Dow purchases and sells Sadara products for a marketing fee.

See Note 12 to the Consolidated Financial Statements for additional information regarding nonconsolidated affiliates.

PROTECTION OF THE ENVIRONMENT

Matters pertaining to the environment are discussed in Part I, Item 1A. Risk Factors; Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations; and Notes 1 and 16 to the Consolidated Financial Statements.

EMPLOYEES

At December 31, 2018 , the Company permanently employed approximately 98,000 people on a full-time basis.

OTHER ACTIVITIES

Historical Dow engages in the property and casualty insurance and reinsurance business primarily through its Liana Limited subsidiaries.

EXECUTIVE OFFICERS OF THE REGISTRANT

Set forth below is information related to the Company's executive officers as of February 11, 2019 :

<i>Name - Age</i>	<i>Present Position with Registrant</i>	<i>Year Elected to be an Officer</i>	<i>Other Business Experience since January 1, 2014¹</i>
Edward D. Breen, 62	Chief Executive Officer	2017	DuPont: Board of Directors February 2015 to date; Interim Chair of the Board and CEO October 2015 to date; Immediately prior to joining DuPont, member of Comcast Corporation: Board of Directors February 2014 to date; New Mountain Capital LLC: Advisory Board Member.
James C. Collins, Jr., 56	Chief Operating Officer for the Agriculture Division	2017	DuPont: Executive Vice President Agriculture business January 2016 to date; Executive Vice President Electronics & Communications, Industrial Biosciences and Performance Materials businesses December 2014 to January 2016; Senior Vice President Performance Materials and Industrial Biosciences September 2013 to December 2014; President Industrial Biosciences and Vice President Acquisitions (DANISCO) January 2011 to September 2013.
Jeanmarie F. Desmond, 52	Co-Controller	2017	DuPont: Vice President & Controller August 2015 to date; General Auditor and Chief Ethics & Compliance Leader September 2014 to July 2015; Director, Corporate Accounting and Reporting 2013 to 2014.
C. Marc Doyle, 49	Chief Operating Officer for the Specialty Products Division	2017	DuPont: Executive Vice President Electronics & Communications, Protection Solutions, Sustainable Solutions, Industrial Biosciences, Nutrition & Health, and Performance Materials businesses January 2016 to date; Senior Vice President Safety & Protection businesses July 2015 to December 2015; President of DuPont Protection Technologies June 2013 to June 2015.
Ronald C. Edmonds, 61	Co-Controller	2017	Dow: Controller and Vice President of Controllers and Tax February 2016 to date; Vice President and Controller 2009 to 2016.
James R. Fitterling, 57	Chief Operating Officer for the Materials Science Division	2017	Dow: Chief Executive Officer July 2018 to date; President and Chief Operating Officer February 2016 to July 2018; Vice Chairman and Chief Operating Officer October 2015 to February 2016; Vice Chairman, Business Operations October 2014 to October 2015; Executive Vice President, Feedstocks, Performance Plastics and Supply Chain December 2013 to October 2014.
Stacy L. Fox, 65	General Counsel and Corporate Secretary	2017	DuPont: Senior Vice President and General Counsel October 2014 to date; Corporate Communications January 2016 to date; City of Detroit: Deputy Emergency Manager October 2013 to September 2014; Roxbury Group LLC: Principal March 2005 to date.
Howard I. Ungerleider, 50	Chief Financial Officer	2017	Dow: President and Chief Financial Officer July 2018 to date; Vice Chairman and Chief Financial Officer October 2015 to July 2018; Chief Financial Officer and Executive Vice President October 2014 to October 2015; Executive Vice President, Advanced Materials September 2012 to October 2014.

1. References to Dow and DuPont in the table above refer to The Dow Chemical Company and E. I. du Pont de Nemours and Company, respectively.

ITEM 1A. RISK FACTORS

The factors described below represent the Company's principal risks.

DowDuPont may be unable to achieve all the benefits that it expects to achieve from the Merger and the Intended Business Separations.

The success of the Merger ultimately depends on, among other things, DowDuPont's ability to combine and separate the Historical DuPont and Historical Dow businesses in a manner that facilitates the Intended Business Separations and realizes anticipated synergies.

Since the Merger, DowDuPont has benefited from and expects to continue to benefit from significant cost synergies at both the business and corporate levels through the DowDuPont Cost Synergy Program (the "Synergy Program") which is designed to integrate and optimize the organization including through the achievement of production cost efficiencies, enhancement of the agricultural supply chain, elimination of duplicative agricultural research and development programs, optimization of the combined Company's global footprint across manufacturing, sales and research and development, optimizing manufacturing processes in the electronics space, the reduction of corporate and leveraged services costs, and the realization of significant procurement synergies. In connection with the Synergy Program, DowDuPont expects to record total pretax restructuring charges of approximately \$2 billion of which \$1,747 million has been recorded inception-to-date through December 31, 2018, comprised of approximately \$895 million to \$975 million of severance and related benefit costs of which \$933 million has been recorded inception-to-date through December 31, 2018; \$525 million to \$615 million of asset write-downs and write-offs of which \$579 million has been recorded inception-to-date through December 31, 2018; and \$370 million to \$410 million of costs associated with exit and disposal activities of which \$235 million has been recorded inception-to-date through December 31, 2018.

Management also expects to achieve growth synergies and other meaningful savings and benefits as a result of the Intended Business Separations.

Combining Historical DuPont and Historical Dow's independent businesses and preparing for the Intended Business Separations, including through the Internal Reorganization, are complex, costly and time-consuming processes and the management of DowDuPont may face significant implementation challenges, many of which may be beyond the control of management, including, without limitation:

- ongoing diversion of the attention of management from the operation of the combined Company's business as a result of the Intended Business Separations;
- impact of portfolio changes between materials science and specialty products on integration and separation preparation activities;
- difficulties in achieving anticipated cost savings, synergies, business opportunities and growth prospects;
- the possibility of faulty assumptions underlying expectations regarding the integration or separation process, including with respect to the intended tax efficient transactions;
- unanticipated issues in integrating, replicating or separating information technology, communications programs, financial procedures and operations, and other systems, procedures and policies;
- difficulties in managing a larger combined company, addressing differences in business culture and retaining key personnel;
- unanticipated changes in applicable laws and regulations;
- managing tax costs or inefficiencies associated with integrating the operations of the combined Company and the intended tax efficient separation transactions; and
- coordinating geographically separate organizations.

Some of these factors will be outside of the control of DowDuPont and any one of them could result in increased costs and diversion of management's time and energy, as well as decreases in the amount of expected revenue which could materially impact DowDuPont's business, financial condition and results of operations. The Internal Reorganization and Intended Business Separation processes and other disruptions may also adversely affect the combined Company's relationships with employees, suppliers, customers, distributors, licensors and others with whom Historical DuPont and Historical Dow have business or other dealings, and difficulties in integrating the businesses or regulatory functions of Historical DuPont and Historical Dow could harm the reputation of DowDuPont.

If the anticipated benefits and cost savings, including from the Synergy Program, of the Merger (including the Intended Business Separations) are not realized fully or take longer to realize than expected, the value of DowDuPont common stock, its revenues, levels of expenses and results of operations may be affected adversely. A variety of factors may adversely affect the Company's ability to fully and timely realize the currently expected synergies, savings and other benefits of the Merger, including failure to

successfully optimize the combined Company's facilities footprint, the failure to take advantage of the combined Company's global supply chain, the failure to identify and eliminate duplicative programs, and the failure to otherwise integrate DuPont's or Dow's respective businesses, including their technology platforms.

DowDuPont has incurred significant costs, and expects to incur additional costs, in connection with the integration of Historical DuPont and Historical Dow and the Intended Business Separations.

There are many processes, policies, procedures, operations, technologies and systems that were integrated following the Merger and must be replicated, transferred or separated in connection with the Intended Business Separations. These costs primarily consist of financial advisory, information technology, legal, consulting and other professional advisory fees associated with preparation and execution of these activities. While DowDuPont has assumed a certain level of expense would be incurred in connection with these activities, there are many factors beyond the combined Company's control that could affect the total amount or the timing of anticipated expenses.

There may also be additional unanticipated significant costs incurred in connection with the Intended Business Separations that DowDuPont may not recoup that could reduce the benefits and additional income DowDuPont expects to achieve from the Merger. Although DowDuPont expects that these benefits will offset the transaction expenses and implementation costs over time, this net benefit may not be achieved in the near term or at all.

The determination to proceed with the Intended Business Separations is a decision of the DowDuPont Board of Directors and the expected benefits of such transactions, if they occur, will be uncertain.

In the event that the DowDuPont Board of Directors ("Board") determines to proceed with the Intended Business Separations, it is currently anticipated that any such Intended Business Separation transaction would be effectuated through the distribution of Dow followed by the distribution of Corteva in separate pro-rata spin-off transactions, in which DowDuPont stockholders, at such time, would receive a pro-rata dividend of the shares of capital stock of Dow Holdings Inc. and Corteva, Inc., resulting in three independent, public companies. The Board may ultimately determine to abandon one or more of the Intended Business Separation transactions, and such determination could have an adverse impact on DowDuPont, including that DowDuPont will be required to redeem each series of DowDuPont Notes at a redemption price equal to 101 percent of the principal amount of such series of DowDuPont Notes, plus accrued and unpaid interest. There are many factors that could, prior to the determination by the Board to proceed with the Intended Business Separations, impact the structure or timing of, the anticipated benefits from, or determination to ultimately proceed with, the Intended Business Separations, including, among others, global economic conditions, instability in credit markets, declining consumer and business confidence, fluctuating commodity prices and interest rates, volatile foreign currency exchange rates, tax considerations, a full or partial shutdown of the U.S. federal government, other challenges that could affect the global economy, specific market conditions in one or more of the industries of the businesses proposed to be separated, and changes in the regulatory or legal environment. Such changes could adversely impact the value of one or more of the Intended Business Separation transactions to the combined Company's stockholders. Additionally, to the extent the Board determines to proceed with the Intended Business Separations, the consummation of such transactions is a complex, costly and time-consuming process, and there can be no guarantee that the intended benefits of such transactions will be achieved. An inability to realize the full extent of the anticipated benefits of the Intended Business Separations, as well as any delays encountered in the process, could have an adverse effect upon the revenues, level of expenses and operating results of the agriculture business, the materials science business, the specialty products business and/or the combined Company.

Inability to access the debt capital markets could impair DowDuPont's liquidity, business or financial condition.

DowDuPont's primary sources of liquidity to finance operations, including dividends on its common stock, are through Historical DuPont and Historical Dow and their respective consolidated subsidiaries, (collectively, the "Subsidiaries"). Each of Historical DuPont and Historical Dow has relied and continues to rely on access to the debt capital markets to finance their day-to-day and long-term operations. Any limitation on the part of either Historical DuPont's or Historical Dow's ability to raise money in the debt markets could have a substantial negative effect on their respective liquidity and the liquidity of DowDuPont. Access to the debt capital markets in amounts adequate to finance each Subsidiary's activities could be impaired as a result of the existence of material nonpublic information about the Intended Business Separations and other potential factors, including factors that are not specific to the Subsidiaries, such as a severe disruption of the financial markets and interest rate fluctuations.

Prior to the Intended Business Separations, if pursued, the level and quality of the respective earnings, operations, business and management, among other things, of each of Historical DuPont and Historical Dow will impact their respective credit ratings, costs and availability of financing and those of the combined Company. A decrease in the ratings assigned to Historical DuPont or Historical Dow by the ratings agencies may negatively impact their access to the debt capital markets and increase the combined Company's cost of borrowing. There can be no assurance that Historical DuPont and Historical Dow will maintain their current credit worthiness or prospective credit ratings. Any actual or anticipated changes or downgrades in such credit ratings may have a negative impact on the liquidity, capital position or access to capital markets of Historical DuPont and Historical Dow and, therefore, DowDuPont.

If either distribution, together with certain related transactions, were to fail to qualify for non-recognition treatment for U.S. federal income tax purposes, then the Company could be subject to significant tax and indemnification liability.

It is a condition to each distribution that DowDuPont receive a tax opinion from Skadden, Arps, Slate, Meagher & Flom LLP, its tax counsel, in form and substance acceptable to DowDuPont, substantially to the effect that, among other things, the applicable distribution along with certain related transactions will qualify as a tax-free transaction under Section 355 and Section 368(a)(1)(D) of the Internal Revenue Code of 1986, as amended (the “Code,” and such opinions, collectively, the “Tax Opinions”). The Tax Opinions will rely on certain facts, assumptions, and undertakings, and certain representations from DowDuPont, Dow and Corteva, regarding the past and future conduct of each of the three businesses and other matters, including those discussed in the risk factor immediately below, as well as the IRS Ruling (as defined below). Notwithstanding the Tax Opinions and the IRS Ruling, the Internal Revenue Service (the “IRS”) could determine on audit that either, or both, of the distributions and certain related transactions should be treated as taxable transactions if it determines that any of these facts, assumptions, representations or undertakings are not correct or have been violated, or that the distributions should be taxable for other reasons, including if the IRS were to disagree with the conclusions of the Tax Opinions.

Since DowDuPont intends to make a protective election under Section 336(e) of the Code for Dow and each of Dow’s domestic corporate subsidiaries with respect to the distribution of Dow, in the event the distribution of Dow is ultimately determined to be taxable, the Company would recognize corporate level taxable gain to the extent the fair market value of the assets (excluding stock in any domestic corporate subsidiary) of Dow and its domestic corporate subsidiaries exceeds the basis of Dow and its corporate subsidiaries in such assets. If the distribution of Corteva ultimately is determined to be taxable, then the Company would recognize corporate level taxable gain on the distribution in an amount equal to the excess, if any, of the fair market value of Corteva common stock held by DowDuPont’s stockholders on the applicable distribution date over DowDuPont’s tax basis in such stock. In addition, if certain related transactions related to the distributions fail to qualify for tax-free treatment under U.S. federal, state and local tax law and/or foreign tax law, the Company, Dow and Corteva could incur significant tax liabilities under U.S. federal, state, local and/or foreign tax law.

Generally, corporate taxes resulting from the failure of a distribution to qualify for non-recognition treatment for U.S. federal income tax purposes would be imposed on the Company. Under the tax matters agreement that DowDuPont will enter into with Dow and Corteva, subject to the exceptions described below, Dow and Corteva are generally obligated to indemnify the Company against any such taxes imposed on it. However, if a distribution fails to qualify for non-recognition treatment for U.S. federal income tax purposes for certain reasons relating to the overall structure of the Merger and the distributions, then under the tax matters agreement, the Company and Dow would share the tax liability resulting from such failure in accordance with their relative equity values on the first full trading day following the distribution of Dow. The Company’s responsibility for any such taxes is expected to be shared between the Company and Corteva, following the distribution of Corteva, in accordance with a fixed percentage to be agreed by the parties (though absent any such agreement, following the distribution of Corteva, the Company would be responsible for all such liabilities). Furthermore, under the terms of the tax matters agreement, the Company also generally will be responsible for any taxes imposed on Corteva or Dow that arise from the failure of either distribution to qualify as tax-free for U.S. federal income tax purposes within the meaning of Section 355 of the Code or the failure of certain related transactions to qualify for tax-free treatment, to the extent such failure to qualify is attributable to actions, events or transactions relating to DowDuPont’s, or DowDuPont’s affiliates’, stock, assets or business, or any breach of the Company’s representations made in connection with the IRS Ruling or in any representation letter provided to a tax advisor in connection with certain tax opinions, including the Tax Opinions, regarding the tax-free status of the distributions and certain related transactions. Prior to the distribution of Corteva, the Company and Corteva are expected to reach an agreement regarding the sharing of responsibility for all liabilities of the Company described in the preceding sentence as a result of actions or transactions of the Company preceding the distribution of Corteva. Absent any such agreement, following the distribution of Corteva, the Company will be responsible for all such liabilities. Dow and Corteva will be separately responsible for any taxes imposed on the Company that arise from the failure of a distribution to qualify as tax-free for U.S. federal income tax purposes within the meaning of Section 355 of the Code or the failure of certain related transactions to qualify for tax-free treatment, to the extent such failure to qualify is attributable to actions, events or transactions relating to such company’s or its affiliates’ stock, assets or business, or any breach of such company’s representations made in connection with the IRS Ruling or in any representation letter provided to a tax advisor in connection with certain tax opinions, including the Tax Opinions, regarding the tax-free status of the distributions and certain related transactions. Events triggering an indemnification obligation under the tax matters agreement include events occurring after the distribution that cause the Company, Dow or Corteva to recognize gain under Section 355(e) of the Code, as discussed further below. Such tax amounts could be significant. To the extent that the Company is responsible for any liability under the tax matters agreement, there could be a material adverse impact on the Company’s business, financial condition, results of operations and cash flows in future reporting periods.

The IRS may assert that the Merger causes the distributions and other related transactions to be taxable to DowDuPont.

Even if a distribution otherwise constitutes a tax-free transaction to stockholders under Section 355 of the Code, the Company may be required to recognize corporate level tax on such distribution and certain related transactions under Section 355(e) of the

Code if, as a result of the Merger or other transactions considered part of a plan with such distribution, there is a 50 percent or greater change in ownership in DowDuPont, Dow or Corteva, as relevant. In connection with the Merger, DowDuPont sought and received a private letter ruling from the IRS regarding the proper time, manner and methodology for measuring common ownership in the stock of DowDuPont, Historical DuPont and Historical Dow for purposes of determining whether there has been a 50 percent or greater change of ownership under Section 355(e) of the Code as a result of the Merger (the “IRS Ruling”). The Tax Opinions will rely on the continued validity of the IRS Ruling, as well as certain factual representations from DowDuPont as to the extent of common ownership of the stock of Historical Dow and Historical DuPont immediately prior to the Merger. In addition, it is a condition to the distributions that the IRS has not revoked the IRS Ruling. Based on the representations made by DowDuPont as to the common ownership of the stock of Historical Dow and Historical DuPont immediately prior to the Merger and assuming the continued validity of the IRS Ruling, the Tax Opinions will conclude that there was not a 50 percent or greater change of ownership in DowDuPont, Historical Dow or Historical DuPont for purposes of Section 355(e) as a result of the Merger. Notwithstanding the Tax Opinions and the IRS Ruling, the IRS could determine that a distribution or a related transaction should nevertheless be treated as a taxable transaction to the Company if it determines that any of the Company’s facts, assumptions, representations or undertakings is not correct or that a distribution should be taxable for other reasons, including if the IRS were to disagree with the conclusions in the Tax Opinions that are not covered by the IRS Ruling.

The separations and distributions may expose the Company to potential liabilities arising out of state and federal fraudulent conveyance laws and legal distribution requirements.

Although DowDuPont will receive solvency opinions from an investment bank confirming that DuPont, Dow and Corteva will each be adequately capitalized following the separations and distributions, the separations and distributions could be challenged under various state and federal fraudulent conveyance laws. Fraudulent conveyances or transfers are generally defined to include transfers made or obligations incurred with the actual intent to hinder, delay or defraud current or future creditors or transfers made or obligations incurred for less than reasonably equivalent value when the debtor was insolvent, or that rendered the debtor insolvent, inadequately capitalized or unable to pay its debts as they become due. Any unpaid creditor could claim that the Company did not receive fair consideration or reasonably equivalent value in the separations and distributions, and that the separations and distributions left the Company insolvent or with unreasonably small capital or that it intended or believed the Company would incur debts beyond its ability to pay such debts as they mature. If a court were to agree with such a plaintiff, then such court could void the separations and distributions as a fraudulent transfer or impose substantial liabilities on the Company, which could adversely affect DowDuPont’s financial condition and results of operations.

The distributions are also subject to review under state corporate distribution statutes. Under the Delaware General Corporation Law, a corporation may only pay dividends to its stockholders either (i) out of its surplus (net assets minus capital) or (ii) if there is no such surplus, out of its net profits for the fiscal year in which the dividend is declared and/or the preceding fiscal year. Although the Board intends to make the distributions out of DowDuPont’s surplus and will receive an opinion that DowDuPont has adequate surplus under Delaware law to declare the dividends of Corteva and Dow common stock in connection with the distributions, there can be no assurance that a court will not later determine that some or all of the distributions were unlawful.

The Company may be required to redeem the DowDuPont Notes which could adversely impact its financial position, results of operations and liquidity.

If each of the separations and distributions has not been completed on or before May 1, 2020, or, if prior to such date, DowDuPont has abandoned any of the separations or distributions, the Company will be required to redeem each series of DowDuPont Notes at a redemption price equal to 101 percent of the principal amount of such series of DowDuPont Notes, plus accrued and unpaid interest to, but excluding, the redemption date.

The Company is not required to retain any of the net proceeds from the DowDuPont Notes and has stated its intent to use the net proceeds of the DowDuPont Notes, together with borrowings under the Term Loan Facilities, to (i) reduce outstanding liabilities that would otherwise be allocable to Dow and Corteva; (ii) repurchase up to \$3.0 billion of DowDuPont’s common stock pursuant to DowDuPont’s previously announced share repurchase program and (iii) pay any related premiums, fees and expenses. Accordingly, the Company would fund any special mandatory redemption using proceeds that it has voluntarily retained or from other sources of liquidity. In the event of a special mandatory redemption, the Company may not have sufficient funds to purchase all of the DowDuPont Notes.

DowDuPont is exposed to the risks related to international sales and operations.

The Company’s businesses each derive a large portion of their total sales and revenues from operations outside of the United States. Therefore, DowDuPont will have exposure to risks of operating in many foreign countries, including:

- difficulties and costs associated with complying with a wide variety of complex laws, treaties and regulations;
- unexpected changes in political or regulatory environments;
- labor compliance and costs associated with a global workforce;

- earnings and cash flows that may be subject to tax withholding requirements or the imposition of tariffs;
- exchange controls or other restrictions;
- restrictions on, or difficulties and costs associated with, the repatriation of cash from foreign countries to the United States;
- political and economic instability;
- import and export restrictions and other trade barriers;
- difficulties in maintaining overseas subsidiaries and international operations;
- difficulties in obtaining approval for significant transactions;
- government limitations on foreign ownership;
- government takeover or nationalization of business;
- government mandated price controls; and
- fluctuations in foreign currency exchange rates.

Any one or more of the above factors could adversely affect the international operations of the combined Company and could significantly affect the combined Company's results of operations, financial condition and cash flows.

Availability of purchased feedstock and energy, and the volatility of these costs, impact the Company's operating costs and add variability to earnings.

Primarily in support of its materials science businesses, the Company purchases hydrocarbon raw materials including ethane, propane, butane, naphtha and condensate as feedstocks. The Company also purchases certain monomers, primarily ethylene and propylene, to supplement internal production, as well as other raw materials. The Company purchases natural gas, primarily to generate electricity, and purchases electric power to supplement internal generation.

Feedstock and energy costs generally follow price trends in crude oil and natural gas, which are sometimes volatile. While the Company uses its feedstock flexibility and financial and physical hedging programs to help mitigate feedstock cost increases, the Company is not always able to immediately raise selling prices. Ultimately, the ability to pass on underlying cost increases is dependent on market conditions. Conversely, when feedstock and energy costs decline, selling prices generally decline as well. As a result, volatility in these costs could impact the Company's results of operations.

The Company has a number of investments on the U.S. Gulf Coast to take advantage of increasing supplies of low-cost natural gas and natural gas liquids ("NGLs") derived from shale gas. While the Company expects abundant and cost-advantaged supplies of NGLs in the United States to persist for the foreseeable future, if NGLs become significantly less advantaged than crude oil-based feedstocks, it could have a negative impact on the Company's results of operations and future investments. Also, if the Company's key suppliers of feedstocks and energy are unable to provide the raw materials required for production, it could have a negative impact on the Company's results of operations.

Earnings generated by the Company's products vary based in part on the balance of supply relative to demand within the industry.

The balance of supply relative to demand within the industry may be significantly impacted by the addition of new capacity, especially for basic commodities where capacity is generally added in large increments as world-scale facilities are built. This may disrupt industry balances and result in downward pressure on prices due to the increase in supply, which could negatively impact the Company's results of operations.

The costs of complying with evolving regulatory requirements could negatively impact the Company's financial results. Actual or alleged violations of environmental laws or permit requirements could result in restrictions or prohibitions on plant operations, substantial civil or criminal sanctions, as well as the assessment of strict liability and/or joint and several liability.

The Company is subject to extensive federal, state, local and foreign laws, regulations, rules and ordinances relating to pollution, protection of the environment, greenhouse gas emissions, and the generation, storage, handling, transportation, treatment, disposal and remediation of hazardous substances and waste materials. Costs and capital expenditures relating to environmental, health or safety matters are subject to evolving regulatory requirements and depend on the timing of the promulgation and enforcement of specific standards which impose the requirements. Moreover, changes in environmental regulations could inhibit or interrupt the Company's operations, or require modifications to its facilities. Accordingly, environmental, health or safety regulatory matters could result in significant unanticipated costs or liabilities.

The Company's business, results of operations and reputation could be adversely affected by industry-specific risks including process safety and product stewardship/regulatory compliance issues.

The Company is subject to industry-specific risks, concerns and claims which include, but are not limited to, product safety or quality; shifting consumer preferences that include a growing trend in societal demands for increasing levels of product safety

and environmental protection ; federal, state, and local regulations on manufacturing or labeling; environmental, health and safety regulations; and customer product liability claims. In the Agriculture segment, industry-specific risks include those associated with concerns and claims regarding the safe use of seeds with biotechnology traits, crop protection products, and chemicals, their potential impact on health and the environment, and the perceived impacts of biotechnology on health and the environment. The latter includes concerns and claims that increased use of crop protection products, drift, inversion, volatilization, and the use of biotechnology traits meant to reduce the resistance of weeds or pests to control by crop protection products, could increase or accelerate such resistance and otherwise negatively impact health and the environment. Also, the detection of biotechnology traits or chemical residues from a crop protection product not approved in the country to which the Company sells or imports it, in which the product is cultivated or to which it exports may impact the Company's ability to supply or export agricultural products, result in crop destruction, product recalls or trade disruption.

The risks, concerns and claims affecting the industries in which the Company competes could manifest themselves in stockholder proposals, preferred purchasing, delays or failures in obtaining or retaining regulatory approvals, delayed product launches, lack of market acceptance, product discontinuation, continued pressure for and adoption of more stringent regulatory intervention and litigation, termination of raw material supply agreements and legal claims. These and other concerns or claims could also influence public perceptions, the viability or continued sales of certain of the Company's products, the Company's reputation and the cost to comply with regulations and could adversely affect the Company's business, results of operations, financial condition and cash flows.

In most jurisdictions, the Company must test the safety, efficacy and environmental impact of its products to satisfy regulatory requirements and obtain the necessary approvals. In certain jurisdictions, the Company must periodically renew its approvals which may require it to demonstrate compliance with then-current standards. The regulatory environment is lengthy, complex and in some markets unpredictable, with requirements that can vary by product, technology, industry and country. The regulatory environment may be impacted by the activities of non-governmental organizations and special interest groups and stakeholder reaction to actual or perceived impacts of new technology, products or processes on safety, health and the environment. Obtaining and maintaining regulatory approvals requires submitting a significant amount of information and data, which may require participation from technology providers. Regulatory standards and trial procedures are continuously changing. The pace of change together with the lack of regulatory harmony could result in unintended noncompliance. Responding to these changes and meeting existing and new requirements may involve significant costs or capital expenditures or require changes in business practice that could result in reduced profitability. The failure to receive necessary permits or approvals could have near- and long-term effects on the Company's ability to produce and sell some current and future products.

A significant operational event could negatively impact the Company's results of operations.

Disruptions in the Company's operations or those of its supply chain and customers, the transportation of products, acts of sabotage, employee error, malfeasance or other actions, geo-political activity, cyber-attacks, or severe weather conditions and other natural phenomena (such as drought, hurricanes, earthquakes, tsunamis, floods, etc.) including hurricanes or flooding that impact coastal regions in the United States Gulf region or Asia Pacific could result in an unplanned event that could be significant in scale and could negatively impact operations, neighbors or the public at large, which could have a negative impact on the Company's results of operations.

In addition, terrorist attacks and natural disasters have increased concerns about the security and safety of chemical production and distribution. Local, state, federal and foreign governments continue to propose new regulations related to the security of chemical plant locations and the transportation of hazardous chemicals, which could result in higher operating costs.

The risk of loss of the Company's intellectual property, trade secrets or other sensitive business information or disruption of operations could negatively impact the Company's financial results.

The Company has attractive information assets, including intellectual property, trade secrets and other sensitive, business critical information. Cyber-attacks or security breaches affecting the Company, its supply chain or customers could compromise confidential, business critical information, cause a disruption in the Company's operations or harm the Company's reputation if the Company, its suppliers or customers do not effectively prevent, detect and recover from these or other security breaches.

Like most major corporations, DowDuPont and its Subsidiaries are the target of industrial espionage, including cyber-attacks, from time to time. The Company has determined that these attacks have resulted, and could result in the future, in unauthorized parties gaining access to certain confidential business information. Although management does not believe that the Company or its Subsidiaries have experienced any material losses to date related to these security breaches, including cybersecurity incidents, there can be no assurance that such losses will not be suffered in the future. While the Company has a comprehensive cyber security program that is continuously reviewed, maintained and upgraded, a significant cyber-attack could result in the loss of critical business information and/or could negatively impact operations, which could have a negative impact on the Company's financial results.

The Company seeks to actively manage the risks within its control that could lead to business disruptions and security breaches. As these threats continue to evolve, particularly around cybersecurity, the Company may be required to expend significant resources to enhance its control environment, processes, practices and other protective measures. Despite these efforts, such events could have a material adverse effect on DowDuPont's business, results of operations, financial condition and cash flows.

Implementing certain elements of the Company's strategy could negatively impact the Company's financial results.

The Company currently has manufacturing operations, sales and marketing activities, and joint ventures in emerging geographies. Activities in these geographic regions are accompanied by uncertainty and risks including: navigating different government regulatory environments; relationships with new, local partners; project funding commitments and guarantees; expropriation, military actions, war, terrorism and political instability; sabotage; uninsurable risks; suppliers not performing as expected, resulting in increased risk of extended project timelines; and determining raw material supply and other details regarding product movement. If the manufacturing operations, sales and marketing activities, and/or implementation of these projects is not successful, it could adversely affect the Company's financial condition, cash flows and results of operations.

An impairment of goodwill or intangible assets could negatively impact the Company's financial results.

At least annually, the Company assesses both goodwill and indefinite-lived intangible assets for impairment. Intangible assets with finite lives are tested for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. If testing indicates that goodwill or intangible assets are impaired, the carrying values are written down based on fair values with a charge against earnings. Where the Company utilizes discounted cash flow methodologies in determining fair values, changes in risk-adjusted discount rates and continued weak demand for a specific product line or business could result in an impairment. Accordingly, any determination requiring the write-off of a significant portion of goodwill or intangible assets could negatively impact the Company's results of operations.

As a result of the Merger and the related acquisition method of accounting, Historical DuPont's assets and liabilities were measured at fair value resulting in increases to the Company's goodwill and other intangible assets of \$45.5 billion and \$27.1 billion, respectively, and any declines in financial projections could have a material, negative impact on the fair value of the Company's reporting units and assets, particularly in the Agriculture and Specialty Products divisions. Future impairments of goodwill or intangible assets could also be recorded due to changes in other assumptions, estimates or circumstances and the magnitude of such impairments may be material to the Company, Historical DuPont or Historical Dow.

During the third quarter of 2018, in connection with strategic business reviews and assembling updated financial projections, the Company's subsidiary, Historical DuPont, a separate U.S. Securities and Exchange Commission registrant, was required to perform an interim test of goodwill for its agriculture reporting unit. As a result of the analysis performed, Historical DuPont recorded a pretax, noncash goodwill impairment charge of \$4.5 billion in its stand-alone quarterly report on Form 10-Q for the quarter ended September 30, 2018. However, the impairment charge did not survive at the DowDuPont level. Based on the analysis performed at the DowDuPont level, the fair value of the combined agriculture reporting unit exceeded its carrying value by more than 10 percent, and therefore no goodwill impairment existed for the Company. During this same time, the Company also performed an impairment test on indefinite-lived intangibles and determined that the fair value of certain in-process research and development assets had declined as a result of delays in timing of commercialization and increases to expected research and development costs. This resulted in the Company recording a pretax impairment charge of \$85 million. See Part II, Item 7. Other Matters, Critical Accounting Estimates in Management's Discussion and Analysis of Financial Condition and Results of Operations and Note 13 to the Consolidated Financial Statements for further information.

Increased obligations and expenses related to Historical DuPont's and Historical Dow's defined benefit pension plans and other postretirement benefit plans could negatively impact DowDuPont's financial condition and results of operations.

Historical DuPont and Historical Dow have defined benefit pension plans and other postretirement benefit plans (collectively, the "plans") in the United States and a number of other countries. The assets of the Historical DuPont and Historical Dow funded plans are primarily invested in fixed income securities, equity securities of U.S. and foreign issuers, and alternative investments (including investments in real estate, private market securities and absolute return strategies). Changes in the market value of plan assets, investment returns, discount rates, mortality rates, regulations and the rate of increase in compensation levels may affect the funded status of the plans and could cause volatility in the net periodic benefit cost, future funding requirements of the plans and the funded status of the plans. A significant increase in Historical DuPont's and Historical Dow's obligations or future funding requirements could have a negative impact on the Company's results of operations and cash flows for a particular period and on the Company's financial condition.

Climate change and unpredictable seasonal and weather factors could impact sales and earnings of the Company's Agriculture segment.

The agriculture industry is subject to seasonal and weather factors, which can vary unpredictably from period to period. Weather factors can affect the presence of disease and pests on a regional basis and, accordingly, can positively or adversely affect the

demand for crop protection products, including the mix of products used. The weather also can affect the quality, volume and cost of seed produced for sale as well as demand and product mix. Seed yields can be higher or lower than planned, which could lead to higher inventory and related write-offs. Climate change may increase the frequency or intensity of extreme weather such as storms, floods, heat waves, droughts and other events that could affect the quality, volume and cost of seed produced for sale as well as demand and product mix. Climate change may also affect the availability and suitability of arable land and contribute to unpredictable shifts in the average growing season and types of crops produced.

Inability to discover, develop and protect new technologies and enforce the Company's intellectual property rights, and to respond to new technologies, could adversely affect the Company's financial results.

The Company competes with major global companies that have strong intellectual property rights, including rights supporting the use of biotechnology to enhance products, particularly agricultural and bio-based products. Speed in discovering, developing, protecting, and responding to new technologies, including new technology-based distribution channels that could impede the Company's ability to engage with customers and end users, and bringing related products to market is a significant competitive advantage. Failure to predict and respond effectively could cause the Company's existing or candidate products to become less competitive, adversely affecting sales. Competitors are increasingly challenging intellectual property positions and the outcomes can be highly uncertain. If challenges are resolved adversely, it could negatively impact the Company's ability to obtain licenses on competitive terms, commercialize new products and generate sales from existing products.

Intellectual property rights, including patents, plant variety protection, trade secrets, confidential information, trademarks, trade names and other forms of trade dress, are important to the Company's business. The Company endeavors to protect its intellectual property rights in jurisdictions in which its products are produced or used and in jurisdictions into which its products are imported. However, the Company may be unable to obtain protection for its intellectual property in key jurisdictions. Further, changes in government policies and regulations, including changes made in reaction to pressure from non-governmental organizations, could impact the extent of intellectual property protection afforded by such jurisdictions.

The majority of the Company's corn hybrids and soybean varieties sold to customers contain biotechnology traits that are licensed from third parties under long-term licenses. If the Company loses its rights under such licenses, it could negatively impact the Company's ability to obtain future licenses on competitive terms, commercialize new products and generate sales from existing products.

The Company has designed and implemented internal controls to restrict access to and distribution of its intellectual property. Despite these precautions, the Company's intellectual property is vulnerable to unauthorized access through employee error or actions, theft and cybersecurity incidents, and other security breaches. When unauthorized access and use or counterfeit products are discovered, the Company reports such situations to governmental authorities for investigation, as appropriate, and takes measures to mitigate any potential impact. Protecting intellectual property related to biotechnology is particularly challenging because theft is difficult to detect and biotechnology can be self-replicating. Accordingly, the impact of such theft can be significant.

Failure to effectively manage acquisitions, divestitures, alliances and other portfolio actions could adversely impact DowDuPont's future results.

The Company made certain divestitures, primarily related to its Agriculture segment, in connection with obtaining regulatory approval for the Merger. In addition, the Company from time to time evaluates acquisition candidates that may strategically fit its business and/or growth objectives. If the Company is unable to successfully integrate and develop acquired businesses, the Company could fail to achieve anticipated synergies and cost savings, including any expected increases in revenues and operating results, which could have a material adverse effect on the Company's financial results. The Company continually reviews its portfolio of assets for contributions to the Company's objectives and alignment with its growth strategy. However, the Company may not be successful in separating underperforming or non-strategic assets, and gains or losses on the divestiture of, or lost operating income from, such assets may affect the Company's earnings. Moreover, the Company might incur asset impairment charges related to acquisitions or divestitures that reduce its earnings. In addition, if the execution or implementation of acquisitions, divestitures, alliances, joint ventures and other portfolio actions is not successful, it could adversely impact the Company's financial condition, cash flows and results of operations.

DowDuPont's results of operations could be adversely affected by litigation and other commitments and contingencies. The Company faces risks arising from various unasserted and asserted litigation matters, including, but not limited to, asbestos related suits, product liability, patent infringement, antitrust claims, governmental regulations, contract and commercial litigation, claims for third party property damage or personal injury stemming from alleged environmental torts, and other actions. The Company has noted a nationwide trend in purported class actions against chemical manufacturers generally seeking relief such as medical monitoring, property damages, off-site remediation and punitive damages arising from alleged environmental torts without claiming present personal injuries. The Company also has noted a trend in public and private suits being filed on behalf of states,

counties, cities and utilities alleging harm to the general public and the environment, including waterways and watersheds. An adverse outcome in any one or more of these matters could be material to the Company's financial results.

See Note 16 to the Consolidated Financial Statements for additional information on litigation and other commitments and contingencies faced by the Company.

In the ordinary course of business, the Company may make certain commitments, including representations, warranties and indemnities relating to current and past operations, including those related to divested businesses and issue guarantees of third party obligations. If the Company were required to make payments as a result, they could exceed the amounts accrued, thereby adversely affecting the Company's results of operations.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

None.

ITEM 2. PROPERTIES

The Company's corporate headquarters are co-located in Midland, Michigan, and Wilmington, Delaware. The Company's manufacturing, processing, marketing and research and development facilities, as well as regional purchasing offices and distribution centers are located throughout the world.

The Company has investments in property, plant and equipment related to global manufacturing operations. Collectively, the Company operates 441 manufacturing sites. The following table includes the number of manufacturing sites by reportable segment and geographic region, including consolidated variable interest entities:

Number of Manufacturing Sites at Dec 31, 2018 ¹								
<i>Geographic Region</i>	<i>Agri-culture</i>	<i>Perf. Materials & Coatings</i>	<i>Ind. Interm. & Infrast.</i>	<i>Pack. & Spec. Plastics</i>	<i>Elect. & Imaging</i>	<i>Nutrition & Biosciences</i>	<i>Transp. & Adv. Polymers</i>	<i>Safety & Const.</i>
U.S. & Canada	65	23	13	15	17	30	19	15
EMEA	27	17	18	8	5	45	8	12
Asia Pacific	16	19	8	5	17	18	15	13
Latin America	28	6	7	7	—	15	2	3
Total	136	65	46	35	39	108	44	43

1. Sites that are used by multiple segments are included more than once in the figures above.

Properties of DowDuPont include facilities which, in the opinion of management, are suitable and adequate for their use and have sufficient capacity for the Company's current needs and expected near-term growth. All of the Company's plants are owned or leased, subject to certain easements of other persons which, in the opinion of management, do not substantially interfere with the continued use of such properties or materially affect their value. No title examination of the properties has been made for the purpose of this report. Additional information with respect to the Company's property, plant and equipment and leases is contained in Notes 11 and 16 to the Consolidated Financial Statements.

ITEM 3. LEGAL PROCEEDINGS

The Company and its subsidiaries are subject to various litigation matters, including, but not limited to, product liability, patent infringement, antitrust claims, and claims for third party property damage or personal injury stemming from alleged environmental torts. Information regarding certain of these matters is set forth below and in Note 16 to the Consolidated Financial Statements.

Historical Dow

Asbestos-Related Matters of Union Carbide Corporation

Union Carbide Corporation ("Union Carbide"), a wholly owned subsidiary of Historical Dow, is and has been involved in a large number of asbestos-related suits filed primarily in state courts during the past four decades. These suits principally allege personal injury resulting from exposure to asbestos-containing products and frequently seek both actual and punitive damages. The alleged claims primarily relate to products that Union Carbide sold in the past, alleged exposure to asbestos-containing products located on Union Carbide's premises, and Union Carbide's responsibility for asbestos suits filed against a former Union Carbide subsidiary, Amchem Products, Inc.

For additional information, see Part II, Item 7. Other Matters, Asbestos-Related Matters of Union Carbide Corporation in Management's Discussion and Analysis of Financial Condition and Results of Operations, and Note 16 to the Consolidated Financial Statements.

Historical DuPont

PFOA: Environmental and Litigation Proceedings

For purposes of this report, the term PFOA means collectively perfluorooctanoic acid and its salts, including the ammonium salt and does not distinguish between the two forms. Information related to this matter is included in Note 16 to the Consolidated Financial Statements under the heading PFOA.

Fayetteville Works Facility, Fayetteville, North Carolina

In August 2017, the U.S. Attorney's Office for the Eastern District of North Carolina served Historical DuPont with a grand jury subpoena for testimony and the production of documents related to alleged discharges of GenX from the Fayetteville Works facility into the Cape Fear River. Historical DuPont has been served with additional subpoenas relating to the same issue and in the second quarter of 2018, received a subpoena expanding the scope to any perfluorinated chemicals and compounds ("PFCs") discharged from the Fayetteville Works facility into the Cape Fear River. Additional information related to this matter is included in Note 16 to the Consolidated Financial Statements under the heading "Fayetteville Works Facility, North Carolina."

La Porte Plant, La Porte, Texas - Crop Protection - Release Incident Investigations

On November 15, 2014, there was a release of methyl mercaptan at Historical DuPont's La Porte, Texas, facility. The release occurred at the site's Crop Protection unit resulting in four employee fatalities inside the unit. Historical DuPont continues to cooperate with governmental agencies, including the U.S. Environmental Protection Agency ("EPA"), the Chemical Safety Board and the Department of Justice ("DOJ"), which are still conducting investigations. These investigations could result in sanctions and civil or criminal penalties against Historical DuPont. In the second quarter of 2018, Historical DuPont, the DOJ and the EPA reached a resolution-in-principle, for \$3.1 million, regarding certain EPA civil claims. The resolution-in-principle was approved by the court in the third quarter of 2018 and has been paid.

Environmental Proceedings

The Company believes it is remote that the following matters will have a material impact on its financial position, liquidity or results of operations. The descriptions are included per Regulation S-K, Item 103(5)(c) of the Securities Exchange Act of 1934.

Historical Dow

Dow Silicones Midland, Michigan Matter

In April 2012 and May 2015, Dow Silicones Corporation ("Dow Silicones"), a wholly owned subsidiary of Historical Dow, received the following notifications from the EPA, Region 5 related to Dow Silicones' Midland, Michigan, manufacturing facility (the "Facility"): 1) a Notice of Violation and Finding of Violation which alleges a number of violations in connection with the detection, monitoring and control of certain organic hazardous air pollutants at the Facility and various recordkeeping and reporting violations under the Clean Air Act and 2) a Notice of Violation alleging a number of violations relating to the management of hazardous wastes at the Facility pursuant to the Resource Conservation and Recovery Act. Discussions between the EPA, the DOJ and Dow Silicones are ongoing.

FilmTec Edina, Minnesota Matter

On March 14, 2017, FilmTec Corporation ("FilmTec"), a wholly owned subsidiary of Historical Dow, received notification from the EPA, Region 5 and the DOJ of a proposed penalty for alleged violations of the Clean Air Act at FilmTec's Edina, Minnesota, manufacturing facility. Discussions between the EPA, the DOJ and FilmTec are ongoing.

Freeport, Texas; Plaquemine, Louisiana; and St. Charles, Louisiana, Steam-Assisted Flares Matter

On July 5, 2018, Historical Dow received a draft consent decree from the EPA, the DOJ and the Louisiana Department of Environmental Quality ("DEQ"), relating to the operation of steam-assisted flares at Historical Dow's olefins manufacturing facilities in Freeport, Texas; Plaquemine, Louisiana; and St. Charles, Louisiana. Discussions between the EPA, the DOJ and the DEQ are ongoing.

Freeport, Texas, Facility Matter

On July 7, 2018, Historical Dow received an informal notice that the EPA, Region 6 was contemplating filing a Notice of Violation with a proposed penalty for alleged violations uncovered during a prior inspection related to the management of hazardous wastes at Historical Dow's Freeport, Texas, manufacturing facility, pursuant to the Risk Management Plan requirements of the Clean Air Act. Discussions between the EPA and Historical Dow are ongoing.

Mt. Meigs, Alabama, Matter

On July 26, 2018, DC Alabama, Inc. (“DCA”), a wholly owned subsidiary of Historical Dow, received a draft consent order (“Order”) from the Alabama Department of Environmental Management (“ADEM”) relating to alleged unpermitted discharges of industrial process water and certain water quality and equipment violations at DCA’s silicon metal production facility located in Mt. Meigs, Alabama. DCA and the ADEM negotiated the terms of and executed a final Order that contains a civil penalty of \$250,000 and certain additional requirements. Discussions between DCA and the ADEM are ongoing.

Union Carbide Matter

On November 27, 2018, Union Carbide signed a consent decree with the DOJ on behalf of the EPA, Region 2 relating to alleged disposal of mercury by a third party which UCC contracted with at the Port Refinery site in Rye Brook, New York. The consent decree contains a payment of \$120,198 and certain additional requirements. The final consent decree is subject to a public comment period.

Historical DuPont

La Porte Plant, La Porte, Texas - EPA Multimedia Inspection

The EPA conducted a multimedia inspection at the La Porte facility in January 2008. Historical DuPont, the EPA and the DOJ began discussions in the fall of 2011 relating to the management of certain materials in the facility's waste water treatment system, hazardous waste management, flare and air emissions. These discussions continue.

Sabine Plant, Orange, Texas - EPA Multimedia Inspection

In June 2012, Historical DuPont began discussions with the EPA and the DOJ related to a multimedia inspection that the EPA conducted at the Sabine facility in March 2009 and December 2015. The discussions involve the management of materials in the facility's waste water treatment system, hazardous waste management, flare and air emissions, including leak detection and repair. These discussions continue.

Divested Neoprene Facility, La Place, Louisiana - EPA Compliance Inspection

In 2016, the EPA conducted a focused compliance investigation at the Denka Performance Elastomer LLC (“Denka”) neoprene manufacturing facility in La Place, Louisiana. Historical DuPont sold the neoprene business, including this manufacturing facility, to Denka in the fourth quarter of 2015. Subsequent to this inspection, the EPA, the DOJ, the DEQ, Historical DuPont and Denka began discussions in the spring of 2017 relating to the inspection conclusions and allegations of noncompliance arising under the Clean Air Act, including leak detection and repair. These discussions, which include potential settlement options, continue.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

DowDuPont Inc.

PART II

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

On December 11, 2015, The Dow Chemical Company ("Historical Dow") and E. I. du Pont de Nemours and Company ("Historical DuPont") entered into an Agreement and Plan of Merger, as amended on March 31, 2017 (the "Merger Agreement") to effect an all-stock, merger of equals strategic combination resulting in a newly formed corporation named DowDuPont Inc. ("DowDuPont"). On August 31, 2017, pursuant to the terms of the Merger Agreement, Historical Dow and Historical DuPont each merged with subsidiaries of DowDuPont (the "Mergers") and, as a result of the Mergers, became subsidiaries of DowDuPont (collectively, the "Merger"). See Note 3 to the Consolidated Financial Statements for additional information on the Merger.

On August 31, 2017, Historical Dow's common stock, par value \$2.50 per share, and Historical DuPont's common stock, par value \$0.30 per share, were voluntarily delisted from the New York Stock Exchange ("NYSE") in connection with the Merger and were suspended from trading on the NYSE prior to the open of trading on September 1, 2017. DowDuPont's common stock, par value \$0.01 per share, commenced trading on the NYSE (the principal Market for the Company's common stock) under ticker symbol DWDP on September 1, 2017.

Quarterly market price of common stock and dividend information can be found in Note 25 to the Consolidated Financial Statements.

At December 31, 2018, there were 86,671 stockholders of record. At January 31, 2019, there were 86,518 stockholders of record.

See Part III, Item 11. Executive Compensation for information relating to the Company's equity compensation plans.

Issuer Purchases of Equity Securities

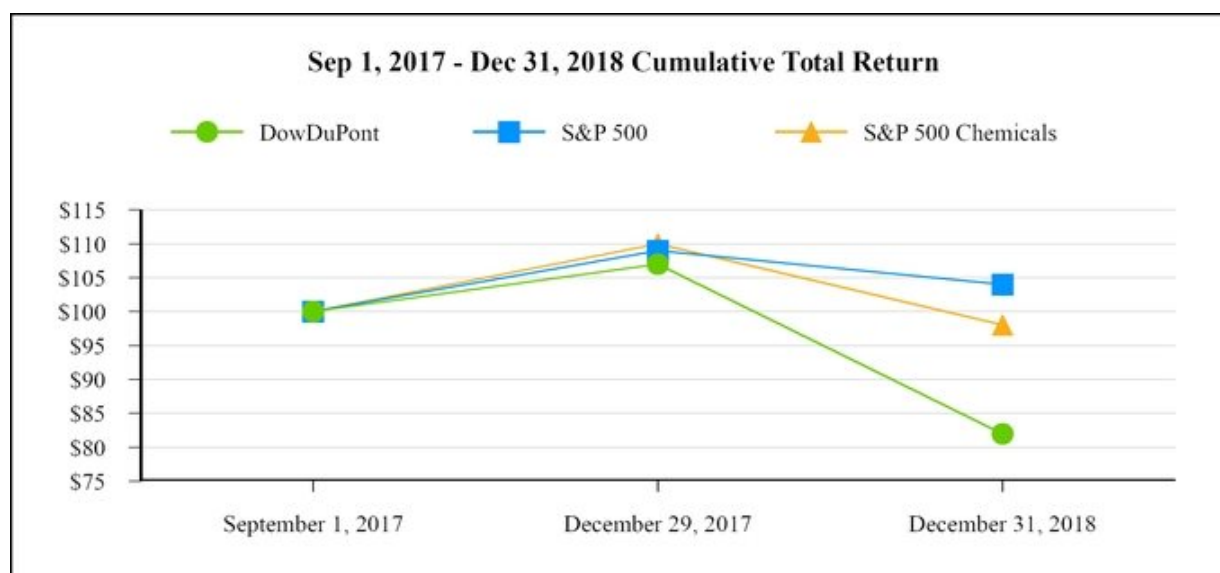
The following table provides information regarding purchases of the Company's common stock by the Company during the three months ended December 31, 2018 :

Issuer Purchases of Equity Securities		<i>Average price paid per share</i>	<i>Total number of shares purchased as part of the Company's publicly announced share repurchase program ¹</i>	<i>Approximate dollar value of shares that may yet be purchased under the Company's publicly announced share repurchase program ¹ (In millions)</i>
<i>Period</i>	<i>Total number of shares purchased</i>			
October 2018	—	\$ —	—	\$ —
November 2018	9,957,595	\$ 57.94	9,957,595	\$ 2,423
December 2018	15,734,165	\$ 53.66	15,734,165	\$ 1,579
Fourth quarter 2018	25,691,760	\$ 55.32	25,691,760	\$ 1,579

1. On November 1, 2018, the Company announced a new \$3 billion share buyback program, which expires on March 31, 2019 - commensurate with the expected timing of the materials science spin-off.

Stockholder Return

The chart below illustrates the cumulative total return to DowDuPont stockholders following the completion of the Merger. The chart depicts a hypothetical \$100 investment in DowDuPont common stock on September 1, 2017, and illustrates the value of that investment over time (assuming the reinvestment of dividends) until December 31, 2018, for DowDuPont common stock.



Cumulative Total Return	DowDuPont	S&P 500	S&P 500 Chemicals
September 1, 2017	\$ 100	\$ 100	\$ 100
December 29, 2017	\$ 107	\$ 109	\$ 110
December 31, 2018	\$ 82	\$ 104	\$ 98

The form of the chart presented above is in accordance with requirements of the U.S. Securities and Exchange Commission. Stockholders are cautioned against drawing any conclusions from the data contained therein, as past results are not necessarily indicative of future performance. This does not reflect the Company's forecast of future financial performance.

Following the Merger close on August 31, 2017, one share of Historical Dow common stock was converted to one share of DowDuPont common stock, and one share of Historical DuPont common stock was converted to 1.2820 shares of DowDuPont common stock.

ITEM 6. SELECTED FINANCIAL DATA

Selected Financial Data ¹					
In millions, except as noted (Unaudited)	2018	2017	2016	2015	2014
Summary of Operations					
Net sales	\$ 85,977	\$ 62,484	\$ 48,158	\$ 48,778	\$ 58,167
Income from continuing operations, net of tax ²	\$ 4,004	\$ 1,669	\$ 4,404	\$ 7,783	\$ 3,839
Loss from discontinued operations, net of tax	\$ (5)	\$ (77)	\$ —	\$ —	\$ —
Per share of common stock (in dollars):					
Earnings per common share from continuing operations - basic ²	\$ 1.66	\$ 0.97	\$ 3.57	\$ 6.45	\$ 2.91
Earnings per common share from continuing operations - diluted ²	\$ 1.65	\$ 0.95	\$ 3.52	\$ 6.15	\$ 2.87
Loss per common share from discontinued operations - basic	\$ —	\$ (0.05)	\$ —	\$ —	\$ —
Loss per common share from discontinued operations - diluted	\$ —	\$ (0.04)	\$ —	\$ —	\$ —
Cash dividends declared per share of common stock	\$ 1.52	\$ 1.76	\$ 1.84	\$ 1.72	\$ 1.53
Book value per share of common stock	\$ 41.80	\$ 43.30	\$ 21.70	\$ 23.06	\$ 19.71
Year-end Financial Position					
Total assets	\$ 188,030	\$ 192,164	\$ 79,511	\$ 67,938	\$ 68,639
Long-term debt	\$ 37,662	\$ 30,056	\$ 20,456	\$ 16,215	\$ 18,741
Financial Ratios					
Research and development expenses as percent of net sales ³	3.6%	3.4%	3.3%	3.2%	2.8%
Income from continuing operations before income taxes as percent of net sales ²	6.4%	1.9%	9.2%	20.4%	9.1%
Return on stockholders' equity ²	4.1%	1.5%	15.3%	34.4%	18.6%
Debt as a percent of total capitalization	29.6%	25.1%	44.0%	39.7%	45.5%

1. The year ended December 31, 2017, reflects the results of Historical Dow for the entire year and the results of Historical DuPont for the period beginning on and after September 1, 2017. The years ended December 31, 2016, 2015 and 2014 solely reflect the results of Historical Dow.

2. See Notes 1, 3, 6, 7, 8, 13, 15, 16 and 19 to the Consolidated Financial Statements for information on items materially impacting the results for the years ended December 31, 2018, 2017 and 2016, including the effects of the U.S. Tax Cuts and Jobs Act, enacted on December 22, 2017; Merger-related amortization of the fair value step-up of inventories; loss on early redemption of debt; gains on divestitures; integration and separation costs; charges related to restructuring programs; goodwill impairment and other asset related charges; a charge related to payment of plan obligations to certain participants of a Historical Dow U.S. non-qualified pension plan; and the impact of a change in accounting policy for asbestos-related defense and processing costs.

3. The retrospective adoption of ASU 2017-07 in the first quarter of 2018 resulted in an update to this ratio for 2015. The adoption did not impact the ratio for the remaining periods.

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

On December 11, 2015, The Dow Chemical Company ("Historical Dow") and E. I. du Pont de Nemours and Company ("Historical DuPont") entered into an Agreement and Plan of Merger ("Merger Agreement"), as amended on March 31, 2017, to effect an all-stock merger of equals strategic combination resulting in a newly formed corporation named DowDuPont Inc. ("DowDuPont" or the "Company"). On August 31, 2017, pursuant to the Merger Agreement, Historical Dow and Historical DuPont each merged with wholly owned subsidiaries of DowDuPont ("Mergers") and, as a result of the Mergers, Historical Dow and Historical DuPont became subsidiaries of DowDuPont (collectively, the "Merger"). Prior to the Merger, DowDuPont did not conduct any business activities other than those required for its formation and matters contemplated by the Merger Agreement. Historical Dow was determined to be the accounting acquirer in the Merger. As a result, the financial statements of Historical Dow for the periods prior to the Merger are considered to be the historical financial statements of DowDuPont. The results of Historical DuPont are included in DowDuPont's consolidated results from the Merger date forward. See Note 3 to the Consolidated Financial Statements for additional information.

DowDuPont intends to pursue, subject to the receipt of approval by the Board of Directors ("Board") of DowDuPont and customary closing conditions, the separation of the combined Company's agriculture, materials science and specialty products businesses through one or more tax-efficient transactions ("Intended Business Separations").

Except as otherwise indicated by the context, the term "Historical Dow" includes Historical Dow and its consolidated subsidiaries, "Historical DuPont" includes Historical DuPont and its consolidated subsidiaries, "Union Carbide" means Union Carbide Corporation, a wholly owned subsidiary of Historical Dow, and "Dow Silicones" means Dow Silicones Corporation (formerly known as Dow Corning Corporation, which changed its name effective as of February 1, 2018), a wholly owned subsidiary of Historical Dow.

Items Affecting Comparability of Financial Results

Due to the size of each of Historical Dow's and Historical DuPont's businesses prior to the Merger, in this section certain supplemental unaudited pro forma financial information is provided that assumes the Merger had been consummated on January 1, 2016. Adjustments have been made in the unaudited pro forma financial information for (1) the purchase accounting impact, (2) accounting policy alignment, (3) the elimination of the effect of events that were directly attributable to the Merger Agreement (e.g., one-time transaction costs), (4) the elimination of the impact of transactions between Historical Dow and Historical DuPont, and (5) the elimination of the effect of consummated divestitures required as a condition of regulatory approval for the Merger. Events that are not expected to have a continuing impact on the combined results (e.g., inventory step-up costs) were excluded. These adjustments impacted the consolidated results as well as the reportable segments. For additional information, see the Supplemental Unaudited Pro Forma Combined Financial Information in this section.

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ABOUT DOWDUPONT INC.

DowDuPont is a holding company comprised of Historical Dow and Historical DuPont with the intent to form strong, independent, publicly traded companies in the agriculture, materials science and specialty products sectors that will lead their respective industries through productive, science-based innovation to meet the needs of customers and help solve global challenges.

In 2018 , 37 percent of the Company's net sales were to customers in U.S. & Canada; 28 percent were in Europe, Middle East and Africa ("EMEA"); 24 percent were in Asia Pacific; and 11 percent were in Latin America.

In 2018 , the Company and its consolidated subsidiaries did not operate in countries subject to U.S. economic sanctions and export controls as imposed by the U.S. State Department or in countries designated by the U.S. State Department as state sponsors of terrorism, including Iran, the Democratic People's Republic of Korea (North Korea), Sudan and Syria. The Company has policies and procedures in place designed to ensure that it and its consolidated subsidiaries remain in compliance with applicable U.S. laws and regulations.

OVERVIEW

The following is a summary of the results from continuing operations for the year ended December 31, 2018 :

- The Company reported net sales for 2018 of \$86.0 billion, up 38 percent from \$62.5 billion in 2017 , with broad-based sales growth across all segments and geographic regions. Portfolio & Other contributed 29 percent of the sales increase, primarily reflecting the Merger as a full year of net sales in 2018 related to Historical DuPont compared with four months in 2017, which impacted all segments except Performance Materials & Coatings and Industrial Intermediates & Infrastructure.
- Volume increased 4 percent compared with the same period last year, with increases in all segments, except Performance Materials & Coatings and Transportation & Advanced Polymers (both down 2 percent) and Nutrition & Biosciences (flat). Volume increased in all geographic regions, except U.S. & Canada (flat), led by a double-digit increase in Asia Pacific (up 13 percent).
- Local price was up 4 percent compared with last year, primarily in response to higher feedstock and raw material costs. Local price increased in all segments, except Electronics & Imaging (flat). Local price increased in all geographic regions.

- Currency had a favorable impact of 1 percent on sales, driven by a favorable impact in EMEA, partially offset by an unfavorable impact in Latin America.
- Research and development ("R&D") expenses totaled \$3,060 million in 2018 , up 43 percent from \$2,141 million in 2017 . Selling, general and administrative ("SG&A") expenses were \$6,709 million in 2018 , up 65 percent from \$4,064 million in 2017 . R&D and SG&A expenses increased primarily due to the Merger, as 2018 included a full year of expenses related to Historical DuPont, compared with four months in 2017.
- Restructuring, goodwill impairment and asset related charges - net was \$1,105 million in 2018 , primarily reflecting post-merger restructuring actions under the DowDuPont Cost Synergy Program of \$869 million and the DowDuPont Agriculture Division Restructuring Program of \$84 million; as well as pretax impairment charges of \$160 million related to certain in-process research and development, an equity method investment and capital additions made to a manufacturing facility in Brazil.
- Integration and separation costs were \$2,463 million in 2018 , up from \$1,101 million in 2017 , reflecting post-Merger integration and Intended Business Separation activities.
- Equity in earnings of nonconsolidated affiliates was \$1,001 million in 2018, up from \$764 million in 2017, as higher earnings from the Kuwait joint ventures, lower equity losses from Sadara Chemical Company ("Sadara") and higher earnings from the HSC Group were partially offset by lower equity earnings from the Thai joint ventures.
- Net income available for common stockholders was \$3,844 million (\$1.65 per share) in 2018 , compared with \$1,460 million (\$0.91 per share) in 2017 .
- In November 2018, DowDuPont consummated the offering of senior unsecured DowDuPont Notes in an aggregate principal amount of \$12.7 billion, with various maturities through 2048. The net proceeds of the offering after the underwriting discount were \$12.6 billion.
- In November 2018, \$4.4 billion aggregate principal amount of Historical DuPont's outstanding debt securities were validly tendered and accepted for payment. In exchange, Historical DuPont paid a total of \$4.8 billion, which included breakage fees and all related accrued and unpaid interest on the tender notes.
- In the fourth quarter of 2018, Historical Dow issued \$2.0 billion of senior unsecured notes with various maturities through 2048, and tendered and redeemed \$2.1 billion of notes issued by Historical Dow.
- In 2018 , Historical Dow and Historical DuPont each made discretionary contributions of \$1,100 million to their respective principal U.S. pension plans.
- On November 1, 2018, the Company announced a new \$3.0 billion share buyback program, which expires on March 31, 2019 - commensurate with the expected timing of the materials science spin-off. At December 31, 2018, the Company had repurchased \$1.4 billion of shares under this program. The Company intends to complete the program before March 31, 2019.
- On November 1, 2018, the Company increased its cost synergy target under the DowDuPont Synergy Program to \$3.6 billion.

RESULTS OF OPERATIONS

Beginning in the third quarter of 2018, DowDuPont realigned joint ventures, global businesses and product lines in preparation for the Intended Business Separations. The segment reporting changes were retrospectively applied to all periods presented. See Note 24 to the Consolidated Financial Statements for additional information.

Summary of Sales Results	2018	2017	2016
In millions			
Net sales	\$ 85,977	\$ 62,484	\$ 48,158
Pro forma net sales		\$ 79,535	\$ 70,894

Sales Variances by Segment and Geographic Region - As Reported

Percentage change from prior year	2018					2017				
	Local Price & Product Mix	Currency	Volume	Portfolio & Other ¹	Total	Local Price & Product Mix	Currency	Volume	Portfolio & Other ¹	Total
Agriculture	3%	(2)%	1 %	88%	90%	(1)%	—%	(2)%	25%	22%
Performance Materials & Coatings	10	1	(2)	—	9	8	—	2	27	37
Industrial Intermediates & Infrastructure	5	1	14	—	20	10	—	7	—	17
Packaging & Specialty Plastics	1	1	5	5	12	8	1	5	3	17
Electronics & Imaging	—	—	2	39	41	(1)	—	9	37	45
Nutrition & Biosciences	2	(1)	—	143	144	—	—	11	183	194
Transportation & Advanced Polymers	6	—	(2)	119	123	—	—	6	175	181
Safety & Construction	2	—	3	76	81	—	—	3	57	60
Total	4%	1 %	4 %	29%	38%	6 %	—%	5 %	19%	30%
U.S. & Canada	4%	— %	— %	36%	40%	6 %	—%	4 %	16%	26%
EMEA	5	3	2	25	35	10	1	5	16	32
Asia Pacific	2	—	13	30	45	4	—	7	27	38
Latin America	4	(3)	5	17	23	2	—	(1)	18	19
Total	4%	1 %	4 %	29%	38%	6 %	—%	5 %	19%	30%

1. Portfolio & Other primarily reflects sales related to the Merger (impacts all segments, except Performance Materials & Coatings and Industrial Intermediates & Infrastructure). Portfolio & Other also includes sales for the acquisition of FMC Corporation's ("FMC") Health and Nutrition Business (the "H&N Business") acquired on November 1, 2017, impacting Nutrition & Biosciences. Portfolio & Other also reflects the following divestitures: a portion of Dow AgroSciences' Brazil corn seed business ("DAS Divested Ag Business"), divested on November 30, 2017 (impacting Agriculture), global Ethylene Acrylic Acid copolymers and ionomers business ("EAA Business"), divested on September 1, 2017 (impacting Packaging & Specialty Plastics) and SKC Haas Display Films group of companies, divested June 30, 2017 (impacting Electronics & Imaging). In addition, Portfolio & Other in 2017 includes the ownership restructure of Dow Silicones announced on June 1, 2016 (impacts Performance Materials & Coatings, Electronics & Imaging and Transportation & Advanced Polymers).

Sales Variances by Segment and Geographic Region - As Reported

Percentage change from prior year	2016				
	<i>Local Price & Product Mix</i>	<i>Currency</i>	<i>Volume</i>	<i>Portfolio & Other ¹</i>	<i>Total</i>
Agriculture	1 %	(1)%	(2)%	— %	(2)%
Performance Materials & Coatings	(8)	(1)	(2)	52	41
Industrial Intermediates & Infrastructure	(9)	(1)	2	(4)	(12)
Packaging & Specialty Plastics	(8)	—	9	(1)	—
Electronics & Imaging	(3)	—	3	16	16
Nutrition & Biosciences	(2)	—	(2)	—	(4)
Transportation & Advanced Polymers	(1)	(1)	7	49	54
Safety & Construction	(1)	—	(2)	—	(3)
Total	(6)%	— %	3 %	2 %	(1)%
U.S. & Canada	(7)%	— %	3 %	2 %	(2)%
EMEA	(6)	(1)	4	(1)	(4)
Asia Pacific	(6)	—	6	9	9
Latin America	(6)	—	—	(1)	(7)
Total	(6)%	— %	3 %	2 %	(1)%

1. Portfolio & Other reflects sales from June 1, 2016 through December 31, 2016 related to the ownership restructure of Dow Silicones (impacts Performance Materials & Coatings, Electronics & Imaging and Transportation & Advanced Polymers) and sales from January 1, 2016 through April 30, 2016 for the step acquisition of Univation Technologies, LLC, acquired on May 5, 2015 (Packaging & Specialty Plastics). Portfolio & Other also reflects the following divestitures: the chlorine value chain, divested on October 5, 2015 (Industrial Intermediates & Infrastructure and Packaging & Specialty Plastics), ANGUS Chemical Company, divested on February 2, 2015 and the global Sodium Borohydride business, divested on January 30, 2015 (both included in Industrial Intermediates & Infrastructure).

2018 versus 2017

The Company reported net sales for 2018 of \$86.0 billion, up 38 percent from \$62.5 billion for 2017, driven by the Merger, higher sales volume, reflecting additional capacity from U.S. Gulf Coast growth projects and increased supply from Sadara, increased local price and the favorable impact of currency. Sales growth was broad-based, with increases in all segments and geographic regions. Portfolio & Other contributed 29 percent of the sales increase, primarily reflecting the Merger. Volume increased 4 percent compared with last year, as increases in Industrial Intermediates & Infrastructure (up 14 percent), Packaging & Specialty Plastics (up 5 percent), Safety & Construction (up 3 percent), Electronics & Imaging (up 2 percent) and Agriculture (up 1 percent) more than offset declines in Performance Materials & Coatings and Transportation & Advanced Polymers (both down 2 percent). Nutrition & Biosciences volume was flat. Volume increased in most geographic regions, including a double-digit increase in Asia Pacific (up 13 percent). Local price was up 4 percent compared with last year, with increases in all geographic regions, driven by pricing initiatives in response to higher feedstock and raw material costs. Local price increased in most segments, with the most notable increases in Performance Materials & Coatings (up 10 percent), Transportation & Advanced Polymers (up 6 percent) and Industrial Intermediates & Infrastructure (up 5 percent). Currency was up 1 percent compared with last year, driven by a favorable impact in EMEA, partially offset by an unfavorable impact in Latin America.

2017 versus 2016

The Company reported net sales for 2017 of \$62.5 billion, up 30 percent from \$48.2 billion for 2016, primarily reflecting the Merger, the addition of the Dow Silicones business, increased local price and demand growth. Sales growth was broad-based with increases in all segments and geographic regions. Portfolio & Other changes contributed 19 percent of the sales increase and impacted all segments, except Industrial Intermediates & Infrastructure, which was flat. Local price was up 6 percent compared with last year, with increases in all geographic regions, including a double-digit increase in EMEA (up 10 percent), driven by broad-based pricing actions as well as higher feedstock and raw material prices. Local price increased in Industrial Intermediates & Infrastructure (up 10 percent) and Packaging & Specialty Plastics and Performance Materials & Coatings (both up 8 percent) and declined in Agriculture and Electronics & Imaging (both down 1 percent). Local price was flat in Nutrition & Biosciences, Transportation & Advanced Polymers and Safety & Construction. Volume increased 5 percent compared with last year, with increases in all segments, except Agriculture (down 2 percent), including a double-digit increase in Nutrition & Biosciences (up 11 percent). Volume increased in all geographic regions, except Latin America (down 1 percent). Currency was flat compared with last year.

Sales Variances by Segment and Geographic Region - Pro Forma Basis										
Percentage change from prior year	2018 ¹					2017				
	Local Price & Product Mix	Currency	Volume	Portfolio & Other ²	Total	Local Price & Product Mix	Currency	Volume	Portfolio & Other ²	Total
Agriculture	3 %	— %	(2)%	(1)%	— %	— %	— %	1%	1%	2%
Performance Materials & Coatings	10	1	(2)	—	9	8	—	2	27	37
Industrial Intermediates & Infrastructure	5	1	14	—	20	10	—	7	—	17
Packaging & Specialty Plastics	1	2	5	—	8	8	—	5	—	13
Electronics & Imaging	(1)	1	1	(2)	(1)	(1)	—	11	2	12
Nutrition & Biosciences	1	1	3	9	14	—	—	3	1	4
Transportation & Advanced Polymers	6	2	2	—	10	2	—	7	5	14
Safety & Construction	1	1	4	—	6	(1)	—	4	—	3
Total	3 %	1 %	4 %	— %	8 %	4 %	— %	5%	3%	12%
U.S. & Canada	3 %	— %	— %	1 %	4 %	4 %	— %	3%	3%	10%
EMEA	4	4	2	1	11	8	1	5	3	17
Asia Pacific	2	1	11	—	14	2	—	8	5	15
Latin America	4	(3)	4	(1)	4	1	1	—	3	5
Total	3 %	1 %	4 %	— %	8 %	4 %	— %	5%	3%	12%

1. As reported net sales in the current period compared with pro forma net sales in the prior period.

2. Pro forma net sales for Agriculture excludes sales related to the November 30, 2017, divestiture of the DAS Divested Ag Business for the period January 1, 2016 through August 31, 2017; sales from September 1, 2017 through November 30, 2017, are included in Portfolio & Other. Pro forma net sales for Packaging & Specialty Plastics excludes sales related to the September 1, 2017, divestiture of the EAA Business for the period January 1, 2016 through August 31, 2017. Portfolio & Other includes sales for the acquisition of the H&N Business acquired on November 1, 2017, impacting Nutrition & Biosciences. Portfolio & Other also reflects the following divestitures: SKC Haas Display Films group of companies (divested June 30, 2017) and the authentication business (divested on January 6, 2017), both impacting Electronics & Imaging; and, the divestiture of the global food safety diagnostic business (divested February 28, 2017), impacting Nutrition & Biosciences. In 2017, Portfolio & Other also reflects sales from January 1, 2017 through May 31, 2017, related to the ownership restructure of Dow Silicones on June 1, 2016 (impacts Performance Materials & Coatings, Electronics & Imaging and Transportation & Advanced Polymers).

2018 versus 2017

The Company reported net sales for 2018 of \$86.0 billion, up 8 percent from pro forma net sales of \$79.5 billion for 2017, with increases across most segments and all geographic regions. Double-digit net sales increases were reported in Industrial Intermediates & Infrastructure (up 20 percent), Nutrition & Biosciences (up 14 percent) and Transportation & Advanced Polymers (up 10 percent). These increases were partially offset by a decline in Electronics & Imaging (down 1 percent). Net sales increased in Asia Pacific (up 14 percent), EMEA (up 11 percent), U.S. & Canada and Latin America (both up 4 percent). Volume increased 4 percent compared with pro forma results last year, as increases in Industrial Intermediates & Infrastructure (up 14 percent), Packaging & Specialty Plastics (up 5 percent), Safety & Construction (up 4 percent), Nutrition & Biosciences (up 3 percent), Transportation & Advanced Polymers (up 2 percent) and Electronics & Imaging (up 1 percent) more than offset declines in Agriculture and Performance Materials & Coatings (both down 2 percent). Volume increased in most geographic regions, including a double-digit increase in Asia Pacific (up 11 percent). Volume was flat in U.S. & Canada. Local price was up 3 percent compared with pro forma results last year with increases in all geographic regions, driven by pricing initiatives in response to higher feedstock and raw material costs. Local price increased across most segments, including double-digit increases in Performance Materials & Coatings (up 10 percent). Currency was up 1 percent compared with last year, driven primarily by EMEA (up 4 percent) partially offset by an unfavorable impact in Latin America (down 3 percent).

2017 versus 2016

The Company reported pro forma net sales for 2017 of \$79.5 billion, up 12 percent from pro forma net sales of \$70.9 billion for 2016, primarily reflecting demand growth, increased local price and the addition of the Dow Silicones business. Pro forma net sales increased across all segments and geographic regions. Volume increased 5 percent compared with last year, with increases in all segments, including a double-digit increase in Electronics & Imaging (up 11 percent). Volume increased in all geographic regions, except Latin America, which was flat. Local price was up 4 percent compared with last year, with increases in all geographic regions, driven by broad-based pricing actions as well as higher feedstock and raw material prices. Local price increased in Industrial Intermediates & Infrastructure (up 10 percent), Performance Materials & Coatings and Packaging & Specialty Plastics (both up 8 percent) and Transportation & Advanced Polymers (up 2 percent), which more than offset declines in Electronics & Imaging and Safety & Construction (both down 1 percent). Local price was flat in Agriculture and Nutrition & Biosciences. Currency was flat compared with last year.

Cost of Sales

Cost of sales was \$65.3 billion in 2018 , up from \$49.8 billion in 2017 . Cost of sales increased in 2018 primarily due to the Merger, increased sales volume, which reflected additional capacity from U.S. Gulf Coast growth projects and increased supply from Sadara, higher feedstock and other raw material costs and increased planned maintenance turnaround costs, which more than offset lower commissioning expenses related to U.S. Gulf Coast growth projects and cost synergies. Cost of sales in 2018 was negatively impacted by a \$1,628 million charge for the fair value step-up of inventories assumed in the Merger and the acquisition of the H&N Business, related to Agriculture (\$1,554 million), Packaging & Specialty Plastics (\$2 million), Nutrition & Biosciences (\$67 million) and Safety & Construction (\$5 million). Cost of sales as a percentage of sales was 76.0 percent compared with 79.7 percent in 2017.

Cost of sales was \$49.8 billion in 2017 , up from \$37.7 billion in 2016 . Cost of sales in 2017 was negatively impacted by a \$1,469 million charge for the fair value step-up of inventories assumed in the Merger and the acquisition of the H&N Business, related to Agriculture (\$424 million), Packaging & Specialty Plastics (\$120 million), Electronics & Imaging (\$138 million), Nutrition & Biosciences (\$403 million), Transportation & Advanced Polymers (\$211 million) and Safety & Construction (\$173 million); a charge of \$201 million related to the payment of plan obligations to certain participants of a Dow U.S. non-qualified pension plan as a result of the Merger (related to Corporate); and \$49 million of transaction costs and productivity actions (related to Corporate). Excluding these significant items, cost of sales increased primarily due to the Merger, increased sales volume, higher feedstock, energy and other raw material costs, higher commissioning expenses related to Historical Dow's U.S. Gulf Coast growth projects and the addition of the Dow Silicones business. Cost of sales as a percentage of sales was 79.7 percent compared with 78.2 percent in 2016. See Notes 3 and 19 to the Consolidated Financial Statements for additional information.

Research and Development Expenses

R&D expenses were \$3,060 million in 2018 , compared with \$2,141 million in 2017 and \$1,593 million in 2016 . In 2018 , R&D expenses increased primarily due to the Merger, which was partially offset by cost synergies. In 2017 , R&D expenses increased primarily due to the Merger. R&D expenses as a percentage of net sales were 3.6 percent, 3.4 percent and 3.3 percent for 2018 , 2017 and 2016 , respectively.

Selling, General and Administrative Expenses

SG&A expenses were \$6,709 million in 2018 , compared with \$4,064 million in 2017 and \$2,953 million in 2016 . SG&A expenses in 2018 increased primarily due to the Merger, which was partially offset by cost synergies. SG&A expenses in 2017 increased primarily due to the Merger. SG&A expenses as a percentage of net sales were 7.8 percent, 6.5 percent and 6.1 percent for 2018 , 2017 and 2016 , respectively.

Amortization of Intangibles

Amortization of intangibles was \$1,903 million in 2018 , \$1,013 million in 2017 and \$544 million in 2016 . The increase in amortization in 2018 was primarily due to the Merger. The increase in amortization in 2017 was primarily due to an increase in intangible assets as a result of the Merger and the Dow Silicones ownership restructure. See Notes 3 and 13 to the Consolidated Financial Statements for additional information on intangible assets.

Restructuring, Goodwill Impairment and Asset Related Charges - Net

Restructuring, goodwill impairment and asset related charges - net was \$1,105 million in 2018, \$3,280 million in 2017 and \$595 million in 2016, and consisted primarily of the following:

DowDuPont Agriculture Division Restructuring Program

During the fourth quarter of 2018 and in connection with the ongoing integration activities, DowDuPont approved restructuring actions to simplify and optimize certain organizational structures within the Agriculture segment in preparation for the Intended Business Separations ("Agriculture Division Program"). As a result of these actions, the Company expects to record total pretax charges of approximately \$96 million , comprised of \$83 million of severance and related benefit costs, \$8 million of asset write-downs and write-offs and \$5 million of costs associated with exit and disposal activities.

For the year ended December 31, 2018 , DowDuPont recorded a pretax charge of \$84 million related to this program, which was recorded in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income. This charge consisted of severance and related benefit costs of \$78 million related to Corporate, and asset write-downs and write-offs of \$6 million related to Agriculture. The Company expects actions related to this program to be substantially complete by mid-2019.

DowDuPont Cost Synergy Program

In September and November 2017, DowDuPont approved post-merger restructuring actions under the DowDuPont Cost Synergy Program (the "Synergy Program"), which is designed to integrate and optimize the organization following the Merger and in preparation for the Intended Business Separations. The Company expects to record total pretax restructuring charges of

approximately \$2 billion, comprised of approximately \$895 million to \$975 million of severance and related benefit costs; \$525 million to \$615 million of asset write-downs and write-offs, and \$370 million to \$410 million of costs associated with exit and disposal activities.

As a result of the Synergy Program, for the year ended December 31, 2017, the Company recorded pretax restructuring charges of \$874 million, which were recorded in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income and consisted of severance and related benefit costs of \$510 million, asset write-downs and write-offs of \$290 million and costs associated with exit and disposal activities of \$74 million. The restructuring charges by segment are as follows: \$134 million in Agriculture, \$86 million in Electronics & Imaging, \$36 million in Packaging & Specialty Plastics, \$21 million in Safety & Construction, \$12 million in Industrial Intermediates & Infrastructure, \$11 million in Performance Materials & Coatings, \$2 million in Transportation & Advanced Polymers, \$1 million in Nutrition & Biosciences and \$571 million in Corporate.

For the year ended December 31, 2018, the Company recorded pretax restructuring charges of \$869 million which were recorded in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income. These charges consisted of severance and related benefit costs of \$419 million, asset write-downs and write-offs of \$289 million, and costs associated with exit and disposal activities of \$161 million. The restructuring charges by segment were as follows: \$340 million in Agriculture, \$29 million in Nutrition & Biosciences, \$24 million in Safety & Construction, \$13 million in Packaging & Specialty Plastics, \$11 million in Industrial Intermediates & Infrastructure, \$7 million in Performance Materials & Coatings, \$2 million in Transportation & Advanced Polymers, \$2 million in Electronics & Imaging, and \$441 million in Corporate. The Company expects to record additional restructuring charges during 2019 and substantially complete the Synergy Program by the end of 2019.

Dow 2016 Restructuring Plan

On June 27, 2016, Historical Dow's Board of Directors approved a restructuring plan that incorporated actions related to the ownership restructure of Dow Silicones. These actions, aligned with Historical Dow's value growth and synergy targets, resulted in a global workforce reduction of approximately 2,500 positions, with most of these positions resulting from synergies related to the ownership restructure of Dow Silicones. As a result of these actions, Historical Dow recorded pretax restructuring charges of \$449 million in the second quarter of 2016, consisting of severance and related benefit costs of \$268 million, asset write-downs and write-offs of \$153 million and costs associated with exit and disposal activities of \$28 million and related to the Company's segment results as follows: \$42 million in Performance Materials & Coatings, \$83 million in Industrial Intermediates & Infrastructure, \$10 million in Packaging & Specialty Plastics and \$314 million in Corporate.

In 2017, Historical Dow recorded a favorable adjustment to the 2016 restructuring charge related to costs associated with exit and disposal activities of \$7 million, related to Performance Materials & Coatings.

In 2018, Historical Dow recorded a favorable adjustment to the 2016 restructuring charge related to severance and related benefit costs of \$8 million, related to Corporate, and an unfavorable adjustment to costs associated with exit and disposal activities of \$14 million, related to Performance Materials & Coatings. The 2016 restructuring activities were substantially complete at June 30, 2018, with remaining liabilities for severance and related benefit costs and costs associated with exit and disposal activities to be settled over time. See Note 6 to the Consolidated Financial Statements for details on the Company's restructuring activities.

Goodwill Impairment

Upon completion of the goodwill impairment testing in the fourth quarter of 2017, the Company determined the fair value of the Coatings & Performance Monomers reporting unit was lower than its carrying amount. As a result, the Company recorded an impairment charge of \$1,491 million in the fourth quarter of 2017, related to Performance Materials & Coatings. There were no impairment charges in 2016 or 2018. See Note 13 to the Consolidated Financial Statements for additional information on the impairment charge.

Asset Related Charges

2018 Charges

During the third quarter of 2018, the Company recognized an \$85 million pretax impairment charge in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income related to certain in-process research and development ("IPR&D") assets within the Agriculture segment. See Notes 6, 13 and 22 to the Consolidated Financial Statements for additional information.

In addition, based on updated projections for the Company's equity method investments in joint ventures in China related to the Agriculture segment, management determined the fair values of the equity method investments were below the carrying values and had no expectation that the fair values would recover due to the continuing unfavorable regulatory environment, including lack of intellectual property protection, uncertain product registration timing and limited freedom to operate. As a result,

management concluded the impairment was other than temporary and in the third quarter of 2018 recorded an impairment charge of \$41 million in “Restructuring, goodwill impairment and asset related charges - net” in the consolidated statements of income. See Notes 6 and 22 to the Consolidated Financial Statements for additional information.

In 2018, the Company recognized an additional pretax impairment charge of \$34 million primarily related to capital additions made to the biopolymers manufacturing facility in Santa Vitoria, Minas Gerais, Brazil, which was impaired in 2017. The impairment charge was related to Packaging & Specialty Plastics.

2017 Charges

In 2017, the Company recognized a \$622 million pretax impairment charge related to a biopolymers manufacturing facility in Santa Vitoria, Minas Gerais, Brazil. Historical Dow determined it would not pursue an expansion of the facility’s ethanol mill into downstream derivative products, primarily as a result of cheaper ethane-based production as well as Historical Dow’s new assets coming online on the U.S. Gulf Coast which can be used to meet growing market demands in Brazil. As a result of this decision, cash flow analysis indicated the carrying amount of the impacted assets was not recoverable. The impairment charge was related to Packaging & Specialty Plastics.

The Company also recognized other pretax impairment charges of \$317 million in the fourth quarter of 2017, including charges related to manufacturing assets of \$230 million, an equity method investment of \$81 million and other assets of \$6 million. The impairment charges were related to Performance Materials & Coatings (\$82 million), Industrial Intermediates & Infrastructure (\$6 million), Packaging & Specialty Plastics (\$57 million), Electronics & Imaging (\$39 million), Safety & Construction (\$32 million) and Corporate (\$101 million). See Notes 6, 22 and 23 to the Consolidated Financial Statements for additional information.

2016 Charges

In 2016, Historical Dow recognized a \$143 million pretax impairment charge related to its equity interest in AgroFresh Solutions, Inc. ("AFSI") due to a decline in the market value of AFSI. The impairment charge impacted Corporate. See Notes 6, 12, 22 and 23 to the Consolidated Financial Statements for additional information.

Integration and Separation Costs

Integration and separation costs, which reflect costs related to the Merger, post-Merger integration and Intended Business Separation activities and costs related to the ownership restructure of Dow Silicones, were \$2,463 million in 2018, \$1,101 million in 2017 and \$349 million in 2016, and were related to Corporate.

Asbestos-Related Charge

In 2016, Historical Dow and Union Carbide Corporation elected to change the method of accounting for asbestos-related defense and processing costs from expensing as incurred to estimating and accruing a liability. As a result of this accounting policy change, Union Carbide recorded a pretax charge of \$1,009 million for asbestos-related defense costs through the terminal year of 2049. Union Carbide also recorded a pretax charge of \$104 million to increase the asbestos-related liability for pending and future claims through the terminal year of 2049. There was no adjustment to the asbestos-related liability for pending and future claims and defense and processing costs in 2017 or 2018. These charges were related to Corporate. See Notes 1 and 16 to the Consolidated Financial Statements for additional information on asbestos-related matters.

Equity in Earnings of Nonconsolidated Affiliates

DowDuPont’s share of the earnings of nonconsolidated affiliates in 2018 was \$1,001 million, compared with \$764 million in 2017 and \$442 million in 2016. In 2018, equity earnings increased as higher earnings from the Kuwait joint ventures, lower equity losses from Sadara and higher earnings from the HSC Group, which included settlements with a customer related to long-term polysilicon sales agreements, were partially offset by lower equity earnings from the Thai joint ventures.

In 2017, equity earnings increased as lower equity losses from Sadara and higher equity earnings from the Kuwait joint ventures and the HSC Group, which included settlements with a customer related to long-term polysilicon sales agreements, were partially offset by the impact of the Dow Silicones ownership restructure and lower equity earnings from the Thai joint ventures. See Note 12 to the Consolidated Financial Statements for additional information on nonconsolidated affiliates.

Sundry Income (Expense) - Net

Sundry income (expense) – net includes a variety of income and expense items such as the gain or loss on foreign currency exchange, interest income, dividends from investments, gains and losses on sales of investments and assets, non-operating pension and other postretirement benefit plan credits or costs, and certain litigation matters. Sundry income (expense) - net for 2018 was income of \$592 million, compared with income of \$417 million in 2017 and income of \$1,486 million in 2016.

In 2018, sundry income (expense) - net included credits related to non-operating pension and other postretirement benefit plans, interest income and gains on the sales of investments and other assets, including a \$20 million gain for post-closing adjustments on Historical Dow's sale of its equity interest in MEGlobal (related to Industrial Intermediates & Infrastructure) and a \$22 million gain related to Agriculture asset sales. These gains were partially offset by a \$135 million loss on the early extinguishment of debt (related to Corporate), foreign currency exchange losses, including a \$50 million foreign exchange loss related to adjustments to foreign currency exchange contracts for the change in the U.S. tax rate (related to Corporate), a \$47 million loss for adjustments related to the Dow Silicones ownership restructure (\$27 million related Electronics & Imaging and \$20 million related to Performance Materials & Coatings), and a \$14 million loss on the divestiture of the European XPS STYROFOAM™ business (related to Safety & Construction). See Notes 3, 5, 7, and 15 to the Consolidated Financial Statements for additional information.

In 2017, sundry income (expense) - net included a \$635 million gain on the divestiture of the DAS Divested Ag Business (related to Agriculture), a \$227 million gain on the divestiture of Historical Dow's EAA Business (related to Packaging & Specialty Plastics), a \$137 million gain related to Historical Dow's patent infringement matter with Nova Chemical Corporation (related to Packaging & Specialty Plastics), a \$7 million gain for post-closing adjustments on the split-off of Historical Dow's chlorine value chain (related to Corporate), gains on sales of other assets and investments and interest income. These gains more than offset non-operating pension and other postretirement benefit costs, primarily related to a settlement charge for a U.S. non-qualified pension plan of \$697 million (related to Corporate), a \$469 million loss related to Dow AgroSciences' arbitration matter with Bayer CropScience (related to Agriculture) and foreign currency exchange losses. See Notes 1, 2, 5, 7, 16 and 19 to the Consolidated Financial Statements for additional information.

In 2016, sundry income (expense) - net included a \$2,445 million gain on the Dow Silicones ownership restructure (related to Performance Materials & Coatings (\$1,617 million), Electronics & Imaging (\$512 million) and Transportation & Advanced Polymers (\$316 million)), a \$6 million gain for post-closing adjustments on the split-off of Historical Dow's chlorine value chain (related to Corporate), gains on sales of assets and investments, non-operating pension and other postretirement benefit credits and interest income. These gains more than offset a \$1,235 million loss related to Historical Dow's settlement of the urethane matters class action lawsuit and the opt-out cases litigation (related to Industrial Intermediates & Infrastructure), \$41 million of transaction costs and productivity actions (related to Corporate), losses on divestitures and foreign currency exchange losses. See Notes 3, 5, 7 and 16 to the Consolidated Financial Statements for additional information.

Interest Expense and Amortization of Debt Discount

Interest expense and amortization of debt discount was \$1,504 million in 2018, \$1,082 million in 2017 and \$858 million in 2016. The increase in 2018 was primarily related to the Merger as well as higher debt balances as a result of the DowDuPont Notes Offering. The increase in 2017 was primarily related to the Merger and the effect of the long-term debt assumed in the Dow Silicones ownership restructure. See Liquidity and Capital Resources in Management's Discussion and Analysis of Financial Condition and Results of Operations and Notes 11 and 15 to the Consolidated Financial Statements for additional information related to debt financing activity.

Provision (Credit) for Income Taxes on Continuing Operations

The Company's effective tax rate fluctuates based on, among other factors, where income is earned, reinvestment assertions regarding foreign income and the level of income relative to tax credits available. The Company's tax rate is also influenced by the level of equity earnings, since most of the earnings from the Company's equity method investments are taxed at the joint venture level. The underlying factors affecting the Company's overall tax rate are summarized in Note 8 to the Consolidated Financial Statements.

On December 22, 2017, the Tax Cuts and Jobs Act ("The Act") was enacted. The Act reduces the U.S. federal corporate income tax rate from 35 percent to 21 percent, requires companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously deferred, creates new provisions related to foreign sourced earnings, eliminates the domestic manufacturing deduction and moves towards a hybrid territorial system. At December 31, 2018, the Company had completed its accounting for the tax effects of The Act; see Note 8 to the Consolidated Financial Statements for additional information.

The "Provision (Credit) for income taxes on continuing operations" was a charge of \$1,489 million in 2018, a benefit of \$476 million in 2017 and a charge of \$9 million in 2016. The tax rate for 2018 was favorably impacted by equity earnings as well as excess tax benefits related to equity compensation. These impacts were more than offset by the impact of geographic mix of earnings, amortization of the fair value step-up of Historical DuPont's inventories as a result of the Merger, a \$75 million tax charge associated with a valuation allowance recorded against the net deferred tax asset position of a Historical DuPont legal entity in Brazil and costs associated with the Merger (including a \$74 million net tax charge on repatriation activities to facilitate the Intended Business Separations). These factors resulted in a tax rate of 27.1 percent for 2018.

The tax rate for 2017 was favorably impacted by a provisional net benefit of \$1,086 million that the Company recognized due to the enactment of The Act, as well as the geographic mix of earnings. In addition, the tax rate was favorably impacted by the adoption of Accounting Standards Update ("ASU") 2016-09, "Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting," which resulted in the recognition of excess tax benefits related to equity compensation in the provision for income taxes. These impacts were partially offset by a goodwill impairment recognized in the fourth quarter for which there was no corresponding tax deduction, amortization of the fair value step-up of Historical DuPont's inventories as a result of the Merger and certain net foreign currency exchange losses recognized on the remeasurement of the net monetary asset positions which were not tax deductible in their local jurisdictions. These factors resulted in a negative tax rate of 39.9 percent for 2017 .

The tax rate for Historical Dow in 2016 was favorably impacted by the non-taxable gain on the ownership restructure of Dow Silicones and a tax benefit on the reassessment of a deferred tax liability related to the basis difference in Historical Dow's investment in Dow Silicones. The tax rate was also favorably impacted by the geographic mix of earnings, the availability of foreign tax credits, the deductibility of the urethane matters class action lawsuit and opt-out cases settlements and the asbestos-related charge. A reduction in equity earnings and non-deductible transaction costs and productivity actions unfavorably impacted the tax rate. These factors resulted in an effective tax rate of 0.2 percent for 2016 .

Loss from Discontinued Operations, Net of Tax

Loss from discontinued operations, net of tax was \$5 million in 2018 and \$77 million in 2017, and is related to certain Historical DuPont assets divested as a condition of the regulatory approval of the Merger. See Note 5 to the Consolidated Financial Statements for additional information.

Net Income Attributable to Noncontrolling Interests

Net income attributable to noncontrolling interests was \$155 million in 2018 , \$132 million in 2017 and \$86 million in 2016 . Net income attributable to noncontrolling interests increased in 2018 compared with 2017, primarily due to the Merger and the sale of Historical Dow's ownership interests in the SKC Haas Display Films group of companies in 2017. Net income attributable to noncontrolling interests increased in 2017 compared with 2016, primarily due to higher earnings from Dow Silicones' consolidated joint ventures and improved results from a cogeneration facility in Brazil. See Notes 18 and 23 to the Consolidated Financial Statements for additional information.

Historical Dow Cumulative Convertible Preferred Stock Dividends

On December 30, 2016, Historical Dow converted all outstanding shares of its Cumulative Convertible Perpetual Preferred Stock, Series A ("Historical Dow Preferred Stock") into shares of Historical Dow's common stock. As a result of this conversion, no shares of Historical Dow Preferred Stock are issued or outstanding. On January 6, 2017, Historical Dow filed an amendment to its Restated Certificate of Incorporation by way of a certificate of elimination with the Secretary of State of Delaware eliminating this series of preferred stock. Historical Dow Preferred Stock dividends of \$340 million were recognized in 2016. See Note 17 to the Consolidated Financial Statements for additional information.

Net Income Available for DowDuPont Inc. Common Stockholders

Net income available for common stockholders was \$3,844 million (\$1.65 per share) in 2018 , compared with \$1,460 million (\$0.91 per share) in 2017 and \$3,978 million (\$3.52 per share) in 2016 . See Note 9 to the Consolidated Financial Statements for details on the Company's earnings per share calculations.

SUPPLEMENTAL UNAUDITED PRO FORMA COMBINED FINANCIAL INFORMATION

The following supplemental unaudited pro forma combined statements of income (the "unaudited pro forma income statements") for DowDuPont are presented to illustrate the estimated effects of the Merger, assuming that the Merger had been consummated on January 1, 2016. For the periods presented below, activity prior to August 31, 2017 (the "Merger Date") was prepared on a pro forma basis (the "unaudited pro forma information") and activity after the Merger Date was prepared on a combined basis under accounting principles generally accepted in the United States of America ("U.S. GAAP"). The unaudited pro forma information below was prepared in accordance with Article 11 of Regulation S-X which is a different basis than the unaudited pro forma information presented in Note 3 to the Consolidated Financial Statements, which was prepared in accordance with Accounting Standards Codification ("ASC") Topic 805, "Business Combinations" ("ASC 805"). Pro forma adjustments have been made for (1) the purchase accounting impact, (2) accounting policy alignment, (3) the elimination of the effect of events that are directly attributable to the Merger Agreement (e.g., one-time transaction costs), (4) the elimination of the impact of transactions between Historical Dow and Historical DuPont, and (5) the elimination of the effect of consummated divestitures required as a condition of approval for the Merger. Events that are not expected to have a continuing impact on the combined results (e.g., inventory step-up costs) are excluded from the unaudited pro forma information. The unaudited pro forma information does not reflect restructuring or integration activities or other costs following the Merger that may be incurred to achieve cost or growth synergies of DowDuPont. The unaudited pro forma income statements provide stockholders with summary financial information and historical data that is on a basis consistent with how DowDuPont reports current financial information.

The Merger was accounted for under ASC 805, under which Historical Dow was designated as the accounting acquirer in the Merger for accounting purposes. Under ASC 805, Historical Dow accounted for the transaction by using Historical Dow financial information and accounting policies and adding the assets and liabilities of Historical DuPont as of the Merger Date at their respective fair values. The assets and liabilities of Historical DuPont were measured based on various estimates at the Merger Date using assumptions that DowDuPont believes are reasonable based on information that was available. The fair value estimates reflected in the unaudited pro forma information are based on those used in the Current Report on Form 8-K/A filed with the SEC on October 26, 2017, and subsequent measurement period adjustments are not reflected.

The unaudited pro forma income statements have been presented for informational purposes only and are not necessarily indicative of what DowDuPont's results of operations actually would have been had the Merger been completed on January 1, 2016. In addition, the unaudited pro forma income statements do not purport to project the future operating results of the Company. The unaudited pro forma income statements were based on and should be read in conjunction with the separate historical financial statements and accompanying notes contained in each of the Historical Dow and Historical DuPont Quarterly Reports on Form 10-K for the applicable periods. See Note 3 to the Consolidated Financial Statements for additional information.

Unaudited Pro Forma Combined Statement of Income	Year Ended Dec 31, 2017					
	DWDP ^{1, 2}	Historical DuPont ^{2, 3}	Adjustments			Pro Forma
			Reclass ^{2, 4}	Divestitures ⁵	Pro Forma ⁶	
In millions, except per share amounts						
Net sales	\$ 62,484	\$ 18,349	\$ 84	\$ (1,219)	\$ (163)	\$ 79,535
Cost of sales	49,791	10,464	387	(523)	65	60,184
Other operating charges	—	521	(521)	—	—	—
Research and development expenses	2,141	1,117	(27)	(104)	19	3,146
Selling, general and administrative expenses	4,064	3,368	(583)	(143)	29	6,735
Other (loss) income, net	—	(106)	106	—	—	—
Amortization of intangibles	1,013	—	139	—	591	1,743
Restructuring, goodwill impairment and asset related charges - net	3,280	323	—	—	(10)	3,593
Integration and separation costs	1,101	—	605	(24)	(183)	1,499
Equity in earnings of nonconsolidated affiliates	764	—	55	—	(15)	804
Sundry income (expense) - net	417	—	(278)	(12)	—	127
Interest expense and amortization of debt discount	1,082	254	—	—	(80)	1,256
Income from continuing operations before income taxes	1,193	2,196	(33)	(437)	(609)	2,310
Provision (Credit) for income taxes on continuing operations	(476)	228	(33)	(88)	(233)	(602)
Income from continuing operations, net of tax	1,669	1,968	—	(349)	(376)	2,912
Net income attributable to noncontrolling interests	132	20	—	—	7	159
Net income from continuing operations attributable to DowDuPont Inc.	1,537	1,948	—	(349)	(383)	2,753
Preferred stock dividends	—	7	—	—	(7)	—
Net income from continuing operations available for DowDuPont Inc. common stockholders	\$ 1,537	\$ 1,941	\$ —	\$ (349)	\$ (376)	\$ 2,753

Per common share data:					
Earnings per common share from continuing operations - basic					\$ 1.18
Earnings per common share from continuing operations - diluted					\$ 1.17

Weighted-average common shares outstanding - basic	2,323.9
Weighted-average common shares outstanding - diluted	2,346.1

1. See the U.S. GAAP consolidated statements of income.

2. Amounts have been updated to reflect certain reclassifications required under ASU 2017-07, "Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost," which was adopted on January 1, 2018, and applied retrospectively.

3. Reflects Historical DuPont activity for the period from January 1, 2017 to August 31, 2017.

4. Certain reclassifications were made to conform with the presentation used for DowDuPont.

5. Includes the following divestitures agreed to with certain regulatory agencies as a condition of approval for the Merger: Historical Dow's EAA Business; the DAS Divested Ag Business; and Historical DuPont's cereal broadleaf herbicides and chewing insecticides portfolio as well as its crop protection research and development pipeline and organization.

6. Certain pro forma adjustments were made to illustrate the estimated effects of the Merger, assuming that the Merger had been consummated on January 1, 2016. Refer to *Summary of Pro Forma Adjustments* at the end of this section for additional details.

Unaudited Pro Forma Combined Statement of Income	Year Ended Dec 31, 2016					
	Historical Dow ^{1, 2}	Historical DuPont ^{2, 3}	Adjustments			Pro Forma
			Reclass ^{2, 4}	Divestitures ⁵	Pro Forma ⁶	
In millions, except per share amounts						
Net sales	\$ 48,158	\$ 24,594	\$ 170	\$ (1,812)	\$ (216)	\$ 70,894
Cost of sales	37,668	14,451	559	(783)	110	52,005
Other operating charges	—	686	(686)	—	—	—
Research and development expenses	1,593	1,635	(40)	(153)	29	3,064
Selling, general and administrative expenses	3,302	4,303	(762)	(203)	43	6,683
Other (loss) income, net	—	668	(668)	—	—	—
Amortization of intangibles	544	—	194	—	886	1,624
Restructuring, goodwill impairment and asset related charges - net	452	552	143	4	—	1,151
Integration and separation costs	—	—	735	—	(259)	476
Asbestos-related charge	1,113	—	—	—	—	1,113
Equity in earnings of nonconsolidated affiliates	442	—	99	—	(25)	516
Sundry income (expense) - net	1,236	—	671	(10)	—	1,897
Interest income	107	—	(107)	—	—	—
Interest expense and amortization of debt discount	858	370	—	—	(120)	1,108
Income from continuing operations before income taxes	4,413	3,265	22	(687)	(930)	6,083
Provision for income taxes on continuing operations	9	744	22	(160)	(327)	288
Income from continuing operations, net of tax	4,404	2,521	—	(527)	(603)	5,795
Net income attributable to noncontrolling interests	86	12	—	—	10	108
Net income attributable to DowDuPont Inc.	4,318	2,509	—	(527)	(613)	5,687
Preferred stock dividends	340	10	—	—	(10)	340
Net income available for DowDuPont Inc. common stockholders	\$ 3,978	\$ 2,499	\$ —	\$ (527)	\$ (603)	\$ 5,347

Per common share data:	
Earnings per common share from continuing operations - basic	\$ 2.40
Earnings per common share from continuing operations - diluted	\$ 2.37

Weighted-average common shares outstanding - basic	2,221.3
Weighted-average common shares outstanding - diluted	2,242.1

1. See the consolidated statements of income included in Historical Dow's Annual Report on Form 10-K for the year ended December 31, 2016.

2. Amounts have been updated to reflect certain reclassifications required under ASU 2017-07, "Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost," which was adopted on January 1, 2018, and applied retrospectively.

3. See the consolidated statements of income included in Historical DuPont's Annual Report on Form 10-K for the year ended December 31, 2016.

4. Certain reclassifications were made to conform with the presentation used for DowDuPont. The reclassifications are consistent with those identified and disclosed in the Current Report on Form 8-K/A filed with the SEC on October 26, 2017. Additionally, in the fourth quarter of 2017, to improve comparability and conform to the current period presentation, the Company reclassified \$143 million of asset impairment charges from "Sundry income (expense) - net" to "Restructuring, goodwill impairment and asset related charges - net."

5. Includes the following divestitures agreed to with certain regulatory agencies as a condition of approval for the Merger: Historical Dow's EAA Business; the DAS Divested Ag Business; and Historical DuPont's cereal broadleaf herbicides and chewing insecticides portfolio as well as its crop protection research and development pipeline and organization.

6. Certain pro forma adjustments were made to illustrate the estimated effects of the Merger, assuming that the Merger had been consummated on January 1, 2016. Refer to *Summary of Pro Forma Adjustments* at the end of this section for additional details.

Summary of Pro Forma Adjustments In millions (Unaudited)	Year Ended	
	Dec 31, 2017	Dec 31, 2016
Net sales		
Intercompany transactions ¹	\$ (163)	\$ (216)
Cost of sales		
Intercompany transactions ¹	\$ (163)	\$ (216)
Policy harmonization ²	11	—
Depreciation expense ³	217	326
Total cost of sales	\$ 65	\$ 110
Research and development expenses		
Depreciation expense ³	\$ 19	\$ 29
Selling, general and administrative expenses		
Depreciation expense ³	\$ 29	\$ 43
Amortization of intangibles		
Amortization expense ⁴	\$ 591	\$ 886
Restructuring, goodwill impairment and asset related charges - net		
Transaction costs ⁵	\$ (10)	\$ —
Integration and separation costs		
Transaction costs ⁵	\$ (183)	\$ (259)
Equity in earnings of nonconsolidated affiliates		
Fair value of nonconsolidated affiliates ⁶	\$ (15)	\$ (25)
Interest expense and amortization of debt discount		
Amortization of debt discount ⁷	\$ (80)	\$ (120)
Total pro forma adjustments to income from continuing operations before income taxes	\$ (609)	\$ (930)
Provision for income taxes on continuing operations ⁸		
Policy harmonization ²	\$ (4)	\$ —
Depreciation expense ³	(91)	(132)
Amortization expense ⁴	(184)	(280)
Transaction costs ⁵	22	49
Fair value of nonconsolidated affiliates ⁶	(5)	(8)
Amortization of debt discount ⁷	29	44
Total provision for income taxes on continuing operations	\$ (233)	\$ (327)
Total pro forma adjustments to income from continuing operations, net of tax	\$ (376)	\$ (603)
Net income attributable to noncontrolling interests		
Reclass historical dividends ⁹	\$ 7	\$ 10
Net income from continuing operations attributable to DowDuPont Inc.	\$ (383)	\$ (613)
Preferred stock dividends		
Reclass historical dividends ⁹	\$ (7)	\$ (10)
Net income from continuing operations available for DowDuPont Inc. common stockholders	\$ (376)	\$ (603)

1. Elimination of intercompany transactions between Historical Dow and Historical DuPont.

2. Adjustment to conform Historical DuPont's accounting policy of deferring and amortizing expense for planned major maintenance activities with Historical Dow's accounting policy of directly expensing the costs as incurred.

3. Increase in depreciation expense for the fair value step-up of Historical DuPont's property, plant and equipment.

4. Increase in amortization expense for the fair value step-up of Historical DuPont's finite-lived intangibles.

5. Elimination of one-time transaction costs directly attributable to the Merger.

6. Decrease in equity in earnings of nonconsolidated affiliates for the fair value adjustment to Historical DuPont's investment in nonconsolidated affiliates.

7. Decrease in interest expense related to amortization of the fair value adjustment to Historical DuPont's long-term debt.

8. Represents the income tax effect of the pro forma adjustments related to the Merger calculated using a blended statutory income tax rate, inclusive of state taxes. Management believes the blended statutory income tax rate resulting from this calculation provides a reasonable basis for the pro forma adjustments, however the effective tax rate of DowDuPont could be significantly different depending on the mix of activities.

9. Reclassify historical dividends for Historical DuPont preferred stock from "Preferred stock dividends" to "Net income attributable to noncontrolling interests."

SEGMENT RESULTS

Effective August 31, 2017, Historical Dow and Historical DuPont completed the previously announced merger of equals transaction pursuant to the Merger Agreement, resulting in a newly formed corporation named DowDuPont. See Note 3 to the Consolidated Financial Statements for additional information on the Merger. As a result of the Merger, new operating segments were created which are used by management to allocate Company resources and assess performance. The new segments are aligned with the market verticals they serve, while maintaining integration and innovation strengths within strategic value chains. DowDuPont is comprised of nine operating segments, which are aggregated into eight reportable segments: Agriculture; Performance Materials & Coatings; Industrial Intermediates & Infrastructure; Packaging & Specialty Plastics; Electronics & Imaging; Nutrition & Biosciences; Transportation & Advanced Polymers and Safety & Construction. Corporate contains the reconciliation between the totals for the reportable segments and the Company's totals. The Company's Nutrition & Biosciences reportable segment consists of two operating segments, Nutrition & Health and Industrial Biosciences, which individually did not meet the quantitative thresholds.

Beginning in the third quarter of 2018, DowDuPont realigned the following joint ventures, global businesses and product lines in preparation for the Intended Business Separations:

- Realignment of the HSC Group joint ventures (DC HSC Holdings LLC and Hemlock Semiconductor L.L.C.) from the Consumer Solutions global business in the Performance Materials & Coatings reportable segment to the Electronics & Imaging reportable segment.
- Realignment of certain cellulose product lines from the Nutrition & Health operating segment in the Nutrition & Biosciences reportable segment to the Consumer Solutions global business in the Performance Materials & Coatings reportable segment.
- Certain roofing products were realigned from the Building Solutions product line in the Safety & Construction reportable segment to Corporate.
- Realignment of the previously divested Epoxy and Chlorinated Organics global businesses from the Industrial Intermediates & Infrastructure reportable segment to Corporate.
- In addition, the following realignments within the Industrial Intermediates & Infrastructure reportable segment were made, which had no effect on the segment results:
 - The Construction Chemicals global business was combined with the Polyurethanes & CAV global business.
 - Certain product lines associated with the oil and gas industry were realigned from the Industrial Solutions global business to the Polyurethanes & CAV global business.

DowDuPont reported geographic information for the following regions: U.S. & Canada, Asia Pacific, Latin America, and EMEA. As a result of the Merger, Historical Dow changed the geographic alignment for the country of India to be reflected in Asia Pacific (previously reported in EMEA) and aligned Puerto Rico to U.S. & Canada (previously reported in Latin America).

The segment and geographic region reporting changes have been retrospectively reflected in the following discussion of segment results for all periods presented.

The Company's measure of profit/loss for segment reporting purposes is Operating EBITDA (for the twelve months ended December 31, 2018) and pro forma Operating EBITDA (for the twelve months ended December 31, 2017 and 2016) as this is the manner in which the Company's chief operating decision maker ("CODM") assesses performance and allocates resources. The Company defines Operating EBITDA as earnings (i.e., "Income from continuing operations before income taxes") before interest, depreciation, amortization and foreign exchange gains (losses), excluding the impact of significant items. Pro forma Operating EBITDA is defined as pro forma earnings (i.e. pro forma "Income from continuing operations before income taxes") before interest, depreciation, amortization and foreign exchange gains (losses), excluding the impact of adjusted significant items. Reconciliations of these measures can be found in Note 24 to the Consolidated Financial Statements. The Company also presents pro forma net sales for 2017 and 2016 as it is included in management's measure of segment performance and is regularly reviewed by the CODM.

Pro forma adjustments used in the calculation of pro forma net sales and pro forma Operating EBITDA were determined in accordance with Article 11 of Regulation S-X and were based on the historical consolidated financial statements of Historical Dow and Historical DuPont, adjusted to give effect to the Merger as if it had been consummated on January 1, 2016. For additional information on the pro forma adjustments made, see Supplemental Unaudited Pro Forma Combined Financial Information in the preceding section.

AGRICULTURE

The Agriculture segment leverages the Company's technology, customer relationships and industry knowledge to improve the quantity, quality and safety of the global food supply and the global production agriculture industry. Land available for worldwide agricultural production is increasingly limited so production growth will need to be achieved principally through improving crop yields and productivity. The segment's two global businesses, Seed and Crop Protection, deliver a broad portfolio of products and services that are specifically targeted to achieve gains in crop yields and productivity, including well-established brands of seed products, crop chemicals, seed treatments, agronomy and digital services. R&D focuses on leveraging germplasm and plant science technology to increase farmer productivity and to enhance the value of grains and oilseeds through improved seed traits, superior seed germplasm and effective use of crop protection solutions.

Agriculture			
In millions	2018	2017	2016
Net sales	\$ 14,301	\$ 7,516	\$ 6,173
Pro forma net sales		\$ 14,342	\$ 14,060
Operating EBITDA ¹	\$ 2,705	\$ 2,611	\$ 2,322
Equity earnings	\$ —	\$ 3	\$ 5

1. The Company's measure of profit/loss for segment reporting purposes is Operating EBITDA for the twelve months ended December 31, 2018 and pro forma Operating EBITDA for the twelve months ended December 31, 2017 and 2016.

Agriculture	2018	2017	2016
Percentage change from prior year			
<i>Change in Net Sales from Prior Period due to:</i>			
Local price & product mix	3 %	(1)%	1 %
Currency	(2)	—	(1)
Volume	1	(2)	(2)
Portfolio & other	88	25	—
Total	90 %	22 %	(2)%
<i>Change in Pro Forma Net Sales from Prior Period due to: ¹</i>			
Local price & product mix	3	— %	
Currency	—	—	
Volume	(2)	1	
Portfolio & other	(1)	1	
Total	— %	2 %	

1. As reported net sales in 2018 compared with pro forma net sales in 2017. Pro forma net sales in 2017 compared with pro forma net sales in 2016.

2018 Versus 2017

Agriculture net sales were \$14,301 million in 2018, up from \$7,516 million in 2017. Net sales in 2018 were down slightly from pro forma net sales of \$14,342 million in 2017, as a 3 percent increase in price was offset by a 2 decrease in volume and a 1 percent decline due to portfolio. Currency was flat year over year.

The increase in local price was driven by a favorable mix in U.S. & Canada as well as increases in Crop Protection pricing in Latin America to offset currency pressure. Volume gains in Crop Protection due to new product launches, including VESSARYA TM in Latin America, ENLIST TM products in U.S. & Canada and Latin America, and PYRAXALT TM in Asia Pacific, were offset by lower planted area in U.S. & Canada and Latin America and lower demand for nitrogen stabilizers in U.S. & Canada. The portfolio loss reflected the inclusion of three months of the DAS Divested Ag Business in 2017 results.

Operating EBITDA was \$2,705 million in 2018, up 4 percent from pro forma Operating EBITDA of \$2,611 million in 2017. Cost synergies, new product sales in Crop Protection, lower pension/OPEB costs and lower variable compensation were partially offset by higher raw material costs and royalty expense, investments to support new product launches and seed sales declines.

2017 Versus 2016

Agriculture net sales were \$7,516 million in 2017, up from \$6,173 million in 2016. Pro forma net sales were \$14,342 million in 2017, up from \$14,060 million in 2016. Pro forma net sales growth of 2 percent was led by volume gains of 1 percent and a 1 percent benefit from portfolio actions. Seed net sales grew 5 percent, driven by volume and price improvement, and Crop Protection net sales decreased 1 percent as increases in volume were more than offset by lower local price. Seed and Crop Protection volume growth was driven by an increase in sunflower and corn seed sales in Europe, increased soybean sales in U.S. & Canada,

continued penetration of new crop protection products VESSARYA® and ZORVEC™ fungicides and continued demand for ARYLEX™ herbicide, ISOCLAST® insecticide, and novel seed treatment solutions. These volume increases were partially offset by higher Crop Protection inventory levels in China and a reduction in global corn planted area. Increases in local prices for Seeds, driven by continued penetration of LEPTRA® corn hybrids, were offset by a decrease in local prices for Crop Protection, driven by competitive pressures in Latin America.

The benefit from portfolio actions for 2017 as compared with 2016, is due to the DAS Divested Ag Business, which is excluded from pro forma results for periods prior to the Merger, but included in reported results after the Merger and through the close of the sale of this business on November 30, 2017.

Pro forma Operating EBITDA was \$2,611 million in 2017, up 12 percent from \$2,322 million in 2016. Pro forma Operating EBITDA increased on improved volume, cost savings, lower pension/OPEB costs, currency and portfolio benefits. Increases were partially offset by lower local price due to competitive crop protection pricing pressure and higher product costs, including higher soybean royalties.

Agriculture Outlook for 2019

Agriculture's full year 2019 net sales are expected to benefit from new product launches and pricing actions, largely offset by the unfavorable impact of currency. The segment is expected to see benefits from cost synergies, partially offset by higher unit costs and an unfavorable impact from currency.

PERFORMANCE MATERIALS & COATINGS

Performance Materials & Coatings includes industry-leading franchises that deliver a wide array of solutions into consumer and infrastructure end-markets. The segment consists of two global businesses: Coatings & Performance Monomers and Consumer Solutions. These businesses primarily utilize the Company's acrylics-, cellulose- and silicone-based technology platforms to serve the needs of the architectural and industrial coatings, home care and personal care end-markets. Both businesses employ materials science capabilities, global reach and unique products and technology to combine chemistry platforms to deliver differentiated offerings to customers.

Performance Materials & Coatings			
In millions	2018	2017	2016
Net sales	\$ 9,575	\$ 8,809	\$ 6,439
Pro forma net sales		\$ 8,768	\$ 6,389
Operating EBITDA ¹	\$ 2,170	\$ 1,774	\$ 1,015
Equity earnings	\$ 4	\$ 41	\$ 98

1. The Company's measure of profit/loss for segment reporting purposes is Operating EBITDA for the twelve months ended December 31, 2018 and pro forma Operating EBITDA for the twelve months ended December 31, 2017 and 2016.

Performance Materials & Coatings			
Percentage change from prior year	2018	2017	2016
<i>Change in Net Sales from Prior Period due to:</i>			
Local price & product mix	10 %	8%	(8)%
Currency	1	—	(1)
Volume	(2)	2	(2)
Portfolio & other	—	27	52
Total	9 %	37%	41 %
<i>Change in Pro Forma Net Sales from Prior Period due to: ¹</i>			
Local price & product mix	10 %	8%	
Currency	1	—	
Volume	(2)	2	
Portfolio & other	—	27	
Total	9 %	37%	

1. As reported net sales in 2018 compared with pro forma net sales in 2017. Pro forma net sales in 2017 compared with pro forma net sales in 2016.

2018 Versus 2017

Performance Materials & Coatings net sales were \$9,575 million in 2018, up from \$8,809 million in 2017. Net sales increased 9 percent compared with pro forma net sales of \$8,768 million in 2017, with local price up 10 percent, a benefit from currency of 1 percent, primarily in EMEA, and volume down 2 percent. Local price increased in both businesses and all geographic regions. Consumer Solutions local price increased primarily due to disciplined price/volume management in upstream silicone intermediates, which more than offset a decrease in volume. Local price increased in Coatings & Performance Monomers in response to higher feedstock and raw material costs and favorable supply/demand fundamentals. Volume decreased in both businesses and all geographic regions, except Asia Pacific. Volume decreased in Consumer Solutions primarily as a result of targeted reductions of low-margin business, primarily in the home care market sector. Volume decreased slightly for Coatings & Performance Monomers, with a decline in all geographic regions, except Asia Pacific.

Operating EBITDA was \$2,170 million in 2018, up 22 percent from pro forma Operating EBITDA of \$1,774 million in 2017. Operating EBITDA improved compared with 2017 as higher selling prices and the favorable impact of cost synergies more than offset increased feedstock and other raw material costs.

2017 Versus 2016

Performance Materials & Coatings net sales were \$8,809 million in 2017, up from \$6,439 million in 2016. Pro forma net sales were \$8,768 in 2017, up from \$6,389 in 2016. Pro forma net sales increased 37 percent compared with 2016, primarily due to portfolio actions, which contributed to 27 percent of the increase, reflecting the favorable impact of the addition of Dow Silicones. Local price increased 8 percent and volume increased 2 percent. Local price increased in both businesses and all geographic regions. Local price increased in Coatings & Performance Monomers in response to higher raw material costs, tight supply and demand fundamentals for acrylates and methacrylates and pricing actions for architectural coatings. Consumer Solutions local price increased primarily due to pricing initiatives for silicone intermediates in Asia Pacific and EMEA. Volume increased in both businesses and all geographic regions, except Latin America and EMEA, which were flat. Consumer Solutions experienced volume growth in all geographic regions, except EMEA, which was flat, driven by strong demand in pressure sensitive packaging, construction and personal care end-markets. Volume growth in Coatings & Performance Monomers was driven by opportunistic merchant sales of acrylates and methacrylates and strong growth in specialty monomers, particularly in U.S. & Canada.

Pro forma Operating EBITDA was \$1,774 million in 2017, up from \$1,015 in 2016. Pro forma Operating EBITDA improved compared with 2016 as the favorable impact of earnings from Dow Silicones and higher selling prices more than offset higher feedstock, energy and other raw material costs.

Performance Materials & Coatings Outlook for 2019

Performance Materials & Coatings' 2019 sales are expected to benefit from strong demand for performance silicones and home and personal care products, as well as volume growth in acrylates and architectural coatings. Sales volume growth and the favorable impact of cost synergies are expected to offset local price declines in upstream products.

INDUSTRIAL INTERMEDIATES & INFRASTRUCTURE

Industrial Intermediates & Infrastructure consists of two customer-centric global businesses - Industrial Solutions and Polyurethanes & CAV - that develop important intermediate chemicals that are essential to manufacturing processes, as well as downstream, customized materials and formulations that use advanced development technologies. These businesses primarily produce and market ethylene oxide, propylene oxide derivatives, cellulose ethers, redispersible latex powders and acrylic emulsions that are aligned to market segments as diverse as appliances, coatings, infrastructure, oil and gas and building and construction. The global scale and reach of these businesses, world-class technology and R&D capabilities and materials science expertise enable the Company to be a premier solutions provider offering customers value-add sustainable solutions to enhance comfort, energy efficiency, product effectiveness and durability across a wide range of home comfort and appliances, building and construction, adhesives and lubricant applications, among others. This segment also includes a portion of the results of EQUATE Petrochemical Company K.S.C.C. ("EQUATE"), The Kuwait Olefins Company K.S.C.C. ("TKOC"), Map Ta Phut Olefins Company Limited and Sadara, all joint ventures of the Company.

Historical Dow is responsible for marketing a majority of Sadara products outside of the Middle East zone through Historical Dow's established sales channels. As part of this arrangement, Historical Dow purchases and sells Sadara products for a marketing fee.

Industrial Intermediates & Infrastructure			
In millions	2018	2017	2016
Net sales	\$ 15,116	\$ 12,647	\$ 10,832
Pro forma net sales		\$ 12,640	\$ 10,820
Operating EBITDA ¹	\$ 2,543	\$ 2,282	\$ 1,675
Equity earnings (losses)	\$ 284	\$ 172	\$ (18)

1. The Company's measure of profit/loss for segment reporting purposes is Operating EBITDA for the twelve months ended December 31, 2018 and pro forma Operating EBITDA for the twelve months ended December 31, 2017 and 2016.

Industrial Intermediates & Infrastructure			
Percentage change from prior year	2018	2017	2016
<i>Change in Net Sales from Prior Period due to:</i>			
Local price & product mix	5%	10%	(9)%
Currency	1	—	(1)
Volume	14	7	2
Portfolio & other	—	—	(4)
Total	20%	17%	(12)%
<i>Change in Pro Forma Net Sales from Prior Period due to: ¹</i>			
Local price & product mix	5%	10%	
Currency	1	—	
Volume	14	7	
Portfolio & other	—	—	
Total	20%	17%	

1. As reported net sales in 2018 compared with pro forma net sales in 2017. Pro forma net sales in 2017 compared with pro forma net sales in 2016.

2018 Versus 2017

Industrial Intermediates & Infrastructure net sales were \$15,116 million in 2018, up 20 percent from \$12,647 million in 2017. Net sales increased 20 percent compared with pro forma net sales of \$12,640 million in 2017, with volume up 14 percent, local price up 5 percent and currency up 1 percent. Volume increased in all businesses and geographic regions. Polyurethanes & CAV reported volume increases in all geographic regions, except Latin America, primarily reflecting increased supply from Sadara. Industrial Solutions volume increased in all geographic regions reflecting greater production from Sadara and increased demand in industrial specialties. Local price increased in all businesses and geographic regions, except Asia Pacific. Local price increases were driven by higher feedstock and other raw material costs, pricing initiatives and strong demand for caustic soda, propylene glycols and propylene oxide which more than offset price decline in isocyanates. Currency had a benefit of 1 percent, primarily in EMEA.

Operating EBITDA was \$2,543 million in 2018, up 11 percent from pro forma Operating EBITDA of \$2,282 million in 2017. Operating EBITDA increased as the impact of higher selling prices, the benefit from currency on sales, cost synergies, higher equity earnings from the Kuwait joint ventures and lower equity losses from Sadara more than offset contraction in isocyanates margins and higher feedstock and other raw material costs.

2017 Versus 2016

Industrial Intermediates & Infrastructure net sales were \$12,647 million in 2017, up 17 percent from \$10,832 million in 2016. Pro forma net sales were \$12,640 million in 2017, up from \$10,820 million in 2016. Pro forma net sales increased 17 percent in 2017, with local price up 10 percent and volume up 7 percent. Local price was up in all geographic regions and all businesses driven by higher raw material costs, pricing initiatives and tight market conditions due to supply disruptions in the industry. Polyurethanes & CAV volume increased in all geographic regions due to strong demand for downstream, higher margin systems applications, new production from Sadara and increased demand for caustic soda and vinyl chloride monomer in EMEA resulting from tighter supply/demand fundamentals. Industrial Solutions reported volume gains in all geographic regions driven by new production from Sadara, increased demand for products used in crop protection offerings and solvents used in electronics processing, and higher catalyst sales in Asia Pacific.

Pro forma Operating EBITDA was \$2,282 million in 2017, up from \$1,675 million in 2016. Compared with last year, pro forma Operating EBITDA increased as higher selling prices, increased sales volume, higher equity earnings from the Kuwait joint ventures, lower equity losses from Sadara and lower SG&A and R&D spending more than offset higher feedstock, energy and other raw material costs.

Industrial Intermediates & Infrastructure Outlook for 2019

Industrial Intermediates & Infrastructure's 2019 sales are expected to be impacted by currency headwinds and price declines. The segment is expected to benefit from the favorable impact of cost synergies while margin contraction in isocyanates and monoethylene glycol is expected in 2019.

PACKAGING & SPECIALTY PLASTICS

Packaging & Specialty Plastics is a world leader in plastics and consists of two highly integrated global businesses: Hydrocarbons & Energy and Packaging and Specialty Plastics. The segment employs the industry's broadest polyolefin product portfolio, supported by the Company's proprietary catalyst and manufacturing process technologies, to work at the customer's design table throughout the value chain to deliver more reliable and durable, higher performing, and more sustainable plastics to customers in food and specialty packaging; industrial and consumer packaging; health and hygiene; caps, closures and pipe applications; consumer durables; and infrastructure. This segment also includes the results of The Kuwait Styrene Company K.S.C.C. and The SCG-Dow Group, as well as a portion of the results of EQUATE, TKOC, Map Ta Phut Olefins Company Limited and Sadara, all joint ventures of the Company.

Historical Dow is responsible for marketing a majority of Sadara products outside of the Middle East zone through Historical Dow's established sales channels. As part of this arrangement, Historical Dow purchases and sells Sadara products for a marketing fee.

Packaging & Specialty Plastics			
In millions	2018	2017	2016
Net sales	\$ 24,096	\$ 21,456	\$ 18,404
Pro forma net sales		\$ 22,392	\$ 19,848
Operating EBITDA ¹	\$ 4,926	\$ 4,698	\$ 5,129
Equity earnings	\$ 287	\$ 189	\$ 137

1. The Company's measure of profit/loss for segment reporting purposes is Operating EBITDA for the twelve months ended December 31, 2018 and pro forma Operating EBITDA for the twelve months ended December 31, 2017 and 2016.

Packaging & Specialty Plastics	2018	2017	2016
Percentage change from prior year			
<i>Change in Net Sales from Prior Period due to:</i>			
Local price & product mix	1%	8%	(8)%
Currency	1	1	—
Volume	5	5	9
Portfolio & other	5	3	(1)
Total	12%	17%	— %
<i>Change in Pro Forma Net Sales from Prior Period due to: ¹</i>			
Local price & product mix	1%	8%	
Currency	2	—	
Volume	5	5	
Portfolio & other	—	—	
Total	8%	13%	

1. As reported net sales in 2018 compared with pro forma net sales in 2017. Pro forma net sales in 2017 compared with pro forma net sales in 2016.

2018 Versus 2017

Packaging & Specialty Plastics net sales were \$24,096 million in 2018, up 12 percent from net sales of \$21,456 million in 2017. Net sales increased 8 percent compared with pro forma net sales of \$22,392 million in 2017, with volume up 5 percent, currency up 2 percent, primarily in EMEA, and local price up 1 percent. Volume increased in both businesses and across all geographic regions primarily due to new capacity additions on the U.S. Gulf Coast and increased supply from Sadara. Packaging and Specialty Plastics' volume growth was driven by increased demand in industrial and consumer packaging, food and specialty packaging, health and hygiene solutions and elastomer applications. Hydrocarbons & Energy volume increased primarily due to higher sales

of ethylene and ethylene by-products. Local price increased in all geographic regions, except U.S. & Canada. Hydrocarbons & Energy local price increased as a result of higher Brent crude oil prices, which increased approximately 30 percent compared with 2017. Packaging and Specialty Plastics local price was flat when compared with 2017 as local price increases in Latin America were offset by declines in EMEA.

Operating EBITDA was \$4,926 million in 2018, up 5 percent from pro forma Operating EBITDA of \$4,698 million in 2017. Compared with pro forma Operating EBITDA from the same period last year, Operating EBITDA increased as the impact of higher sales volume, reflecting additional capacity from growth projects, higher selling prices, the benefit from currency on sales, cost synergies, higher equity earnings and lower startup and commissioning costs more than offset higher feedstock and other raw materials costs, increased costs from planned maintenance turnarounds and the impact of weather-related disruptions on the U.S. Gulf Coast.

2017 Versus 2016

Packaging & Specialty Plastics net sales were \$21,456 million in 2017, up 17 percent from \$18,404 million in 2016. Pro forma net sales were \$22,392 million in 2017, up from \$19,848 million in 2016. Pro forma net sales increased 13 percent from 2016 with local price up 8 percent and volume up 5 percent. Local price increased in all geographic regions and both businesses in response to higher feedstock, energy and other raw material costs. Double-digit price increases were reported in Hydrocarbons & Energy as a result of higher Brent crude oil prices, which increased approximately 22 percent compared with 2016. Local price also increased in U.S. & Canada as a result of tight supply conditions due to hurricane-related disruptions. Volume increased in both businesses and across all geographic regions, except Latin America. Packaging and Specialty Plastics volume growth was driven by continued consumer-led demand in health and hygiene end-markets in the Americas, strong demand for food and specialty packaging solutions, particularly in Asia Pacific, and increased use of elastomers in packaging and footwear applications. Volume decreased for wire and cable applications as a result of hurricane-related supply disruptions. Volume growth in EMEA and Asia Pacific was enabled by an increase in production volume at Sadara. Hydrocarbons & Energy volume increased in all geographic regions, except Asia Pacific, primarily due to higher sales of ethylene and ethylene by-products enabled by the start-up of a world-scale ethylene production facility in Texas in September 2017.

Pro forma Operating EBITDA for 2017 was \$4,698 million, down from \$5,129 million in 2016. Pro forma Operating EBITDA decreased in 2017 as the impact of higher feedstock and energy costs, planned maintenance turnaround spending, increased U.S. Gulf Coast start-up and commissioning costs and hurricane-related expenses more than offset increased selling prices and higher equity earnings.

Packaging & Specialty Plastics Outlook for 2019

Packaging & Specialty Plastics' 2019 sales are expected to benefit from continued strong demand and volume from growth investments partially offset by currency headwinds. In 2019, the Company expects crude oil prices, on average, to be comparable to or slightly lower than 2018. Global ethylene margins are expected to remain healthy in 2019, supported by continued strength in demand and significant scheduled industry maintenance outages in EMEA. Ethylene margins could vary materially from these expectations depending on global GDP rates, global operating rates and changes in global oil prices. The segment is expected to continue to benefit from the favorable impact of cost synergies and contributions from new capacity additions.

Current and Future Investments

Historical Dow announced the startup of three new production facilities on the U.S. Gulf Coast in 2018 which included a Low Density Polyethylene (LDPE) production facility and a NORDEL™ Metallocene ethylene propylene diene monomer ("EPDM") production facility which started up in the first quarter of 2018, and a High Melt Index (HMI) AFFINITY™ polymer production facility which started up in the fourth quarter of 2018. Investments in 2019 include the expansion of the capacity of Historical Dow's new ethylene production facility, bringing the facility's total ethylene capacity to 2,000 KTA and making it the largest ethylene facility in the world. Completion is expected in late 2019.

ELECTRONICS & IMAGING

The Electronics & Imaging segment is a leading global supplier of differentiated materials and systems for a broad range of consumer electronics including mobile devices, television monitors, personal computers and electronics used in a variety of industries. The segment is a leading provider of materials and solutions for the fabrication of semiconductors and integrated circuits, and also provides innovative metallization processes for metal finishing, decorative, and industrial applications. Electronics & Imaging is a leading global supplier of key materials for the manufacturing of photovoltaics ("PV") and solar cells, including innovative metallization pastes and back sheet materials for the production of solar cells and solar modules and in the advanced printing and packaging graphics industry providing flexographic printing inks, photopolymer plates, and platemaking systems used in digital printing applications for textile, commercial and home-office use. In addition, the segment provides cutting-edge materials for the manufacturing of rigid and flexible displays for liquid crystal displays ("LCD"), advanced-matrix organic light

emitting diode ("AMOLED"), and quantum dot ("QD") applications. The segment also includes the Company's share of the results of the HSC Group, a U.S.-based group of companies that manufacture and sell polycrystalline silicon products.

Electronics & Imaging			
In millions	2018	2017	2016
Net sales	\$ 4,720	\$ 3,356	\$ 2,307
Pro forma net sales		\$ 4,775	\$ 4,266
Operating EBITDA ¹	\$ 1,902	\$ 1,840	\$ 1,388
Equity earnings	\$ 412	\$ 356	\$ 234

1. The Company's measure of profit/loss for segment reporting purposes is Operating EBITDA for the twelve months ended December 31, 2018 and pro forma Operating EBITDA for the twelve months ended December 31, 2017 and 2016.

Electronics & Imaging			
Percentage change from prior year	2018	2017	2016
<i>Change in Net Sales from Prior Period due to:</i>			
Local price & product mix	— %	(1)%	(3)%
Currency	—	—	—
Volume	2	9	3
Portfolio & other	39	37	16
Total	41 %	45 %	16 %
<i>Change in Pro Forma Net Sales from Prior Period due to: ¹</i>			
Local price & product mix	(1)%	(1)%	
Currency	1	—	
Volume	1	11	
Portfolio & other	(2)	2	
Total	(1)%	12 %	

1. Net sales in 2018 compared with pro forma net sales in 2017. Pro forma net sales in 2017 compared with pro forma net sales in 2016.

2018 Versus 2017

Electronics & Imaging net sales were \$4,720 million in 2018, up from \$3,356 million in 2017. Net sales in 2018 were down 1 percent from pro forma net sales of \$4,775 million in 2017. Net sales declined as a 2 percent unfavorable impact from portfolio actions related to the prior year divestiture of the SKC Haas Display Films business and a 1 percent decrease in local price, were partially offset by volume growth of 1 percent and a 1 percent benefit from currency.

Volume growth in the segment was driven by gains in semiconductor technologies, display technologies, and interconnect solutions, primarily in Asia Pacific, partially offset by a decline in photovoltaic & advanced materials. Local price declines were driven primarily by competitive pressure in advanced printing, photovoltaic & advanced materials and semiconductor applications.

Operating EBITDA was \$1,902 million in 2018, up 3 percent from pro forma Operating EBITDA of \$1,840 million in 2017. Cost synergies, volume growth, lower pension/OPEB costs, and a benefit associated with higher customer settlements within an equity affiliate compared with prior year more than offset higher raw material costs.

2017 Versus 2016

Electronics & Imaging net sales were \$3,356 million in 2017, up from \$2,307 million in 2016. Pro forma net sales were \$4,775 million in 2017, up from \$4,266 million in 2016. Pro forma net sales growth of 12 percent was led by volume gains of 11 percent and a net 2 percent favorable impact from portfolio actions, slightly offset by a 1 percent decline in local price. Volume growth, primarily in Asia Pacific, was due to increased demand in semiconductor, consumer electronics, photovoltaic & advanced materials, display and industrial markets. Increased semiconductor content in end-use applications drove strong demand in both memory and logic market segments. Continued demand for mobile phones and other consumer electronics, as well as industrial applications drove sales gains. Demand for TEDLAR® film in photovoltaic & advanced materials was partially offset by continued declines in SOLAMET® paste. The net favorable impact of portfolio actions related primarily to the addition of Dow Silicones in June 2016, partially offset by the divestitures of SKC Haas Display Films and the Authentications business in the first half of 2017. Local price declines were driven primarily by local price declines in semiconductor markets and competitive pressure in advanced printing applications.

Pro forma Operating EBITDA was \$1,840 million in 2017, up 33 percent from \$1,388 million in 2016. Pro forma Operating EBITDA increased as volume growth, favorable portfolio impacts from the addition of Dow Silicones, higher equity earnings, cost savings and lower pension/OPEB costs were partially offset by higher raw material costs and lower local price.

Electronics & Imaging Outlook for 2019

Electronics & Imaging's 2019 sales are expected to benefit from increased demand in semiconductors, interconnect solutions and display markets, along with anticipated recovery in photovoltaics. The segment is expected to be unfavorably impacted by lower equity earnings due to the absence of customer settlement benefits, a gain on an asset sale reflected in 2018, as well as continued price pressure, partially offset by volume growth and the favorable impact of cost synergies.

NUTRITION & BIOSCIENCES

Nutrition & Biosciences is an innovation-driven and customer-focused segment that provides solutions for the global food and beverage, dietary supplements, pharma, home and personal care, energy and animal nutrition markets. The segment consists of two operating segments: Nutrition & Health and Industrial Biosciences. The Nutrition & Health business is one of the world's largest producers of specialty ingredients, developing and manufacturing solutions for the global food and beverage, dietary supplements and pharmaceutical markets. The Nutrition & Health business is also one of the world's largest producers of cellulosic- and alginates-based pharma excipients. The Industrial Biosciences business is an industry pioneer and innovator that works with customers to improve the performance, productivity and sustainability of their products and processes through biotechnology, chemistry and engineering solutions including enzymes, biomaterials, biocides and antimicrobial solutions and process technology.

Nutrition & Biosciences			
In millions	2018	2017	2016
Net sales	\$ 6,801	\$ 2,786	\$ 948
Pro forma net sales		\$ 5,952	\$ 5,736
Operating EBITDA ¹	\$ 1,632	\$ 1,296	\$ 1,227
Equity earnings	\$ 16	\$ 13	\$ 10

1. The Company's measure of profit/loss for segment reporting purposes is Operating EBITDA for the twelve months ended December 31, 2018 and pro forma Operating EBITDA for the twelve months ended December 31, 2017 and 2016.

Nutrition & Biosciences	2018	2017	2016
Percentage change from prior year			
<i>Change in Net Sales from Prior Period due to:</i>			
Local price & product mix	2 %	—%	(2)%
Currency	(1)	—	—
Volume	—	11	(2)
Portfolio & other	143	183	—
Total	144 %	194%	(4)%
<i>Change in Pro Forma Net Sales from Prior Period due to: ¹</i>			
Local price & product mix	1 %	—%	
Currency	1	—	
Volume	3	3	
Portfolio & other	9	1	
Total	14 %	4%	

1. Net sales in 2018 compared with pro forma net sales in 2017. Pro forma net sales in 2017 compared with pro forma net sales in 2016.

2018 Versus 2017

Nutrition & Biosciences net sales were \$6,801 million in 2018, up from \$2,786 million in 2017. Net sales in 2018 were up 14 percent from pro forma net sales of \$5,952 million in 2017. The increase was primarily due to a 9 percent net benefit from portfolio actions due to the acquisition of FMC's Health & Nutrition business, 3 percent volume growth, a 1 percent benefit from currency and a 1 percent increase in local price. Volume growth in the segment was led by Nutrition & Health on gains in probiotics, specialty proteins, systems and texturants and pharmaceutical excipients, driven by demand in Asia Pacific. Industrial Biosciences volume grew on improvement in clean technologies due to alkylation offerings in Asia Pacific and EMEA and acid equipment sales. Demand for bioactives in home and personal care applications and animal nutrition also contributed to volume growth. Pricing gains were led by microbial control and systems and texturants.

Operating EBITDA was \$1,632 million in 2018, up 26 percent from pro forma Operating EBITDA of \$1,296 million in 2017, driven by favorable portfolio actions, cost synergies, volume growth and lower pension/OPEB costs, partially offset by higher costs due to growth investments.

2017 Versus 2016

Nutrition & Biosciences net sales were \$2,786 million in 2017, up from \$948 million in 2016. Pro forma net sales were \$5,952 million in 2017, up from \$5,736 million in 2016. Pro forma net sales increased 4 percent, driven by volume growth of 3 percent and a favorable impact of 1 percent from portfolio actions. Volume growth was led by Industrial Biosciences, driven by strong demand for microbial control solutions in energy markets, continued growth in biomaterials in apparel and carpet markets and growth in bioactives, primarily in the grain processing market. Volume in Nutrition & Health was flat as growth in probiotics and pharmaceuticals was offset by declines in protein solutions and systems and texturants due to weakness in packaged food markets and specific actions taken to exit low-margin market segments. The favorable impact from portfolio actions was driven by the acquisition of the FMC H&N Business.

Pro forma Operating EBITDA was \$1,296 million in 2017, up 6 percent from \$1,227 million in 2016. The increase in pro forma Operating EBITDA was driven by cost savings, volume growth, lower pension/OPEB costs and favorable impacts of portfolio actions. Increases in pro forma Operating EBITDA were partially offset by the absence of a \$27 million gain from a prior-year asset sale.

Nutrition & Biosciences Outlook for 2019

Nutrition & Biosciences' 2019 sales are expected to benefit from higher volume and prices partially offset by unfavorable currency impacts. Demand for probiotics, sweeteners, and specialty proteins is expected to increase in Nutrition & Health along with increased demand for bioactives and biomaterials in Industrial Biosciences. The segment is expected to benefit from the favorable impact of cost synergies and volume growth, partially offset by growth investments.

TRANSPORTATION & ADVANCED POLYMERS

Transportation & Advanced Polymers provides high-performance engineering resins, adhesives, lubricants and parts to engineers and designers in the transportation, electronics, healthcare, industrial and consumer end-markets to enable systems solutions for demanding applications and environments. The segment delivers a broad range of polymer-based high-performance materials in its product portfolio, including elastomers and thermoplastic and thermoset engineering polymers which are used by customers to fabricate components for mechanical, chemical and electrical systems. In addition, the segment produces innovative engineering polymer solutions, high performance parts, specialty silicones and differentiated adhesive technologies to meet customer specifications in automotive, aerospace, electronics, industrial, healthcare and consumer markets. Transportation & Advanced Polymers is a global leader of advanced materials that provides technologies that differentiate customers' products with improved performance characteristics.

Transportation & Advanced Polymers			
In millions	2018	2017	2016
Net sales	\$ 5,620	\$ 2,521	\$ 897
Pro forma net sales		\$ 5,131	\$ 4,497
Operating EBITDA ¹	\$ 1,702	\$ 1,319	\$ 1,043
Equity earnings (losses)	\$ —	\$ (1)	\$ 3

1. The Company's measure of profit/loss for segment reporting purposes is Operating EBITDA for the twelve months ended December 31, 2018 and pro forma Operating EBITDA for the twelve months ended December 31, 2017 and 2016.

Transportation & Advanced Polymers			
Percentage change from prior year	2018	2017	2016
<i>Change in Net Sales from Prior Period due to:</i>			
Local price & product mix	6 %	—%	(1)%
Currency	—	—	(1)
Volume	(2)	6	7
Portfolio & other	119	175	49
Total	123 %	181%	54 %
<i>Change in Pro Forma Net Sales from Prior Period due to: ¹</i>			
Local price & product mix	6 %	2%	
Currency	2	—	
Volume	2	7	
Portfolio & other	—	5	
Total	10 %	14%	

1. Net sales in 2018 compared with pro forma net sales in 2017. Pro forma net sales in 2017 compared with pro forma net sales in 2016.

2018 Versus 2017

Transportation & Advanced Polymers net sales were \$5,620 million in 2018, up from \$2,521 million in 2017. Net sales in 2018 were up 10 percent from pro forma net sales of \$5,131 million in 2017 due to a 6 percent increase in local price, 2 percent volume growth and a 2 percent benefit from currency, driven by EMEA.

The increase in local price, primarily in engineering polymers, was driven by tight polymer supply and higher feedstock costs. Volume growth in the segment was primarily due to performance solutions, led by growth in KALREZ® and VESPEL® high-performance parts in the electronics and aerospace markets, performance resins, due to growth in DELRIN® and HYTREL® in the automotive market, and in engineering polymers due to growth in ZYTEL®. Broad based volume growth was led by U.S. & Canada and Asia Pacific.

Operating EBITDA was \$1,702 million in 2018, up 29 percent from pro forma Operating EBITDA of \$1,319 million in 2017 due to price and volume gains, lower pension/OPEB costs, cost synergies and favorable currency, partially offset by higher raw material costs.

2017 Versus 2016

Transportation & Advanced Polymers net sales were \$2,521 million in 2017, up from \$897 million in 2016. Pro forma net sales were \$5,131 million in 2017, up from \$4,497 million in 2016. Pro forma net sales growth of 14 percent, with gains across all geographies, was led by increased volume of 7 percent, a favorable impact from portfolio actions of 5 percent and a 2 percent increase in local price. Broad based volume growth was driven by increased demand for polymers in automotive, electronics and industrial markets, leading to growth from KALREZ® and VESPEL® high-performance parts. Volume growth was led by Asia Pacific followed by EMEA, U.S. & Canada and Latin America. The increase in local price was driven by price gains in polymers in automotive markets. The favorable impact from portfolio actions related to the addition of Dow Silicones in June 2016.

Pro forma Operating EBITDA was \$1,319 million in 2017, up 26 percent from \$1,043 million in 2016. The increase in Operating EBITDA was driven by increased volume growth, the favorable impact of earnings from Dow Silicones, higher local selling prices, cost savings and lower pension/OPEB costs, partially offset by higher raw material costs.

Transportation & Advanced Polymers Outlook for 2019

Transportation & Advanced Polymers' 2019 sales are expected to remain essentially flat as local pricing gains are expected to be offset by the unfavorable impact of currency and portfolio actions. The segment is expected to be favorably impacted by cost synergies and increases in local price, offset by an unfavorable impact from currency.

SAFETY & CONSTRUCTION

The Safety & Construction segment is a leading provider of engineered products and integrated systems for a number of industries including construction, worker safety, energy, oil and gas, transportation, medical devices and water purification and separation. The segment satisfies the growing global needs of businesses, governments, and consumers for solutions that make life safer, healthier, and better. By uniting market-driven science with the strength of highly regarded brands, the segment strives to bring new products and solutions to solve customers' needs faster, better and more cost effectively. The segment is a leader in safety consulting, selling training products as well as consulting services, to improve the safety, productivity, and sustainability of organizations across a range of industries.

Safety & Construction			
In millions	2018	2017	2016
Net sales	\$ 5,453	\$ 3,006	\$ 1,877
Pro forma net sales		\$ 5,142	\$ 4,984
Operating EBITDA ¹	\$ 1,427	\$ 1,194	\$ 1,133
Equity earnings	\$ 24	\$ 2	\$ 1

1. The Company's measure of profit/loss for segment reporting purposes is Operating EBITDA for the twelve months ended December 31, 2018 and pro forma Operating EBITDA for the twelve months ended December 31, 2017 and 2016.

Safety & Construction	2018	2017	2016
Percentage change from prior year			
<i>Change in Net Sales from Prior Period due to:</i>			
Local price & product mix	2%	— %	(1)%
Currency	—	—	—
Volume	3	3	(2)
Portfolio & other	76	57	—
Total	81%	60 %	(3)%
<i>Change in Pro Forma Net Sales from Prior Period due to: ¹</i>			
Local price & product mix	1%	(1)%	
Currency	1	—	
Volume	4	4	
Portfolio & other	—	—	
Total	6%	3 %	

1. Net sales in 2018 compared with pro forma net sales in 2017. Pro forma net sales in 2017 compared with pro forma net sales in 2016.

2018 Versus 2017

Safety & Construction net sales were \$5,453 million in 2018, up from \$3,006 million in 2017. Net sales in 2018 were up 6 percent from pro forma net sales of \$5,142 million in 2017 due to 4 percent volume growth, a 1 percent benefit from currency and a 1 percent increase in local price.

Volume growth in the segment was driven by broad based demand in industrial applications, with strength across all lines of business, particularly in NOMEX® and KEVLAR®, as well as gains in TYVEK® enterprise and water solutions. The increase in local price was due to price gains across most businesses.

Operating EBITDA was \$1,427 million in 2018, up 20 percent from pro forma Operating EBITDA of \$1,194 million in 2017, due to lower pension/OPEB costs, cost synergies, volume and price gains and the favorable impact of currency, partially offset by the absence of prior year one-time gains and higher raw material and freight costs.

2017 Versus 2016

Safety & Construction net sales were \$3,006 million in 2017, up from \$1,877 million in the 2016. Pro forma net sales were \$5,142 million in 2017, up 3 percent from \$4,984 million in 2016. Pro forma net sales growth was led by volume gains of 4 percent, slightly offset by a 1 percent decline in local price. Continued demand from industrial markets contributed to gains in NOMEX® thermal-resistant garments, KEVLAR® high-strength materials and water filtration. Growth in TYVEK® protective materials reflected increased demand in industrial markets, construction and medical packaging. Declines in local price and product mix, primarily in aramids, were partially offset by pricing gains in building solutions. Regionally, volume gains were driven by Asia Pacific and EMEA followed by U.S. & Canada and Latin America. Drivers included TYVEK® for graphics and house wrap in EMEA, and gains from KEVLAR® in Asia Pacific.

Pro forma Operating EBITDA was \$1,194 million in 2017, up 5 percent from \$1,133 million in 2016. Pro forma Operating EBITDA increased as volume growth, lower pension/OPEB cost and cost savings were partially offset by the impact of lower local price and higher raw material costs.

Safety & Construction Outlook for 2019

Safety & Construction's 2019 sales are expected to remain essentially flat as broad-based pricing gains and increased volume are expected to be offset by the impact of portfolio actions and the unfavorable impact of currency. The segment is expected to benefit from the favorable impact of cost synergies and pricing gains, partially offset by an increase in raw material costs and increased spend on growth investments. The portfolio impact reflects the divestiture of the European XPS STYROFOAM™ business on December 1, 2018.

CORPORATE

Corporate includes certain enterprise and governance activities (including insurance operations, environmental operations, geographic management, etc.); business incubation platforms; non-business aligned joint ventures; gains and losses on the sales of financial assets; non-business aligned litigation expenses; discontinued or non-aligned businesses and pre-commercial activities.

Corporate			
In millions	2018	2017	2016
Net sales	\$ 295	\$ 387	\$ 281
Pro forma net sales		\$ 393	\$ 294
Operating EBITDA ¹	\$ (714)	\$ (848)	\$ (818)
Equity losses	\$ (26)	\$ (11)	\$ (28)

1. The Company's measure of profit/loss for segment reporting purposes is Operating EBITDA for the twelve months ended December 31, 2018 and pro forma Operating EBITDA for the twelve months ended December 31, 2017 and 2016.

2018 Versus 2017

Net sales for Corporate, which primarily relate to insurance operations, were \$295 million in 2018 , compared with net sales of \$387 million and pro forma net sales of \$393 million in 2017 .

Operating EBITDA was a loss of \$714 million in 2018 , compared with a pro forma Operating EBITDA loss of \$848 million in 2017 . Compared with pro forma Operating EBITDA in 2017 , Operating EBITDA improved primarily due to lower pre-commercial expenses, lower discontinued business costs and cost synergies.

2017 Versus 2016

Net sales for Corporate, which primarily relate to insurance operations, were \$387 million in 2017 , up from \$281 million in 2016 . Pro forma net sales for 2017 were \$393 million , up from \$294 million in 2016 .

Pro forma Operating EBITDA in 2017 was a loss of \$848 million , compared with a loss of \$818 million in 2016 . Compared with 2016 , pro forma Operating EBITDA decreased, primarily due to lower gains on asset sales and higher discontinued business costs, which were partially offset by lower pre-commercial expenses.

SUPPLEMENTAL DIVISION INFORMATION

Discussion of segment revenue, operating EBITDA and price/volume metrics on a divisional basis for Agriculture is based on the results of the Agriculture segment; for Materials Science is based on the combined results of the Performance Materials & Coatings segment, the Industrial Intermediates & Infrastructure segment and the Packaging & Specialty Plastics segment; and for Specialty Products is based on the combined results of the Electronics & Imaging segment, the Nutrition & Biosciences segment, the Transportation & Advanced Polymers segment and the Safety & Construction segment. Corporate is not included in the division metrics. The segment disclosures have been presented in this manner for informational purposes only and should not be viewed as an indication of each division's current or future operating results on a standalone basis assuming completion of the Intended Business Separations. See the section entitled "Segment Results" for additional qualitative analysis on segment performance.

Net Sales by Division			
In millions	2018	2017 ¹	2016 ¹
Agriculture	\$ 14,301	\$ 14,342	\$ 14,060
Performance Materials & Coatings	9,575	8,768	6,389
Industrial Intermediates & Infrastructure	15,116	12,640	10,820
Packaging & Specialty Plastics	24,096	22,392	19,848
Materials Science	\$ 48,787	\$ 43,800	\$ 37,057
Electronics & Imaging	4,720	4,775	4,266
Nutrition & Biosciences	6,801	5,952	5,736
Transportation & Advanced Polymers	5,620	5,131	4,497
Safety & Construction	5,453	5,142	4,984
Specialty Products	\$ 22,594	\$ 21,000	\$ 19,483

Net Sales Variance by Division ¹	2018					2017				
Percent change from prior year	Local Price & Product Mix	Currency	Volume	Portfolio / Other ²	Total	Local Price & Product Mix	Currency	Volume	Portfolio / Other ²	Total
Agriculture	3%	—%	(2)%	(1)%	—%	—%	—%	1%	1%	2%
Materials Science	4%	1%	6 %	— %	11%	8%	—%	5%	5%	18%
Specialty Products	2%	1%	3 %	2 %	8%	—%	—%	6%	2%	8%

Operating EBITDA by Division			
In millions	2018	2017 ¹	2016 ¹
Agriculture	\$ 2,705	\$ 2,611	\$ 2,322
Performance Materials & Coatings	2,170	1,774	1,015
Industrial Intermediates & Infrastructure	2,543	2,282	1,675
Packaging & Specialty Plastics	4,926	4,698	5,129
Materials Science	\$ 9,639	\$ 8,754	\$ 7,819
Electronics & Imaging	1,902	1,840	1,388
Nutrition & Biosciences	1,632	1,296	1,227
Transportation & Advanced Polymers	1,702	1,319	1,043
Safety & Construction	1,427	1,194	1,133
Specialty Products	\$ 6,663	\$ 5,649	\$ 4,791

1. Information for 2017 and 2016 was prepared on a pro forma basis.

2. Pro forma net sales for Agriculture excludes sales related to the November 30, 2017, divestiture of the DAS Divested Ag Business for the period January 1, 2016 through August 31, 2017. Sales from September 1, 2017 through November 30, 2017, are included in Portfolio & Other. Pro forma net sales for Materials Science excludes sales related to the September 1, 2017, divestiture of the EAA Business for the period January 1, 2016 through August 31, 2017. Portfolio & Other includes sales for the acquisition of the H&N Business acquired on November 1, 2017, impacting Specialty Products. Portfolio & Other also reflects the following divestitures: SKC Haas Display Films group of companies (divested on June 30, 2017), the authentication business (divested on January 6, 2017), and the divestiture of the global food safety diagnostic business (divested on February 28, 2017), all impacting Specialty Products. In 2017, Portfolio & Other also reflects sales from January 1, 2017 through May 31, 2017, related to the ownership restructure of Dow Silicones on June 1, 2016, impacting both Materials Science and Specialty Products.

LIQUIDITY AND CAPITAL RESOURCES

In contemplation of the separations and distributions and in preparation to achieve the intended credit profiles of Corteva, Dow and DuPont, in the fourth quarter of 2018, DowDuPont consummated a public underwritten offer of the DowDuPont Notes in an aggregate principal amount of \$12.7 billion. In the fourth quarter of 2018, DowDuPont used \$4.8 billion of the aggregate proceeds from the DowDuPont Notes to fund Historical DuPont's tender offers for certain of its outstanding debt securities of which \$4.4 billion aggregate principal amount was tendered and retired; the purchase of \$1.4 billion of shares under the \$3.0 billion share buyback program; and costs and expenses associated with the DowDuPont Notes offering, the Historical DuPont tender offers and related premiums, fees and expenses.

The Company had cash and cash equivalents and marketable securities of \$13,616 million at December 31, 2018 and \$14,394 million at December 31, 2017. The Company's cash and cash equivalents included \$5,820 million at December 31, 2018 and \$12,177 million at December 31, 2017, that was held by subsidiaries in foreign countries, including United States territories. The decrease in cash and cash equivalents held by subsidiaries in foreign countries is due to the repatriation activities discussed below. For each of its foreign subsidiaries, the Company makes an assertion regarding the amount of earnings intended for permanent reinvestment, with the balance available to be repatriated to the United States.

The Act requires companies to pay a one-time transition tax on earnings of foreign subsidiaries, a majority of which were previously considered permanently reinvested by the Company (see Note 8 to the Consolidated Financial Statements for further details of The Act). A tax liability was accrued for the estimated U.S. federal tax on all unrepatriated earnings at December 31, 2017, in accordance with The Act. The cash held by foreign subsidiaries for permanent reinvestment is generally used to finance the subsidiaries' operational activities and future foreign investments. The Company has the ability to repatriate additional funds to the U.S., which could result in an adjustment to the tax liability for foreign withholding taxes, foreign and/or U.S. state income taxes and the impact of foreign currency movements. It is not practicable to calculate the unrecognized deferred tax liability on undistributed foreign earnings due to the complexity of the hypothetical calculation. During 2018, the Company repatriated certain funds from its non-U.S. subsidiaries that are not needed to finance local operations or separation activities. During the year ended December 31, 2018, the Company recorded tax expense of \$74 million associated with these repatriation activities.

The Company's cash flows from operating, investing and financing activities, as reflected in the consolidated statements of cash flows, are summarized in the following table:

Cash Flow Summary			
In millions	2018	2017 ¹	2016 ¹
Cash provided by (used for):			
Operating activities	\$ 4,731	\$ (765)	\$ (2,957)
Investing activities	(2,462)	14,325	5,092
Financing activities	(1,918)	(6,554)	(4,014)
Effect of exchange rate changes on cash	(344)	297	(77)
Cash reclassified as held for sale	—	88	—
Summary			
Increase (Decrease) in cash, cash equivalents and restricted cash	7	7,391	(1,956)
Cash, cash equivalents and restricted cash at beginning of year	14,015	6,624	8,580
Cash, cash equivalents and restricted cash at end of year	\$ 14,022	\$ 14,015	\$ 6,624
Less: Restricted cash and cash equivalents, included in "Other current assets"	540	577	17
Cash and cash equivalents at end of year	\$ 13,482	\$ 13,438	\$ 6,607

1. Updated for ASU 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments" (including SEC interpretive guidance) and ASU 2016-18, "Statement of Cash Flows (Topic 230): Restricted Cash." See Notes 1 and 2 to the Consolidated Financial Statements for additional information.

Cash Flows from Operating Activities

Cash provided by operating activities increased in 2018 compared with 2017, primarily due to the change in Historical Dow's accounts receivable securitization facilities discussed on the following page, a decrease in cash used for working capital requirements and higher cash earnings, which were partially offset by increased pension contributions, higher integration and separation costs, and the absence of certain cash receipts in 2017. Cash used for operating activities decreased in 2017 compared with 2016, primarily driven by higher cash earnings, advance payments from customers in the Agriculture segment and customers with long-term ethylene supply agreements, a tax refund related to a voluntary pension contribution and a cash receipt related to the Nova patent infringement award. These items were partially offset by increased pension contributions resulting from a change in control provision in a Historical Dow non-qualified U.S. pension plan, higher integration and separation costs and a cash payment related to the Bayer CropScience arbitration matter.

Net Working Capital at Dec 31		
In millions	2018	2017
Current assets	\$ 49,603	\$ 49,893
Current liabilities	24,715	26,128
Net working capital	\$ 24,888	\$ 23,765
Current ratio	2.01:1	1.91:1

Cash Flows from Investing Activities

Cash used for investing activities in 2018 was primarily for capital expenditures and purchases of investments, which were partially offset by proceeds from sales and maturities of investments and proceeds from interests in trade accounts receivable conduits. Cash provided by investing activities in 2017 was primarily from proceeds from interests in trade accounts receivable conduits, cash acquired in the Merger, proceeds from sales and maturities of investments and divestitures, including the divestitures of the DAS Divested Ag Business, the EAA Business and certain assets related to Historical DuPont's crop protection business and R&D organization. These items were partially offset by capital expenditures, purchases of investments and loans to nonconsolidated affiliates, primarily with Sadara. Cash provided by investing activities in 2016 was primarily from proceeds from interests in trade accounts receivable conduits and net cash acquired in the Dow Silicones ownership restructure, which were partially offset by capital expenditures and investments in and loans to nonconsolidated affiliates, primarily with Sadara.

In 2018, Historical Dow entered into a shareholder loan reduction agreement with Sadara and converted \$312 million of the remaining loan and accrued interest balance into equity. Historical Dow's note receivable from Sadara was zero at December 31, 2018. In addition, in the fourth quarter of 2018, Historical Dow waived \$70 million of accounts receivable with Sadara, which was converted into equity. In 2017, Historical Dow loaned \$735 million to Sadara and converted \$718 million into equity, and had a note receivable from Sadara of \$275 million at December 31, 2017. Historical Dow expects to loan up to \$500 million to Sadara in 2019. See Note 12 to the Consolidated Financial Statements for additional information.

The Company's capital expenditures, including capital expenditures of consolidated variable interest entities, were \$3,837 million in 2018, \$3,570 million in 2017 and \$3,804 million in 2016. The Company expects capital spending in 2019 to be approximately \$4.3 billion, below depreciation and amortization expense and inclusive of capital spending for targeted cost synergy and business separation projects.

Cash Flows from Financing Activities

Cash used for financing activities in 2018 included payments of notes payable and long-term debt, repurchases of DowDuPont common stock and dividends paid to stockholders. These items were largely offset by proceeds from the issuance of long-term debt. Cash used for financing activities in 2017 included dividends paid to stockholders, repurchases of DowDuPont common stock and payments of notes payable and long-term debt. Cash used for financing activities in 2016 included dividends paid to stockholders (including the accelerated payment of the fourth quarter preferred dividend), repurchases of Historical Dow common stock and payments of long-term debt. See Notes 15 and 17 to the Consolidated Financial Statements for additional information related to the issuance or retirement of debt and the share repurchase program, respectively.

Reclassification of Prior Year Amounts Related to Accounts Receivable Securitization

In connection with the review and implementation of ASU 2016-15 and additional interpretive guidance from the SEC related to the required method for calculating the cash received from beneficial interests in trade accounts receivable conduits, the Company changed the prior year presentation and amount of proceeds from interests in trade accounts receivable conduits. Changes related to the calculation and presentation of proceeds from interests in trade accounts receivable conduits resulted in a reclassification from cash used for operating activities to cash provided by investing activities of \$9,462 million in 2017 and \$8,551 million in 2016. In the fourth quarter of 2017, the Company suspended further sales of trade accounts receivable through these facilities and

began reducing outstanding balances through collections of trade accounts receivable previously sold to such conduits. In September and October 2018, the North American and European facilities, respectively, were amended and the terms of the agreements changed from off-balance sheet arrangements to secured borrowing arrangements.

The following table reconciles cash flows from operating activities to a non-GAAP measure regarding cash flows from operating activities excluding the impact of ASU 2016-15 and related interpretive guidance for the years ended December 31, 2018, 2017 and 2016. Management believes this non-GAAP financial measure is relevant and meaningful as it presents cash flows from operating activities inclusive of all trade accounts receivable collection activity, which the Company utilizes in support of its operating activities.

Cash Flows from Operating Activities Excluding the Impact of ASU 2016-15 and Additional Interpretive Guidance (non-GAAP)			
In millions	2018	2017	2016
Cash flows from operating activities - Updated for impact of ASU 2016-15 and additional interpretive guidance (GAAP)	\$ 4,731	\$ (765)	\$ (2,957)
Less: Impact of ASU 2016-15 and additional interpretive guidance	(657)	(9,462)	(8,551)
Cash flows from operating activities - Excluding impact of ASU 2016-15 and additional interpretive guidance (non-GAAP)	\$ 5,388	\$ 8,697	\$ 5,594

Free Cash Flow

The Company defines free cash flow as cash provided by operating activities less capital expenditures. Under this definition, free cash flow represents the cash that remains available to the Company, after investing in its asset base, to fund obligations using the Company's primary source of incremental liquidity - cash provided by operating activities. Free cash flow is an integral financial measure used in the Company's financial planning process. This financial measure is not recognized in accordance with U.S. GAAP and should not be viewed as an alternative to U.S. GAAP financial measures of performance. All companies do not calculate non-GAAP financial measures in the same manner and, accordingly, the Company's free cash flow definition may not be consistent with the methodologies used by other companies.

For further information relating to the change in cash provided by (used for) operating activities, see the discussion above under the section entitled "Cash Flows from Operating Activities."

Reconciliation of "Cash Provided by (Used for) Operating Activities" to Free Cash Flow			
In millions	2018	2017 ¹	2016 ¹
Cash provided by (used for) operating activities	\$ 4,731	\$ (765)	\$ (2,957)
Capital expenditures	(3,837)	(3,570)	(3,804)
Free Cash Flow	\$ 894	\$ (4,335)	\$ (6,761)

1. "Cash from operating activities" was updated for ASU 2016-15 (including SEC interpretive guidance) and ASU 2016-18. See Notes 1 and 2 to the Consolidated Financial Statements for additional information.

Liquidity & Financial Flexibility

The Company's primary source of incremental liquidity is cash flows from operating activities. Management expects the generation of cash from operations and the ability to access the debt capital markets and other sources of liquidity will continue to provide sufficient liquidity and financial flexibility to meet the Company's and its subsidiaries' obligations as they come due.

DowDuPont's Liquidity Sources

In November 2018, DowDuPont consummated the offering of the senior unsecured DowDuPont Notes in an aggregate principal amount of \$12.7 billion. The offering consisted of \$0.5 billion in floating rate notes due November 2020, \$0.3 billion in floating rate notes due November 2023, and six tranches of fixed-rate notes: \$1.5 billion due November 2020, \$2.5 billion due November 2023, \$1.85 billion due November 2025, \$2.25 billion due November 2028, \$1.65 billion due November 2038 and \$2.15 billion due November 2048. The net proceeds of the offering after the underwriting discount was \$12.6 billion. See Note 15 to the Consolidated Financial Statements for additional information on the interest related to the DowDuPont Notes.

The DowDuPont Notes will rank equally with the Company's future senior unsecured debt outstanding from time to time. The DowDuPont Notes are not guaranteed by any of the Company's subsidiaries and are nonrecourse to the assets of Dow and Corteva. Each series of DowDuPont Notes will continue to be a senior unsecured obligation of DuPont after the separations and distributions. If each of the separations and distributions has not been completed on or before May 1, 2020, or, if prior to such date, the Company

has abandoned any of the separations or distributions, the Company will be required to redeem each series of DowDuPont Notes at a redemption price equal to 101 percent of the principal amount of such series of DowDuPont Notes, plus accrued and unpaid interest, if any, up to but excluding the date of redemption. DowDuPont also entered into a term loan agreement that establishes two term loan facilities in the aggregate principal amount of \$3 billion, (the “DowDuPont Term Loan Facilities”). The DowDuPont Term Loan Facilities remain unfunded and future funding is subject to the satisfaction or waiver of certain customary conditions, including among others, the consummation of the separation and distribution of Dow.

DowDuPont intends to use the remaining proceeds from the DowDuPont Notes together with borrowing under the Term Loan Facilities to (i) reduce outstanding liabilities of Historical Dow that would otherwise be attributable to Dow and further reduce outstanding liabilities of Historical DuPont that would otherwise be attributable to Corteva; (ii) fund additional repurchases under the \$3 Billion Share Repurchase Program and (iii) pay any related premiums, fees and expenses.

The deleveraging of Dow and the further deleveraging of Corteva may be effectuated through the repayment and/or repurchase of senior notes, term loans and/or commercial paper of Historical Dow and Historical DuPont prior to the respective distributions of Dow and Corteva.

Coincident with the DowDuPont notes offering in November 2018, the credit rating agencies released credit ratings for DowDuPont, prospectively assuming the consummation of the separations and distributions of Dow and Corteva. The ratings for the Company are: A- with a Stable outlook from Standard & Poor’s; Baa1 with a Stable outlook from Moody’s Investors Service; and BBB+ with a Stable outlook from Fitch Ratings.

Historical Dow's Liquidity Sources

Credit Ratings

At January 31, 2019, Historical Dow's credit ratings were as follows:

Credit Ratings	<i>Long-Term Rating</i>	<i>Short-Term Rating</i>	<i>Outlook</i>
Standard & Poor’s	BBB	A-2	Stable
Moody’s Investors Service	Baa2	P-2	Stable
Fitch Ratings	BBB+	F2	Stable

Downgrades in Historical Dow's credit ratings would increase borrowing costs on certain indentures and could impact its ability to access debt capital markets.

Commercial Paper - Historical Dow

Historical Dow issues promissory notes under U.S. and Euromarket commercial paper programs. At December 31, 2018 , Historical Dow had \$10 million of commercial paper outstanding (\$231 million at December 31, 2017). Historical Dow maintains access to the commercial paper market at competitive rates. Amounts outstanding under Historical Dow's commercial paper programs during the period may be greater, or less, than the amount reported at the end of the period. Subsequent to December 31, 2018, Historical Dow issued approximately \$1.6 billion of commercial paper.

Committed Credit Facilities - Historical Dow

In the event the Company has short-term liquidity needs, it can access liquidity through Historical Dow's committed and available credit facilities. At December 31, 2018 , Historical Dow had total committed credit facilities of \$12.1 billion and available credit facilities of \$7.6 billion . See Note 15 to the Consolidated Financial Statements for additional information on committed and available credit facilities.

Uncommitted Credit Facilities and Outstanding Letters of Credit - Historical Dow

Historical Dow had uncommitted credit facilities in the form of unused bank credit lines of approximately \$3,480 million at December 31, 2018 . These lines can be used to support short-term liquidity needs and general purposes, including letters of credit. Historical Dow had outstanding letters of credit of \$439 million at December 31, 2018 (\$433 million at December 31, 2017). These letters of credit support commitments made in the ordinary course of business.

Historical DuPont's Liquidity Sources

Credit Ratings

At January 31, 2019, Historical DuPont's credit ratings were as follows:

Credit Ratings	Long-Term Rating	Short-Term Rating	Outlook
Standard & Poor's	A-	A-2	Stable
Moody's Investors Service	A3	P-2	Stable
Fitch Ratings	A	F1	Stable

Downgrades in Historical DuPont's credit ratings would increase borrowing costs on certain indentures and could impact its ability to access debt capital markets.

Commercial Paper - Historical DuPont

Historical DuPont issues promissory notes under U.S. commercial paper programs. At December 31, 2018, Historical DuPont had \$1,847 million of commercial paper outstanding (\$1,436 million at December 31, 2017). Historical DuPont maintains access to the commercial paper market at competitive rates. Amounts outstanding under Historical DuPont's commercial paper programs during the period may be greater, or less, than the amount reported at the end of the period.

Committed Credit Facilities - Historical DuPont

In the event the Company has short-term liquidity needs, it can access liquidity through Historical DuPont's committed and available credit facilities. At December 31, 2018, DuPont had total committed credit facilities of \$7.5 billion under its Term Loan Facility and amended revolving credit facility (the "RCF") with remaining available credit facilities of \$5.5 billion. See Note 15 to the Consolidated Financial Statements for additional information.

Term Loan and Revolving Credit Facilities - Historical DuPont

In March 2016, Historical DuPont entered into a credit agreement that provides for a three-year, senior unsecured term loan facility in the aggregate principal amount of \$4.5 billion (as may be amended, from time to time, the "Term Loan Facility") under which Historical DuPont may make up to seven term loan borrowings and amounts repaid or prepaid are not available for subsequent borrowings. The proceeds from the borrowings under the Term Loan Facility will be used for Historical DuPont's general corporate purposes including debt repayment, working capital and funding a portion of the Company's costs and expenses. The Term Loan Facility was amended in 2018 to extend the maturity date to June 2020, at which time all outstanding borrowings, including accrued but unpaid interest, become immediately due and payable, and to extend the date on which the commitment to lend terminates to June 2019. At December 31, 2018, Historical DuPont had made four term loan borrowings in an aggregate principal amount of \$2.0 billion and had unused commitments of \$2.5 billion under the Term Loan Facility. In 2018, Historical DuPont also amended its \$3.0 billion revolving credit facility to extend the maturity date to June 2020.

Uncommitted Credit Facilities and Outstanding Letters of Credit - Historical DuPont

Historical DuPont had uncommitted credit facilities in the form of unused bank credit lines of \$663 million at December 31, 2018. These lines can be used to support short-term liquidity needs and general corporate purposes, including letters of credit. Historical DuPont had outstanding letters of credit of \$172 million at December 31, 2018 (\$177 million at December 31, 2017). These letters of credit support commitments made in the ordinary course of business.

Debt

The following table reflects the debt of DowDuPont, as well as Historical Dow and Historical DuPont (together, the "Subsidiaries"):

Total Debt	Dec 31, 2018				Dec 31, 2017		
	DowDuPont ¹	Historical Dow	Historical DuPont	Total	Historical Dow	Historical DuPont	Total
In millions							
Notes payable	\$ —	\$ 302	\$ 1,863	\$ 2,165	\$ 484	\$ 1,464	\$ 1,948
Long-term debt due within one year	—	340	297	637	752	1,315	2,067
Long-term debt	12,596	19,254	5,812	37,662	19,765	10,291	30,056
Total debt	\$ 12,596	\$ 19,896	\$ 7,972	\$ 40,464	\$ 21,001	\$ 13,070	\$ 34,071

1. Represents the DowDuPont holding company.

On November 13, 2018, Historical DuPont launched a tender offer (the “Tender Offer”) to purchase \$6.2 billion aggregate principal amount of its outstanding debt securities (the “Tender Notes”). The Tender Offer expired on December 11, 2018 (the “Expiration Date”). At the Expiration Date, \$4,409 million aggregate principal amount of the Tender Notes had been validly tendered and was accepted for payment. In exchange for such validly tendered Tender Notes, Historical DuPont paid a total of \$4,849 million, which included breakage fees and all applicable accrued and unpaid interest on such Tender Notes. DowDuPont contributed cash (generated from the offering of the DowDuPont Notes) to Historical DuPont to fund the settlement of the Tender Offer and payment of associated fees.

In the fourth quarter of 2018, Historical Dow issued \$2.0 billion of senior unsecured notes in an offering under Rule 144A of the Securities Act of 1933, which included \$500 million due 2025; \$600 million due 2028 and \$900 million due 2048. See Note 15 to the Consolidated Financial Statements for additional information on the interest related to these notes. In addition Historical Dow tendered and redeemed \$2.1 billion of notes issued by Historical Dow with maturity in 2019. In addition, Dow Holdings Inc., the intended parent of Historical Dow after the Intended Business Separations, is obligated, should it issue a guarantee in respect of outstanding or committed indebtedness under Historical Dow’s Five Year Competitive Advance and Revolving Credit Facility Agreement (“Revolving Credit Agreement”), dated October 30, 2018, (as described below), to enter into a supplemental indenture with Historical Dow and the trustee under the existing base indenture governing certain notes issued by Historical Dow under which it will guarantee all outstanding debt securities and all amounts due under the existing base indenture.

The Company's indenture covenants include customary limitations on liens, sale and leaseback transactions, and mergers and consolidations, subject to certain limitations. The DowDuPont Notes also contain customary default provisions. In addition, the Company will be required to redeem all of the DowDuPont Notes at a redemption price equal to 101 percent of the principal amount of such series of DowDuPont Notes, plus accrued and unpaid interest to, but excluding, the redemption date if each of the separations and distributions has not been completed on or before May 1, 2020, or, if prior to such date, DowDuPont has abandoned any of the separations or distributions.

The Debt Instruments of the Subsidiaries contain, among other provisions, certain customary restrictive covenant and default provisions. Historical Dow’s Revolving Credit Agreement contains a financial covenant that Historical Dow must maintain its ratio of consolidated indebtedness to its consolidated capitalization at no greater than 0.65 to 1.00 at any time the aggregate outstanding amount of loans under Historical Dow’s Revolving Credit Agreement equals or exceeds \$500 million. The ratio of Historical Dow’s consolidated indebtedness to its consolidated capitalization was 0.41 to 1.00 at December 31, 2018. Historical DuPont’s Term Loan Facility and RCF contain a financial covenant requiring that the ratio of total indebtedness to total capitalization for Historical DuPont and its consolidated subsidiaries not exceed 0.6667 to 1.00. At December 31, 2018, management believes each of the Subsidiaries were in compliance with all of their respective covenants and default provisions. For additional information on the Subsidiaries' debt covenants and default provisions, see Note 15 to the Consolidated Financial Statements.

On October 30, 2018, Historical Dow terminated and replaced its \$5.0 billion Revolving Credit Agreement, under substantially similar terms and conditions. The new Revolving Credit Agreement has a maturity date in October 2023. Historical Dow’s Revolving Credit Agreement includes an event of default which would be triggered in the event Dow Holdings Inc. incurs or guarantees third party indebtedness for borrowed money in excess of \$250 million or engages in any material business activity or directly owns any material assets, in each case, subject to certain conditions and exceptions. Dow Holdings Inc. may, at its option, cure the event of default by delivering an unconditional and irrevocable guaranty to the administrative agent within thirty days of the event or events giving rise to such event of default.

Dividends

The following table provides dividends paid to common and preferred shareholders for the years ended December 31, 2018, 2017 and 2016 :

Dividends Paid for the Years Ended Dec 31			
In millions, except per share amounts	2018	2017	2016
Dividends paid, per common share ¹	\$ 1.52	\$ 2.22	\$ 1.84
Dividends paid to common stockholders ²	\$ 3,491	\$ 3,394	\$ 2,037
Dividends paid to preferred shareholders ³	\$ —	\$ —	\$ 425

1. The 2017 dividend is comprised of \$0.38 per share of DowDuPont dividends declared and paid in the fourth quarter of 2017 and the remaining amount relates to payments of Historical Dow dividends declared prior to the Merger.

2. The 2017 dividend consists of \$885 million paid to DowDuPont common stockholders for dividends declared after the Merger, as well as \$2,179 million paid to Historical Dow common stockholders for dividends declared prior to the Merger, and \$330 million paid to Historical DuPont common stockholders after the Merger for dividends declared prior to the Merger.

3. Dividends paid to Historical Dow preferred shareholders in 2016 includes payment of the fourth quarter 2016 declared dividend. On December 30, 2016, Historical Dow converted all outstanding shares of its Historical Dow Preferred Stock into shares of Historical Dow's common stock. As a result of this conversion, no shares of Historical Dow Preferred Stock are issued or outstanding.

Share Repurchase Programs

On November 1, 2018, the Company announced a new \$3.0 billion share buyback program, which expires on March 31, 2019 - commensurate with the expected timing of the materials science spin-off. At December 31, 2018, the Company had repurchased \$1.4 billion of shares under this program. The Company intends to complete the program before March 31, 2019.

On November 2, 2017, the Company announced the Board authorized an initial \$4.0 billion share repurchase program, which had no expiration date. Under this program, the Company spent \$1.0 billion on repurchases in the fourth quarter of 2017 and \$3.0 billion on repurchases in the first nine months of 2018, thereby completing this share repurchase program.

In connection with the Merger, Historical Dow's \$9.5 billion share repurchase program was canceled. At the time of cancellation, Historical Dow had spent \$8.1 billion on repurchases of Historical Dow common stock under the share buyback program.

For additional information related to the share repurchase program, see Part II. Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities and Note 17 to the Consolidated Financial Statements.

Rabbi Trust

Historical DuPont entered into a trust agreement in 2013 (as amended and restated in 2017) that established and requires Historical DuPont to fund a trust (the "Trust") for cash obligations under certain non-qualified benefit and deferred compensation plans upon a change in control event as defined in the Trust agreement. Under the Trust agreement, the consummation of the Merger was a change in control event. As a result, in November 2017 Historical DuPont contributed \$571 million to the Trust. At December 31, 2018 and 2017, the balance in the Trust was \$500 million and \$558 million, respectively. Historical DuPont distributed \$68 million during 2018, in accordance with the Trust agreement.

Pension Plans

Historical Dow and Historical DuPont did not merge their pension plans and other postretirement benefit plans as a result of the Merger. Historical Dow and Historical DuPont have defined benefit pension plans in the United States and a number of other countries. Historical Dow's funding policy is to contribute to plans when pension laws and/or economics either require or encourage funding. Historical DuPont's funding policy is to contribute to defined benefit pension plans based on pension funding laws and local country requirements. Contributions exceeding funding requirements may be and have been made at Historical Dow and Historical DuPont's discretion.

In 2018, 2017 and 2016, Historical Dow contributed \$1,656 million, \$1,676 million and \$629 million to its pension plans, respectively, including contributions to fund benefit payments for its non-qualified pension plans. Historical DuPont contributed \$1,308 million in 2018 and \$68 million post-Merger in 2017 to its pension plans, including contributions to fund benefit payments for its non-qualified pension plans. In the third quarter of 2018, Historical Dow and Historical DuPont each made \$1,100 million discretionary contributions to their respective principal U.S. pension plans, which are included in the 2018 contribution amounts above. The discretionary contributions were based on Historical Dow and Historical DuPont's funding policies, which permit discretionary contributions to defined benefit pension plans when economics encourage funding, and reflected considerations relating to tax deductibility and capital structure.

Historical Dow expects to contribute approximately \$240 million to its pension plans in 2019, which is subject to revision in accordance with Historical Dow's funding policy. Historical DuPont expects to contribute approximately \$190 million to its pension plans in 2019. The amount and timing of Historical DuPont's actual future contributions will depend on applicable funding requirements, discount rates, investment performance, plan design, and various other factors, including the Internal Reorganization, separations and distributions. See Note 19 to the Consolidated Financial Statements for additional information concerning the Company's pension plans.

Historical Dow

The provisions of a U.S. non-qualified pension plan for Historical Dow require the payment of plan obligations to certain participants upon a change in control of Historical Dow, which occurred at the time of the Merger. Certain participants could elect to receive a lump-sum payment or direct Historical Dow to purchase an annuity on their behalf using the after-tax proceeds of the lump sum. In the fourth quarter of 2017, Historical Dow paid \$940 million to plan participants and \$230 million to an insurance company for the purchase of annuities, which were included in "Pension contributions" in the consolidated statements of cash flows. Historical Dow also paid \$205 million for income and payroll taxes for participants electing the annuity option. Historical Dow recorded a settlement charge of \$687 million associated with the payout in the fourth quarter of 2017.

Historical DuPont

Prior to the Merger, Historical DuPont made total contributions of \$2.9 billion to its principal U.S pension plan in 2017, reflecting discretionary contributions. The \$2.9 billion contribution was taken as a deduction on Historical DuPont's 2016 federal tax return and resulted in a net operating loss for tax purposes. This loss generated an overpayment of taxes of approximately \$800 million. A portion of the overpayment was applied against the 2017 tax liability. The remainder of the loss generated a refund of approximately \$700 million, which was received during the fourth quarter of 2017.

Restructuring, Goodwill Impairment and Asset Related Charges - Net

DowDuPont Agriculture Division Restructuring Program

The activities related to the Agriculture Division Program are expected to result in additional cash expenditures of approximately \$90 million , primarily by mid-2019, consisting of severance and related benefit costs and costs associated with exit and disposal activities. During the fourth quarter of 2018, and in connection with the ongoing integration activities, DowDuPont approved restructuring actions to simplify and optimize certain organizational structures within the Agriculture segment in preparation for the Intended Business Separations. As a result of these actions, the Company expects to incur costs in the future related to its restructuring activities. These costs will be recognized as incurred. See Note 6 to the Consolidated Financial Statements for additional information.

DowDuPont Cost Synergy Program

The activities related to the Synergy Program are expected to result in additional cash expenditures of approximately \$705 million to \$790 million , primarily by the end of 2019, consisting of severance and related benefit costs and costs associated with exit and disposal activities. The Company expects to incur additional costs in the future related to its restructuring activities. Future costs are expected to include demolition costs related to closed facilities and restructuring plan implementation costs; these costs will be recognized as incurred. The Company also expects to incur additional employee-related costs, including involuntary termination benefits, related to its other optimization activities. These costs cannot be reasonably estimated at this time. See Note 6 to the Consolidated Financial Statements for additional information.

Integration and Separation Costs

Integration and separation costs, which reflect costs related to the Merger, post-Merger integration and Intended Business Separation activities and costs related to the ownership restructure of Dow Silicones, were \$2,463 million in 2018, \$1,101 million in 2017 and \$349 million in 2016. Integration and separation costs related to post-Merger integration and Intended Business Separation activities are expected to continue to be significant in 2019.

Contractual Obligations

The following table summarizes the Company's and the Subsidiaries' contractual obligations, commercial commitments and expected cash requirements for interest at December 31, 2018 . Additional information related to these obligations can be found in Notes 15 , 16 and 19 to the Consolidated Financial Statements.

Contractual Obligations at Dec 31, 2018	Payments Due In				
	2019	2020-2021	2022-2023	2024 & Beyond	Total
In millions					
Long-term debt obligations ¹	\$ 635	\$ 15,068	\$ 5,199	\$ 17,759	\$ 38,661
Expected cash requirements for interest ²	1,702	2,992	2,233	12,028	18,955
Pension and other postretirement benefits	799	1,569	4,238	9,804	16,410
Operating leases	654	915	660	1,063	3,292
Purchase obligations ³	3,870	5,542	4,205	6,521	20,138
Other noncurrent obligations ⁴	460	1,435	989	2,010	4,894
Total contractual obligations	\$ 8,120	\$ 27,521	\$ 17,524	\$ 49,185	\$ 102,350

1. Excludes unamortized debt discount and issuance costs of \$440 million and unamortized debt step-up premium of \$78 million . Includes capital lease obligations of \$486 million . Assumes the option to extend the Dow Silicones Term Loan facility will be exercised.

2. Cash requirements for interest on long-term debt was calculated using current interest rates at December 31, 2018 and includes \$5,200 million of various floating rate notes.

3. Includes take-or-pay and throughput obligations, outstanding purchase orders and other commitments greater than \$1 million obtained through a survey conducted by the Subsidiaries.

4. Includes liabilities related to asbestos litigation, environmental remediation, legal settlements and other noncurrent liabilities. The table also includes future payments under Historical DuPont Pioneer license agreements of \$911 million on an undiscounted basis (\$806 million on a discounted basis). The table excludes uncertain tax positions due to uncertainties in the timing of the effective settlement of tax positions with the respective taxing authorities and deferred tax liabilities as it is impractical to determine whether there will be a cash impact related to these liabilities. The table also excludes deferred revenue as it does not represent future cash requirements arising from contractual payment obligations.

The Subsidiaries expect to meet their contractual obligations through their normal sources of liquidity and believe they have the financial resources to satisfy these contractual obligations.

Off-balance Sheet Arrangements

Off-balance sheet arrangements are obligations the Company has with nonconsolidated entities related to transactions, agreements or other contractual arrangements. The Company holds variable interests in joint ventures accounted for under the equity method of accounting. The Company is not the primary beneficiary of these joint ventures and therefore is not required to consolidate these entities (see Note 23 to the Consolidated Financial Statements). In addition, see Note 14 to the Consolidated Financial Statements for information regarding the transfer of financial assets.

Guarantees arise in the ordinary course of business from relationships with customers and nonconsolidated affiliates when the Subsidiaries undertake an obligation to guarantee the performance of others if specific triggering events occur. The Subsidiaries had combined outstanding guarantees at December 31, 2018 of \$5,667 million , compared with \$5,960 million at December 31, 2017 . Additional information related to the guarantees of the Subsidiaries can be found in the "Guarantees" section of Note 16 to the Consolidated Financial Statements.

Fair Value Measurements

See Note 19 to the Consolidated Financial Statements for information related to fair value measurements of pension and other postretirement benefit plan assets; see Note 21 for information related to other-than-temporary impairments; and, see Note 22 for additional information concerning fair value measurements.

OUTLOOK

The Company expects global economic expansion to continue in 2019 at a moderately slower pace than 2018. The Company continues to closely monitor macroeconomic and geopolitical developments, including ongoing trade negotiations and the pace of economic activity in China. In this environment, DowDuPont remains focused on the actions in the Company's control, including capitalizing on growth investments, capturing cost synergy savings, delivering productivity actions and advancing the spin milestones.

Impact From Recently Enacted Tariffs

Certain countries where the Company's products are manufactured, distributed or sold have recently enacted tariffs on certain products. The Company has analyzed the direct impacts from the enacted tariffs and does not expect such direct impacts to have a materially adverse effect on the results of operations in 2019. The Company is taking actions to mitigate the impact by leveraging its global asset base to adjust its product and raw material flows.

OTHER MATTERS

Critical Accounting Estimates

The preparation of financial statements and related disclosures in conformity with U.S. GAAP requires management to make judgments, assumptions and estimates that affect the amounts reported in the consolidated financial statements and accompanying notes. Note 1 to the Consolidated Financial Statements describes the significant accounting policies and methods used in the preparation of the consolidated financial statements. DowDuPont's accounting policies that are impacted by judgments, assumptions and estimates are described below.

Litigation

The Company and its subsidiaries are subject to legal proceedings and claims arising out of the normal course of business including product liability, patent infringement, governmental regulation, contract and commercial litigation, and other actions. The Company routinely assesses the legal and factual circumstances of each matter, the likelihood of any adverse outcomes to these matters, as well as ranges of probable losses. A determination of the amount of the reserves required, if any, for these contingencies is made after thoughtful analysis of each known claim. The Company has an active risk management program consisting of numerous insurance policies secured from many carriers covering various timeframes. These policies may provide coverage that could be utilized to minimize the financial impact, if any, of certain contingencies. The required reserves may change in the future due to new developments in each matter. For further discussion see Note 16 to the Consolidated Financial Statements.

Asbestos-Related Matters of Union Carbide Corporation

Union Carbide is and has been involved in a large number of asbestos-related suits filed primarily in state courts during the past four decades. These suits principally allege personal injury resulting from exposure to asbestos-containing products and frequently seek both actual and punitive damages. The alleged claims primarily relate to products that Union Carbide sold in the past, alleged exposure to asbestos-containing products located on Union Carbide's premises, and Union Carbide's responsibility for asbestos suits filed against a former Union Carbide subsidiary, Amchem Products, Inc. ("Amchem"). Each year, Ankura Consulting Group, LLC ("Ankura") performs a review for Union Carbide based upon historical asbestos claims, resolution and historical defense spending. Union Carbide compares current asbestos claim, resolution and defense spending activity with the results of the most recent Ankura study at each balance sheet date to determine whether the asbestos-related liability continues to be appropriate.

In 2016, Historical Dow and Union Carbide elected to change their method of accounting for Union Carbide's asbestos-related defense and processing costs from expensing as incurred to estimating and accruing a liability. In addition to performing their annual review of pending and future asbestos claim resolution activity, Ankura also performed a review of Union Carbide's asbestos-related defense and processing costs to determine a reasonable estimate of future defense and processing costs to be included in the asbestos-related liability, through the terminal year of 2049.

For additional information, see Part I, Item 3. Legal Proceedings; Asbestos-Related Matters of Union Carbide Corporation in Management's Discussion and Analysis of Financial Condition and Results of Operations; and Notes 1 and 16 to the Consolidated Financial Statements.

Environmental Matters

Accruals for environmental matters are recorded when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated. At December 31, 2018, the Company had accrued obligations of \$1,201 million for probable environmental remediation and restoration costs, including \$210 million for the remediation of Superfund sites. As remediation activities vary substantially in duration and cost from site to site, it is difficult to develop precise estimates of future site remediation costs. The Company's estimates are based on a number of factors, including the complexity of the geology, the nature and extent of contamination, the type of remedy, the outcome of discussions with regulatory agencies and other Potentially Responsible Parties ("PRPs") at multi-party sites and the number of and financial viability of other PRPs. Therefore, considerable uncertainty exists with respect to environmental remediation and costs, and under adverse changes in circumstances, it is reasonably possible that the ultimate cost with respect to these particular matters could range up to two and a half times above that amount. Consequently, it is reasonably possible that environmental remediation and restoration costs in excess of amounts accrued could have a material impact on the Company's results of operations, financial condition and cash flows. It is the opinion of the Company's management, however, that the possibility is remote that costs in excess of the range disclosed will have a material impact on the Company's

results of operations, financial condition or cash flows. For further discussion, see Environmental Matters in Management's Discussion and Analysis of Financial Condition and Results of Operations and Notes 1 and 16 to the Consolidated Financial Statements.

Goodwill

The Company performs goodwill impairment testing at the reporting unit level which is defined as the operating segment or one level below the operating segment. One level below the operating segment, or component, is a business in which discrete financial information is available and regularly reviewed by segment management. The Company aggregates certain components into reporting units based on economic similarities. The operating segment is the reporting unit for Agriculture, Electronics & Imaging, Nutrition & Health, and Transportation & Advanced Polymers operating segments. The Company tests goodwill for impairment annually (during the fourth quarter), or more frequently when events or changes in circumstances indicate it is more likely than not that the fair value of a reporting unit has declined below its carrying value. Goodwill is evaluated for impairment using qualitative and/or quantitative testing procedures. At December 31, 2018, the Company had defined 9 operating segments and 15 reporting units; goodwill was carried by 14 of these reporting units.

The Company has the option to first perform qualitative testing to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. Qualitative factors assessed at the Company level include, but are not limited to, GDP growth rates, long-term hydrocarbon and energy prices, equity and credit market activity, discount rates, foreign exchange rates and overall financial performance. Qualitative factors assessed at the reporting unit level include, but are not limited to, changes in industry and market structure, competitive environments, planned capacity and new product launches, cost factors such as raw material prices, and financial performance of the reporting unit. If the Company chooses not to complete a qualitative assessment for a given reporting unit or if the initial assessment indicates that it is more likely than not that the estimated fair value of a reporting unit is less than its carrying value, additional quantitative testing is required.

Quantitative testing requires the fair value of the reporting unit to be compared with its carrying value. If the reporting unit's carrying value exceeds its fair value, an impairment charge is recognized for the difference. The Company utilizes a discounted cash flow methodology to calculate the fair value of its reporting units. This valuation technique has been selected by management as the most meaningful valuation method due to the limited number of market comparables for the Company's reporting units. However, where market comparables are available, the Company includes EBIT/EBITDA multiples as part of the reporting unit valuation analysis. The discounted cash flow valuations are completed using the following key assumptions: projected revenue growth rates, or compounded annual growth rates, over a five to ten-year cash flow forecast period, which varied by reporting unit based on underlying business fundamentals and future expectations; discount rates; tax rates; terminal values, differentiated based on the cash flow projection of each reporting unit and the projected net operating profit after tax ("NOPAT") growth rate; currency exchange rates; and forecasted long-term hydrocarbon and energy prices, by geographic region and by year, which included the Company's key feedstocks as well as natural gas and crude oil (due to its correlation to naphtha). These key assumptions are determined through evaluation of the Company as a whole and underlying business fundamentals and industry risk.

The Company also monitors and evaluates its market capitalization relative to book value. When the market capitalization of the Company falls below book value, management undertakes a process to evaluate whether a change in circumstances has occurred that would indicate it is more likely than not that the fair value of any of its reporting units has declined below carrying value. This evaluation process includes the use of third-party, market-based valuations and internal discounted cash flow analysis.

2018 Interim Goodwill Impairment Testing

As a result of the Merger and the related acquisition method of accounting, Historical DuPont's assets and liabilities were measured at fair value, and any declines in financial projections could have a material, negative impact on the fair value of the Company's reporting units and assets, particularly within the Agriculture and Specialty Products divisions, and therefore could result in an impairment.

The Company commenced strategic business reviews during the third quarter of 2018 inclusive of assembling updated financial projections. In connection with these strategic business reviews and the update to financial projections, DowDuPont's subsidiary, Historical DuPont, a separate SEC registrant, was required to perform an interim test of goodwill for its agriculture reporting unit. As a result of the analysis performed, Historical DuPont recorded a pretax, noncash goodwill impairment charge of \$4.5 billion. However, the impairment charge did not survive at the DowDuPont level. The Agriculture operating segment was determined to be the reporting unit for DowDuPont, which includes the operations of the agriculture reporting units of both Historical DuPont and Historical Dow. As a result of the Merger accounting considerations and the differences in the composition in the carrying value of the agriculture reporting unit of Historical DuPont (assets and liabilities measured at fair value) and the combined Agriculture reporting unit of DowDuPont (excess fair value over carrying value associated with the Historical Dow business is retained), the fair value of the combined Agriculture reporting unit of DowDuPont exceeded its carrying value by more than 10 percent, and therefore no goodwill impairment existed for DowDuPont.

2018 Annual Goodwill Impairment Testing

In the fourth quarter of 2018, quantitative testing was performed on four reporting units and a qualitative assessment was performed on the remaining reporting units that carry goodwill. For the qualitative assessments, management considered the factors at both the Company level and the reporting unit level. Based on the qualitative assessments, management concluded it is not more likely than not that the fair values of the reporting units were less than the carrying values of the reporting units.

Upon completion of quantitative testing in the fourth quarter of 2018, the Company determined the fair value of these reporting units exceeded the carrying value of the reporting units. Two of these reporting units, Industrial Biosciences and Clean Technologies, are comprised of Historical DuPont assets and liabilities only. Due to the fair value and carrying value of these two reporting units being equal at the date of the Merger resulting in little margin of fair value in excess of carrying value, the Company believes these reporting units are at risk to have impairment charges in future periods. Changes in factors, circumstances and key assumptions used in assessing potential impairments can have a significant impact on the existence and magnitude of impairments, as well as the time in which such impairments are recognized. The carrying amount of goodwill for the Industrial Biosciences and Clean Technologies reporting units at December 31, 2018 was \$3,113 million and \$461 million, respectively.

Pension and Other Postretirement Benefits

The amounts recognized in the consolidated financial statements related to pension and other postretirement benefits are determined from actuarial valuations. Inherent in these valuations are assumptions including expected return on plan assets, discount rates at which the liabilities could have been settled at December 31, 2018, rate of increase in future compensation levels, mortality rates and health care cost trend rates. These assumptions are updated annually and are disclosed in Note 19 to the Consolidated Financial Statements. In accordance with U.S. GAAP, actual results that differ from the assumptions are accumulated and amortized over future periods and, therefore, affect expense recognized and obligations recorded in future periods. The U.S. pension plans represent the majority of Historical Dow and Historical DuPont's pension plan assets and pension obligations.

Historical Dow uses the spot rate approach to determine the discount rate utilized to measure the service cost and interest cost components of net periodic pension and other postretirement benefit costs for the U.S. and other selected countries. Historical DuPont also uses the spot rate approach for its U.S. plans. Under the spot rate approach, Historical Dow and Historical DuPont calculate service costs and interest costs by applying individual spot rates from a yield curve (based on high-quality corporate bond yields) for each selected country to the separate expected cash flow components of service cost and interest cost. Service cost and interest cost for all other plans are determined on the basis of the single equivalent discount rates derived in determining those plan obligations.

The following information relates to Historical Dow and Historical DuPont's U.S. plans only; a similar approach is used for Historical Dow and Historical DuPont's non-U.S. plans.

Historical Dow and Historical DuPont determine the expected long-term rate of return on assets by performing a detailed analysis of historical and expected returns based on the strategic asset allocation and the underlying return fundamentals of each asset class. The historical experience of the pension fund asset performance is also considered. The expected return of each asset class is derived from a forecasted future return confirmed by historical experience. The expected long-term rate of return is an assumption and not what is expected to be earned in any one particular year. The weighted-average long-term rate of return assumption used for determining net periodic pension expense for 2018 was 7.08 percent. The weighted-average assumption to be used for determining 2019 net periodic pension expense is 7.10 percent. Future actual pension expense will depend on future investment performance, changes in future discount rates and various other factors related to the population of participants in the Company's pension plans.

The discount rates utilized to measure the pension and other postretirement obligations of the U.S. plans are based on the yield on high-quality corporate fixed income investments at the measurement date. Future expected actuarially determined cash flows are individually discounted at spot rates under the Willis Towers Watson U.S. RATE:Link 60-90 corporate yield curve for Historical Dow's plans and under the Aon AA_Above Median yield curve for Historical DuPont's plans to arrive at the plan's obligations as of the measurement date. The weighted average discount rate utilized to measure pension obligations increased to 4.36 percent at December 31, 2018, from 3.66 percent at December 31, 2017.

The assumption for the long-term rate of increase in compensation levels for the Historical Dow U.S. plans was 4.25 percent. As of November 30, 2018, active employees who participate in Historical DuPont's U.S. pension plans no longer accrue additional benefits for future service and eligible compensation. Historical Dow and Historical DuPont use generational mortality tables to value their U.S. pension and other postretirement obligations.

The following discussion relates to Historical Dow's significant pension plans and Historical DuPont's U.S. qualified plan.

Historical Dow and Historical DuPont base the determination of pension expense on a market-related valuation of plan assets that reduces year-to-year volatility. For Historical Dow, this market-related valuation recognizes investment gains or losses over a five-year period from the year in which they occur. For Historical DuPont, the market-related value of assets is calculated by averaging market returns over 36 months. As a result, changes in the fair value of assets are not immediately reflected in the Company's calculation of net periodic pension cost. Over the life of the plans, both gains and losses have been recognized and amortized. At December 31, 2018, net losses of \$2,365 million remain to be recognized in the calculation of the market-related value of plan assets. These net losses will result in increases in future pension expense as they are recognized in the market-related value of assets.

The net decrease in the market-related value of assets due to the recognition of prior losses is presented in the following table:

Net Decrease in Market-Related Asset Value Due to Recognition of Prior Losses	
In millions	
2019	\$ 1,075
2020	588
2021	263
2022	439
Total	\$ 2,365

The Company expects pension expense to decrease in 2019 by approximately \$100 million. The decrease in pension expense is primarily the result of higher discount rates and the full year impact of discretionary contributions of \$1,100 million made to each of Historical Dow's and Historical DuPont's principal U.S. pension plans in the third quarter of 2018.

A 25 basis point increase or decrease in the long-term return on assets assumption would change the Company's total pension expense for 2019 by \$106 million. A 25 basis point increase in the discount rate assumption would lower the Company's total pension expense for 2019 by \$24 million. A 25 basis point decrease in the discount rate assumption would increase the Company's total pension expense for 2019 by \$33 million. A 25 basis point change in the long-term return and discount rate assumptions would have an immaterial impact on the other postretirement benefit expense for 2019.

Income Taxes

Deferred tax assets and liabilities are determined 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. Based on the evaluation of available evidence, both positive and negative, the Company recognizes future tax benefits, such as net operating loss carryforwards and tax credit carryforwards, to the extent that realizing these benefits is considered to be more likely than not.

At December 31, 2018, the Company had a net deferred tax liability balance of \$3,711 million, after valuation allowances of \$2,407 million.

In evaluating the ability to realize the deferred tax assets, the Company relies on, in order of increasing subjectivity, taxable income in prior carryback years, the future reversals of existing taxable temporary differences, tax planning strategies and forecasted taxable income using historical and projected future operating results.

At December 31, 2018, the Company had deferred tax assets for tax loss and tax credit carryforwards of \$3,634 million, \$384 million of which is subject to expiration in the years 2019 through 2023.

The Company recognizes the financial statement effects of an uncertain income tax position when it is more likely than not, based on technical merits, that the position will be sustained upon examination. At December 31, 2018, the Company had uncertain tax positions for both domestic and foreign issues of \$1,062 million.

Indemnification Assets

On July 1, 2015, Historical DuPont completed the separation of its Performance Chemicals segment through the spin-off of all of the issued and outstanding stock of The Chemours Company (the "Chemours Separation"). In connection with the Chemours Separation, Historical DuPont and The Chemours Company ("Chemours") entered into a Separation Agreement (as amended, the "Chemours Separation Agreement"). Pursuant to the Chemours Separation Agreement, discussed in Note 16 to the Consolidated Financial Statements, Historical DuPont is indemnified by Chemours against certain litigation, environmental, workers' compensation and other liabilities that arose prior to the Chemours Separation. The term of this indemnification is indefinite and

includes defense costs and expenses, as well as monetary and non-monetary settlements and judgments. In connection with the recognition of liabilities related to these indemnified matters, Historical DuPont records an indemnification asset when recovery is deemed probable. In assessing the probability of recovery, Historical DuPont considers the contractual rights under the Chemours Separation Agreement and any potential credit risk. Future events, such as potential disputes related to recovery as well as the solvency of Chemours, could cause the indemnification assets to have a lower value than anticipated and recorded. The Company evaluates the recovery of the indemnification assets recorded when events or changes in circumstances indicate the carrying values may not be fully recoverable.

Purchase Accounting

Due to the Merger and the related accounting determination, Historical DuPont's assets and liabilities were measured at fair value as of the date of the Merger. Estimates of fair value require a complex series of judgments about future events and uncertainties. In determining the fair value, DowDuPont utilized various forms of the income, cost and market approaches depending on the asset or liability being fair valued. The estimation of fair value required significant judgments related to future net cash flows (including net sales, cost of products sold, selling and marketing costs, and working capital/contributory asset charges), discount rates reflecting the risk inherent in each cash flow stream, competitive trends, market comparables and other factors. Inputs were generally determined by taking into account historical data, supplemented by current and anticipated market conditions and growth rates. The estimates and assumptions used to determine the estimated fair value assigned to each class of assets and liabilities, as well as asset lives, have a material impact to the Company's consolidated financial statements, and are based upon assumptions believed to be reasonable but that are inherently uncertain. Third party valuation specialists were engaged to assist in the valuation of certain of these assets and liabilities. The valuation process to determine the fair value of the acquired assets and liabilities is complete.

Prepaid Royalties

The Company's Agriculture segment currently has certain third-party biotechnology trait license agreements, which require up-front and variable payments subject to the licensor meeting certain conditions. These payments are reflected as "Other current assets" and "Deferred charges and other assets" in the consolidated balance sheets and are amortized to "Cost of sales" in the consolidated statements of income as seeds containing the respective trait technology are utilized over the life of the license. At December 31, 2018, the balance of prepaid royalties reflected in "Other current assets" and "Deferred charges and other assets" was \$239 million and \$1,139 million, respectively. The Company evaluates the carrying value of the prepaid royalties when events or changes in circumstances indicate the carrying value may not be recoverable. The recoverability of the prepaid royalties and the rate of royalty amortization expense recognized are based on the Company's strategic plans which include various assumptions and estimates including product portfolio, market dynamics, farmer preferences, growth rates and projected planted acres. Changes in factors and assumptions included in the strategic plans, including potential changes to the product portfolio in favor of internally developed biotechnology, could impact the recoverability and/or rate of recognition of the relevant prepaid royalty.

Environmental Matters

Environmental Policies - Historical Dow

Historical Dow is committed to world-class environmental, health and safety ("EH&S") performance, as demonstrated by industry-leading performance, a long-standing commitment to RESPONSIBLE CARE®, a strong commitment to achieve the 2025 Sustainability Goals - goals that set the standard for sustainability in the chemical industry by focusing on improvements in Historical Dow's local corporate citizenship and product stewardship, and by actively pursuing methods to reduce the environmental impact.

To meet Historical Dow's public commitments, as well as the stringent laws and government regulations related to environmental protection and remediation to which its global operations are subject, Historical Dow has well-defined policies, requirements and management systems. Historical Dow's EH&S Management System ("EMS") defines the "who, what, when and how" needed for the businesses to achieve Dow's policies, requirements, performance objectives, leadership expectations and public commitments. To ensure effective utilization, the EMS is integrated into a company-wide management system for EH&S, Operations, Quality and Human Resources.

It is Historical Dow's policy to adhere to a waste management hierarchy that minimizes the impact of wastes and emissions on the environment. First, Historical Dow works to eliminate or minimize the generation of waste and emissions at the source through research, process design, plant operations and maintenance. Second, Historical Dow finds ways to reuse and recycle materials. Finally, unusable or non-recyclable hazardous waste is treated before disposal to eliminate or reduce the hazardous nature and volume of the waste. Treatment may include destruction by chemical, physical, biological or thermal means. Disposal of waste materials in landfills is considered only after all other options have been thoroughly evaluated. Historical Dow has specific requirements for waste that is transferred to non-Historical Dow facilities, including the periodic auditing of these facilities.

Historical Dow believes third-party verification and transparent public reporting are cornerstones of world-class EH&S performance and building public trust. Numerous Historical Dow sites in Europe, Latin America, Asia Pacific and U.S. & Canada have received third-party verification of Historical Dow's compliance with RESPONSIBLE CARE® and with outside specifications such as ISO-14001. Historical Dow continues to be a global champion of RESPONSIBLE CARE® and has worked to broaden the application and impact of RESPONSIBLE CARE® around the world through engagement with suppliers, customers and joint venture partners.

Historical Dow's EH&S policies helped achieve improvements in many aspects of EH&S performance in 2018. Historical Dow's process safety performance was excellent in 2018 and improvements were made in injury/illness rates. Safety remains a priority for Historical Dow. Further improvement in these areas, as well as environmental compliance, remains a top management priority, with initiatives underway to further improve performance and compliance in 2019 as Historical Dow continues to implement its 2025 Sustainability Goals.

Detailed information on Historical Dow's performance regarding environmental matters and goals can be found online on Historical Dow's Science & Sustainability webpage at www.dow.com. Historical Dow's website and its content are not deemed incorporated by reference into this report.

Environmental Policies - Historical DuPont

Historical DuPont operates global manufacturing, product handling and distribution facilities that are subject to a broad array of environmental laws and regulations. Such rules are subject to change by the implementing governmental agency, and Historical DuPont monitors these changes closely. Historical DuPont's policy requires that all operations fully meet or exceed legal and regulatory requirements. In addition, Historical DuPont implements voluntary programs to reduce air emissions, minimize the generation of hazardous waste, decrease the volume of water use and discharges, increase the efficiency of energy use and reduce the generation of persistent, bioaccumulative and toxic materials. Management has noted a global upward trend in the amount and complexity of proposed chemicals regulation. The costs to comply with complex environmental laws and regulations, as well as internal voluntary programs and goals, are significant and will continue to be significant for the foreseeable future.

Climate Change - Historical Dow

Climate change matters for Historical Dow are likely to be driven by changes in regulations, public policy and physical climate parameters.

Regulatory Matters

Regulatory matters include cap and trade schemes; increased greenhouse gas ("GHG") limits; and taxes on GHG emissions, fuel and energy. The potential implications of each of these matters are all very similar, including increased costs of purchased energy, additional capital costs for installation or modification of GHG emitting equipment, and additional costs associated directly with GHG emissions (such as cap and trade systems or carbon taxes), which are primarily related to energy use. It is difficult to estimate the potential impact of these regulatory matters on energy prices.

Reducing Historical Dow's overall energy usage and GHG emissions through new and unfolding projects will decrease the potential impact of these regulatory matters. Historical Dow also has a dedicated commercial group to handle energy contracts and purchases, including managing emissions trading. Historical Dow has not experienced any material impact related to regulated GHG emissions and continues to evaluate and monitor this area for future developments.

Physical Climate Parameters

Many scientific academies throughout the world have concluded that it is very likely that human activities are contributing to global warming. At this point, it is difficult to predict and assess the probability and opportunity of a global warming trend on Historical Dow specifically. Preparedness plans are developed that detail actions needed in the event of severe weather. These measures have historically been in place and these activities and associated costs are driven by normal operational preparedness. Historical Dow continues to study the long-term implications of changing climate parameters on water availability, plant siting issues, and impacts and opportunities for products.

Historical Dow's Energy business and Public Affairs and Sustainability functions are tasked with developing and implementing a comprehensive strategy that addresses the potential challenges of energy security and GHG emissions. Historical Dow continues to elevate its internal focus and external positions - to focus on the root causes of GHG emissions - including the unsustainable use of energy. Historical Dow's energy plan provides the roadmap:

- Conserve - aggressively pursue energy efficiency and conservation
- Optimize - increase and diversify energy resources
- Accelerate - develop cost-effective, clean, renewable and alternative energy sources

- Transition - to a sustainable energy future

Through corporate energy efficiency programs and focused GHG management efforts, Historical Dow has and is continuing to reduce its GHG emissions footprint. Historical Dow's manufacturing intensity, measured in Btu per pound of product, has improved by more than 40 percent since 1990. As part of its 2025 Sustainability Goals, Historical Dow will maintain GHG emissions below 2006 levels on an absolute basis for all GHGs.

Historical Dow intends to implement the recommendations of the Financial Stability Board's Task Force on Climate-Related Disclosures ("Task Force") over the next two to four years, which is aligned with the recommendations of the Task Force.

Climate Change - Historical DuPont

Historical DuPont believes that climate change is an important global issue that presents risks and opportunities. For instance, Historical DuPont continuously evaluates opportunities for existing and new product and service offerings to meet the anticipated demands of a low-carbon economy. Historical DuPont also manages and reports its operational resource efficiency. Expanding upon significant GHG emissions and other environmental footprint reductions made in the period 1990-2010, in 2015, Historical DuPont announced its 2020 Sustainability Goals, including a goal to achieve a 7 percent reduction in GHG emissions intensity (2015 baseline) and a 10 percent improvement in energy intensity (2010 baseline). While Historical DuPont's 2017 GHG intensity held relatively flat with its 2015 goal baseline, Historical DuPont has achieved a 12.7 percent reduction in GHG intensity since 2010. In addition, Historical DuPont has achieved a 14.9 percent improvement in non-renewable energy intensity since 2010.

Historical DuPont is actively engaged in efforts to develop constructive public policies to reduce GHG emissions and encourage lower-carbon forms of energy. Such policies may bring higher operating costs as well as greater revenue and margin opportunities. Legislative efforts to control or limit GHG emissions could affect Historical DuPont's energy source and supply choices as well as increase the cost of energy and raw materials derived from fossil fuels. Such efforts are also anticipated to provide the business community with greater certainty for the regulatory future, help guide investment decisions and drive growth in demand for low-carbon and energy-efficient products, technologies and services. Similarly, demand is expected to grow for products that facilitate adaptation to a changing climate. However, the current unsettled policy environment in the U.S., where many Historical DuPont facilities are located, adds an element of uncertainty to business decisions, particularly those relating to long-term capital investments.

In addition, significant differences in regional or national approaches could present challenges in a global marketplace. An effective global climate policy framework will help drive the market changes that are needed to stimulate and efficiently deploy new innovations in science and technology, while maintaining open and competitive global markets.

DowDuPont Environmental Remediation

Environmental Capital Expenditures

Capital expenditures for environmental projects, either required by law or necessary to meet the Company's internal environmental goals, were \$105 million in 2018.

Environmental Operating Costs and Remediation

As a result of the Historical Dow and Historical DuPont operations, DowDuPont incurs environmental operating costs for pollution abatement activities including waste collection and disposal, installation and maintenance of air pollution controls and wastewater treatment, emissions testing and monitoring and obtaining permits. The Company also incurs environmental operating costs related to environmental related research and development activities including environmental field and treatment studies as well as toxicity and degradation testing to evaluate the environmental impact of products and raw materials.

Pretax environmental expenses charged to income from continuing operations are summarized below:

Environmental Expenses Charged to Income			
In millions	2018	2017 ¹	2016
Environmental operating costs	\$ 1,012	\$ 725	\$ 623
Environmental remediation costs	232	179	504
Total	\$ 1,244	\$ 904	\$ 1,127

1. Includes Historical DuPont costs for the period September 1, 2017 through December 31, 2017.

Based on existing facts and circumstances, management does not believe that year over year changes in environmental expenses charged to current operations will have a material impact on the Company's financial position, liquidity or results of operations.

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Annual expenditures in the near term are not expected to vary significantly from the range of such expenditures experienced in the past few years. Longer term, expenditures are subject to considerable uncertainty and may fluctuate significantly.

Changes in the remediation accrual balance are summarized below:

Accrued Obligations for Environmental Matters		
In millions	2018	2017
Balance at Jan 1	\$ 1,311	\$ 909
Liabilities assumed ¹	—	483
Accrual adjustment	233	180
Payments against reserve	(270)	(260)
Foreign currency impact	(24)	17
Net change, indemnification ²	(49)	(18)
Balance at Dec 31	\$ 1,201	\$ 1,311

1. Remediation obligations assumed upon completion of the Merger.

2. Represents the net change in indemnified remediation obligations based on activity as well as the removal from Historical DuPont's accrued remediation liabilities of obligations have been fully transferred to Chemours. Pursuant to the Chemours Separation Agreement, as discussed below and in Note 16 to the Consolidated Financial Statements, Historical DuPont is indemnified by Chemours for certain environmental matters.

Considerable uncertainty exists with respect to environmental remediation and costs, and under adverse changes in circumstances, it is reasonably possible that the ultimate cost with respect to these particular matters could range up to two and a half times times above the amount accrued. Consequently, it is reasonably possible that environmental remediation and restoration costs in excess of amounts accrued could have a material impact on the Company's results of operations, financial condition and cash flows. It is the opinion of the Company's management, however, that the possibility is remote that costs in excess of the range disclosed will have a material impact on the Company's results of operations, financial condition or cash flows. For further discussion, see Environmental Matters in Management's Discussion and Analysis of Financial Condition and Results of Operations and Notes 1 and 16 to the Consolidated Financial Statements.

Information regarding environmental sites is provided below:

Environmental Sites ¹	<i>Historical DuPont</i>				<i>Historical Dow</i>			
	<i>Sites ²</i>		<i>Superfund Sites ^{3, 4}</i>		<i>Sites ⁵</i>		<i>Superfund Sites ³</i>	
	2018	2017	2018	2017	2018	2017	2018	2017
Number of sites at Jan 1	99	—	62	—	244	189	131	131
Sites added during year ⁶	1	99	7	62	3	60	2	2
Sites closed during year	—	—	—	—	(9)	(5)	(2)	(2)
Number of sites at Dec 31	100	99	69	62	238	244	131	131

1. Active sites.

2. Sites currently or formerly owned by Historical DuPont. Remediation obligations are imposed by the Resource Conservation and Recovery Act or similar state law in the United States and by similar federal, state, provincial or local law in non-U.S. locations. At December 31, 2018, Chemours is indemnifying Historical DuPont for activities at 31 of these sites. See discussion below and Note 16 to the Consolidated Financial Statements for additional information.

3. Superfund sites are sites, including sites not owned by Historical DuPont or Historical Dow, where remediation obligations may be imposed on either company under federal or state Superfund laws or similar laws in non-U.S. locations. The total includes approximately 40 sites that have been counted twice as Historical DuPont and Historical Dow are separately named.

4. At December 31, 2018, Chemours is indemnifying Historical DuPont for activities at 28 of these Superfund sites. See discussion below and Note 16 to the Consolidated Financial Statements for additional information.

5. Sites currently or formerly owned by Historical Dow. Remediation obligations are imposed by the Resource Conservation and Recovery Act or similar state law in the United States and by similar federal, state, provincial or local law in non-U.S. locations. At December 31, 2018, 32 of these sites (35 sites at December 31, 2017) were formerly owned by Dowell Schlumberger, Inc., a group of companies in which Historical Dow previously owned a 50 percent interest. Historical Dow sold its interest in Dowell Schlumberger in 1992.

6. Includes Historical DuPont remediation obligations transferred as a result of the Merger in 2017.

Additional information is provided below for Historical Dow's Midland, Michigan, manufacturing site and Midland off-site locations (collectively, the "Midland sites"), as well as a Superfund site in Wood-Ridge, New Jersey, the locations for Historical Dow that have the largest potential environmental liabilities.

In the early days of operations at the Historical Dow Midland manufacturing site, wastes were usually disposed of on-site, resulting in soil and groundwater contamination, which has been contained and managed on-site under a series of Resource Conservation and Recovery Act permits and regulatory agreements. The Hazardous Waste Operating License for the Midland manufacturing

site, issued in 2003, and renewed and replaced in September 2015, also included provisions for Historical Dow to conduct an investigation to determine the nature and extent of off-site contamination from historic Midland manufacturing site operations. In January 2010, Historical Dow, the EPA and the State of Michigan ("State") entered into an Administrative Order on Consent that requires Historical Dow to conduct a remedial investigation, a feasibility study and a remedial design for the Tittabawassee River, the Saginaw River and the Saginaw Bay, and pay the oversight costs of the EPA and the State under the authority of the federal Comprehensive Environmental Response, Compensation and Liability Act. See Note 16 to the Consolidated Financial Statements for additional information. At December 31, 2018, Historical Dow had an accrual of \$134 million (\$131 million at December 31, 2017) for environmental remediation and investigation associated with the Midland sites. In 2018, Historical Dow spent \$26 million (\$24 million in 2017) for environmental remediation at the Midland sites.

Rohm and Haas, a wholly owned subsidiary of Historical Dow, is a PRP at the Wood-Ridge, New Jersey Ventron/Velsicol Superfund Site, and the adjacent Berry's Creek Study Area ("BCSA") (collectively, the "Wood-Ridge sites"). Rohm and Haas is a successor in interest to a company that owned and operated a mercury processing facility, where wastewater and waste handling resulted in contamination of soils and adjacent creek sediments. The Berry's Creek Study Area PRP group completed a multi-stage Remedial Investigation ("RI") pursuant to an Administrative Order on Consent with U.S. EPA Region 2 to identify contamination in surface water, sediment and biota related to numerous contaminated sites in the Berry's Creek watershed, and submitted the report to the EPA in June 2016. That same month, the EPA concluded that an "iterative or adaptive approach" was appropriate for cleaning up the BCSA. Thus, each phase of remediation will be followed by a period of monitoring to assess its effectiveness and determine if there is a need for more work. The Feasibility Study ("FS") for the first phase of work was submitted in the third quarter of 2018. The EPA selected the interim remedy and issued an interim Record of Decision ("ROD"). The PRP group is negotiating agreements among the PRP's to fund design of the selected remedy and with the EPA to design the selected remedy. Although there is currently much uncertainty as to what will ultimately be required to remediate the BCSA and Rohm and Haas's share of these costs has yet to be determined, the range of activities that will be required in the interim ROD is known in general terms. Based on the interim remedy selected by the EPA, the overall remediation accrual for the Wood-Ridge sites was increased by \$21 million in the fourth quarter of 2018. At December 31, 2018, the Company had an accrual of \$106 million (\$88 million at December 31, 2017) for environmental remediation at the Wood-Ridge sites. In 2018, Historical Dow spent \$6 million (\$7 million in 2017) on environmental remediation at the Wood-Ridge sites.

In the fourth quarter of 2016, Historical Dow recorded a pretax charge of \$295 million for environmental remediation at a number of historical locations, including the Midland manufacturing site/off-site matters and the Wood-Ridge sites, primarily resulting from the culmination of negotiations with regulators and/or final agency approval. This charge was included in "Cost of sales" in the consolidated statements of income. In total, the Company's accrued liability for probable environmental remediation and restoration costs was \$1,201 million at December 31, 2018, compared with \$1,311 million at December 31, 2017. This is management's best estimate of the costs for remediation and restoration with respect to environmental matters for which the Company has accrued liabilities, although it is reasonably possible that the ultimate cost with respect to these particular matters could range up to approximately two and a half times that amount. Consequently, it is reasonably possible that environmental remediation and restoration costs in excess of amounts accrued could have a material impact on the Company's results of operations, financial condition and cash flows. It is the opinion of the Company's management, however, that the possibility is remote that costs in excess of the range disclosed will have a material impact on the Company's results of operations, financial condition and cash flows.

Separation of Historical DuPont's Performance Chemicals Segment

Pursuant to the Chemours Separation Agreement discussed in Note 16 to the Consolidated Financial Statements, Historical DuPont is indemnified by Chemours for certain environmental matters, included in the liability of \$1,201 million, that had an estimated liability of \$193 million at December 31, 2018, and a potential exposure that ranges up to approximately \$310 million above the current accrual. As such, Historical DuPont has recorded an indemnification asset of \$193 million corresponding to Historical DuPont's accrual balance related to these matters at December 31, 2018.

Asbestos-Related Matters of Union Carbide Corporation

Union Carbide is and has been involved in a large number of asbestos-related suits filed primarily in state courts during the past four decades. These suits principally allege personal injury resulting from exposure to asbestos-containing products and frequently seek both actual and punitive damages. The alleged claims primarily relate to products that Union Carbide sold in the past, alleged exposure to asbestos-containing products located on Union Carbide's premises, and Union Carbide's responsibility for asbestos suits filed against a former Union Carbide subsidiary, Amchem. In many cases, plaintiffs are unable to demonstrate that they have suffered any compensable loss as a result of such exposure, or that injuries incurred in fact resulted from exposure to Union Carbide's products.

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The table below provides information regarding asbestos-related claims pending against Union Carbide and Amchem based on criteria developed by Union Carbide and its external consultants.

Asbestos-Related Claim Activity	2018	2017	2016
Claims unresolved at Jan 1	15,427	16,141	18,778
Claims filed	6,599	7,010	7,813
Claims settled, dismissed or otherwise resolved	(9,246)	(7,724)	(10,450)
Claims unresolved at Dec 31	12,780	15,427	16,141
Claimants with claims against both Union Carbide and Amchem	(4,675)	(5,530)	(5,741)
Individual claimants at Dec 31	8,105	9,897	10,400

Plaintiffs' lawyers often sue numerous defendants in individual lawsuits or on behalf of numerous claimants. As a result, the damages alleged are not expressly identified as to Union Carbide, Amchem or any other particular defendant, even when specific damages are alleged with respect to a specific disease or injury. In fact, there are no personal injury cases in which only Union Carbide and/or Amchem are the sole named defendants. For these reasons and based upon Union Carbide's litigation and settlement experience, Union Carbide does not consider the damages alleged against Union Carbide and Amchem to be a meaningful factor in its determination of any potential asbestos-related liability.

For additional information, see Part I, Item 3. Legal Proceedings and Asbestos-Related Matters of Union Carbide Corporation and Note 16 to the Consolidated Financial Statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

DowDuPont's risk management programs are managed separately by Historical Dow and Historical DuPont. Historical Dow and Historical DuPont have historically utilized different methods to report their quantitative information about market risk. Historical Dow uses a value-at-risk ("VAR") approach while Historical DuPont uses sensitivity analysis. Both methods are acceptable under SEC Regulation S-K and are viewed as equally effective from a risk monitoring perspective. As the risk management programs for Historical Dow and Historical DuPont will continue to be managed separately, the quantitative and qualitative disclosures about market risk will be provided for each subsidiary, as discussed below.

Historical Dow

Historical Dow's business operations give rise to market risk exposure due to changes in foreign exchange rates, interest rates, commodity prices and other market factors such as equity prices. To manage such risks effectively, Historical Dow enters into hedging transactions, pursuant to established guidelines and policies that enable it to mitigate the adverse effects of financial market risk. Derivatives used for this purpose are designated as hedges per the accounting guidance related to derivatives and hedging activities, where appropriate. A secondary objective is to add value by creating additional non-specific exposure within established limits and policies; derivatives used for this purpose are not designated as hedges. The potential impact of creating such additional exposures is not material to Historical Dow's results.

The global nature of Historical Dow's business requires active participation in the foreign exchange markets. Historical Dow has assets, liabilities and cash flows in currencies other than the U.S. dollar. The primary objective of Historical Dow's foreign currency risk management is to optimize the U.S. dollar value of net assets and cash flows. To achieve this objective, Historical Dow hedges on a net exposure basis using foreign currency forward contracts, over-the-counter option contracts, cross-currency swaps and nonderivative instruments in foreign currencies. Exposures primarily relate to assets, liabilities and bonds denominated in foreign currencies, as well as economic exposure, which is derived from the risk that currency fluctuations could affect the dollar value of future cash flows related to operating activities. The largest exposures are denominated in European currencies, the Japanese yen and the Chinese yuan, although exposures also exist in other currencies of Asia Pacific, Canada, Latin America, Middle East, Africa and India.

The main objective of interest rate risk management is to reduce the total funding cost to Historical Dow and to alter the interest rate exposure to the desired risk profile. To achieve this objective, Historical Dow hedges using interest rate swaps, "swaptions," and exchange-traded instruments. Historical Dow's primary exposure is to the U.S. dollar yield curve.

Historical Dow has a portfolio of equity securities derived primarily from the investment activities of its insurance subsidiaries. This exposure is managed in a manner consistent with Historical Dow's market risk policies and procedures.

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Inherent in Historical Dow's business is exposure to price changes for several commodities. Some exposures can be hedged effectively through liquid tradable financial instruments. Natural gas and crude oil, along with feedstocks for ethylene and propylene production, constitute the main commodity exposures. Over-the-counter and exchange traded instruments are used to hedge these risks, when feasible.

Historical Dow uses VAR, stress testing and scenario analysis for risk measurement and control purposes. VAR estimates the maximum potential loss in fair market values, given a certain move in prices over a certain period of time, using specified confidence levels. The VAR methodology used by Historical Dow is a variance/covariance model. This model uses a 97.5 percent confidence level and includes at least one year of historical data. The 2018 and 2017 year-end and average daily VAR for the aggregate of all positions are shown below. These amounts are immaterial relative to the total equity of Historical Dow.

Total Daily VAR by Exposure Type at Dec 31	2018		2017	
	Year-end	Average	Year-end	Average
In millions				
Commodities	\$ 26	\$ 30	\$ 32	\$ 35
Equity securities	12	7	4	9
Foreign exchange	26	28	26	38
Interest rate	81	80	70	76
Composite	\$ 145	\$ 145	\$ 132	\$ 158

Historical Dow's daily VAR for the aggregate of all positions increased from a composite VAR of \$132 million at December 31, 2017, to a composite VAR of \$145 million at December 31, 2018. The interest rate VAR increased due to an increase in exposure. The equity securities VAR increased due to an increase in managed exposures and higher equity volatility. The commodities VAR decreased due to a decrease in managed exposure. See Note 21 to the Consolidated Financial Statements for further disclosure regarding market risk.

Historical DuPont

Historical DuPont's global operations are exposed to financial market risks relating to fluctuations in foreign currency exchange rates, commodity prices and interest rates. Historical DuPont has established a variety of programs including the use of derivative instruments and other financial instruments to manage the exposure to financial market risks as to minimize volatility of financial results. In the ordinary course of business, Historical DuPont enters into derivative instruments to hedge its exposure to foreign currency, interest rate and commodity price risks under established procedures and controls. Decisions regarding whether or not to hedge a given commitment are made on a case-by-case basis, taking into consideration the amount and duration of the exposure, market volatility and economic trends. Foreign currency exchange contracts are also used, from time to time, to manage near-term foreign currency cash requirements.

Foreign Currency Exchange Rate Risks

Historical DuPont has significant international operations resulting in a large number of currency transactions that result from international sales, purchases, investments and borrowings. The primary currencies for which Historical DuPont has an exchange rate exposure are the European euro, Chinese yuan, Brazilian real and Japanese yen. Historical DuPont uses forward exchange contracts to offset its net exposures, by currency, related to the foreign currency denominated monetary assets and liabilities of its operations. In addition to the contracts disclosed in Note 21 to the Consolidated Financial Statements, from time to time, Historical DuPont will enter into foreign currency exchange contracts to establish with certainty the U.S. dollar amount of future firm commitments denominated in a foreign currency.

The following table illustrates the fair values of outstanding foreign currency contracts at December 31, 2018, and the effect on fair values of a hypothetical adverse change in the foreign exchange rates that existed at December 31, 2018. The sensitivities for foreign currency contracts are based on a 10 percent adverse change in foreign exchange rates.

Foreign Currency Contracts at Dec 31, 2018	Fair Value Asset	Fair Value Sensitivity
In millions		
Foreign currency contracts	\$ 51	\$ (402)

Since Historical DuPont's risk management programs are highly effective, the potential loss in value for each risk management portfolio described above would be largely offset by changes in the value of the underlying exposure.

Concentration of Credit Risk

Historical DuPont maintains cash and cash equivalents, marketable securities, derivatives and certain other financial instruments with various financial institutions. These financial institutions are generally highly rated and geographically dispersed and Historical DuPont has a policy to limit the dollar amount of credit exposure with any one institution.

As part of Historical DuPont's financial risk management processes, it continuously evaluates the relative credit standing of all of the financial institutions that service Historical DuPont and monitors actual exposures versus established limits. Historical DuPont has not sustained credit losses from instruments held at financial institutions.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of DowDuPont Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of DowDuPont Inc. and subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, equity, and cash flows, for each of the three years in the period ended December 31, 2018, and the related notes and the schedule listed in the Index at Item 15a(2) (collectively referred to as the "financial statements"). In our opinion, based on our audits and the report of the other auditors, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 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.

We did not audit the consolidated financial statements of E. I. du Pont de Nemours and Company ("DuPont"), a wholly-owned subsidiary of the Company, which consolidated financial statements reflect total assets of \$101,025 million and \$112,964 million as of December 31, 2018 and 2017, respectively, and total revenues of \$26,279 million for the year ended December 31, 2018 and \$7,053 million for the period from August 31, 2017 (date of merger) to December 31, 2017. Those statements were audited by other auditors whose report has been furnished to us, and our opinion, insofar as it relates to the amounts included for DuPont as of December 31, 2018 and for the period from August 31, 2017 (date of the merger) to December 31, 2017 and the year ended December 31, 2018, is based solely on the report of the other auditors.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2018, based on the criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 11, 2019 expressed an unqualified opinion on the Company's internal control over financial reporting based on our audit and the report of the other auditors.

Changes in Accounting Principles

As discussed in Note 16 to the financial statements, in the fourth quarter of 2016, the Company changed its accounting policy from expensing asbestos-related defense and processing costs as incurred to the accrual of asbestos-related defense and processing costs when probable of occurring and estimable. As discussed in Note 4 to the financial statements, in the first quarter of 2018, the Company changed its method of accounting for revenue due to the adoption of Accounting Standards Codification Topic 606, *Revenue From Contracts With Customers*.

Merger

As discussed in Notes 1 and 3 to the financial statements, the Company was formed for the purpose of effecting the merger of The Dow Chemical Company and DuPont. On August 31, 2017, the merger was completed.

Basis for Opinion

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

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

/s/ DELOITTE & TOUCHE LLP

Deloitte & Touche LLP

Midland, Michigan

February 11, 2019

We have served as the Company's auditor since 1905.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors of E. I. du Pont de Nemours and Company

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the consolidated balance sheets of E. I. du Pont de Nemours and Company and its subsidiaries (Successor) (the “Company”) as of December 31, 2018 and 2017, and the related consolidated statements of operations, comprehensive (loss) income, equity and cash flows for the year ended December 31, 2018 and for the period September 1, 2017 through December 31, 2017, including the related notes and financial statement schedule (collectively referred to as the “consolidated financial statements”) (not presented herein). 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 2017, and the results of its operations and its cash flows for the year ended December 31, 2018 and for the period September 1, 2017 through December 31, 2017 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.

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 (not presented herein). 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

PricewaterhouseCoopers LLP

Philadelphia, Pennsylvania

February 11, 2019

We have served as the Company's auditor since 1954.

DowDuPont Inc.
Consolidated Statements of Income

(In millions, except per share amounts) For the years ended Dec 31,	2018	2017	2016
Net sales	\$ 85,977	\$ 62,484	\$ 48,158
Cost of sales	65,333	49,791	37,668
Research and development expenses	3,060	2,141	1,593
Selling, general and administrative expenses	6,709	4,064	2,953
Amortization of intangibles	1,903	1,013	544
Restructuring, goodwill impairment and asset related charges - net	1,105	3,280	595
Integration and separation costs	2,463	1,101	349
Asbestos-related charge	—	—	1,113
Equity in earnings of nonconsolidated affiliates	1,001	764	442
Sundry income (expense) - net	592	417	1,486
Interest expense and amortization of debt discount	1,504	1,082	858
Income from continuing operations before income taxes	5,493	1,193	4,413
Provision (Credit) for income taxes on continuing operations	1,489	(476)	9
Income from continuing operations, net of tax	4,004	1,669	4,404
Loss from discontinued operations, net of tax	(5)	(77)	—
Net income	3,999	1,592	4,404
Net income attributable to noncontrolling interests	155	132	86
Net income attributable to DowDuPont Inc.	3,844	1,460	4,318
Preferred stock dividends	—	—	340
Net income available for DowDuPont Inc. common stockholders	\$ 3,844	\$ 1,460	\$ 3,978

Per common share data:			
Earnings per common share from continuing operations - basic	\$ 1.66	\$ 0.97	\$ 3.57
Loss per common share from discontinued operations - basic	—	(0.05)	—
Earnings per common share - basic	\$ 1.66	\$ 0.92	\$ 3.57
Earnings per common share from continuing operations - diluted	\$ 1.65	\$ 0.95	\$ 3.52
Loss per common share from discontinued operations - diluted	—	(0.04)	—
Earnings per common share - diluted	\$ 1.65	\$ 0.91	\$ 3.52

Weighted-average common shares outstanding - basic	2,301.0	1,579.8	1,108.1
Weighted-average common shares outstanding - diluted	2,315.5	1,598.1	1,123.2

See Notes to the Consolidated Financial Statements.

DowDuPont Inc.
Consolidated Statements of Comprehensive Income

(In millions) For the years ended Dec 31,	2018	2017	2016
Net income	\$ 3,999	\$ 1,592	\$ 4,404
Other comprehensive income (loss), net of tax			
Unrealized losses on investments	(67)	(46)	(4)
Cumulative translation adjustments	(1,743)	446	(644)
Pension and other postretirement benefit plans	(626)	466	(620)
Derivative instruments	51	(16)	113
Total other comprehensive income (loss)	(2,385)	850	(1,155)
Comprehensive income	1,614	2,442	3,249
Comprehensive income attributable to noncontrolling interests, net of tax	118	174	83
Comprehensive income attributable to DowDuPont Inc.	\$ 1,496	\$ 2,268	\$ 3,166

See Notes to the Consolidated Financial Statements.

DowDuPont Inc.
Consolidated Balance Sheets

(In millions, except share amounts) At Dec 31,	2018	2017
Assets		
Current Assets		
Cash and cash equivalents (variable interest entities restricted - 2018: \$82; 2017: \$107)	\$ 13,482	\$ 13,438
Marketable securities	134	956
Accounts and notes receivable:		
Trade (net of allowance for doubtful receivables - 2018: \$191; 2017: \$127)	12,376	11,314
Other	4,963	5,579
Inventories	16,621	16,992
Other current assets	2,027	1,614
Total current assets	49,603	49,893
Investments		
Investment in nonconsolidated affiliates	5,204	5,336
Other investments (investments carried at fair value - 2018: \$1,699; 2017: \$1,512)	2,701	2,564
Noncurrent receivables	477	680
Total investments	8,382	8,580
Property		
Property	75,343	73,304
Less accumulated depreciation	39,495	37,057
Net property (variable interest entities restricted - 2018: \$734; 2017: \$907)	35,848	36,247
Other Assets		
Goodwill	59,032	59,527
Other intangible assets (net of accumulated amortization - 2018: \$7,414; 2017: \$5,550)	30,965	33,274
Deferred income tax assets	1,724	1,869
Deferred charges and other assets	2,476	2,774
Total other assets	94,197	97,444
Total Assets	\$ 188,030	\$ 192,164
Liabilities and Equity		
Current Liabilities		
Notes payable	\$ 2,165	\$ 1,948
Long-term debt due within one year	637	2,067
Accounts payable:		
Trade	9,457	9,134
Other	3,656	3,727
Income taxes payable	857	843
Accrued and other current liabilities	7,943	8,409
Total current liabilities	24,715	26,128
Long-Term Debt (variable interest entities nonrecourse - 2018: \$75; 2017: \$249)	37,662	30,056
Other Noncurrent Liabilities		
Deferred income tax liabilities	5,435	6,266
Pension and other postretirement benefits - noncurrent	15,909	18,581
Asbestos-related liabilities - noncurrent	1,142	1,237
Other noncurrent obligations	6,988	7,969
Total other noncurrent liabilities	29,474	34,053
Stockholders' Equity		
Common stock (authorized 5,000,000,000 shares of \$0.01 par value each; issued 2018: 2,352,430,301 shares; 2017: 2,341,455,518 shares)	24	23
Additional paid-in capital	81,960	81,257
Retained earnings	30,536	29,211
Accumulated other comprehensive loss	(12,394)	(8,972)
Unearned ESOP shares	(134)	(189)
Treasury stock at cost (2018: 83,452,554 shares; 2017: 14,123,049 shares)	(5,421)	(1,000)

DowDuPont's stockholders' equity	94,571	100,330
Noncontrolling interests	1,608	1,597
Total equity	96,179	101,927
Total Liabilities and Equity	\$ 188,030	\$ 192,164

See Notes to the Consolidated Financial Statements.

DowDuPont Inc.
Consolidated Statements of Cash Flows

(In millions) For the years ended Dec 31,	2018	2017	2016
Operating Activities			
Net income	\$ 3,999	\$ 1,592	\$ 4,404
Adjustments to reconcile net income to net cash provided by (used for) operating activities:			
Depreciation and amortization	5,918	3,969	2,862
Credit for deferred income tax	(434)	(2,083)	(1,259)
Earnings of nonconsolidated affiliates less than dividends received	83	128	243
Net periodic pension benefit cost	58	1,026	389
Pension contributions	(2,964)	(1,744)	(629)
Net gain on sales of assets, businesses and investments	(93)	(1,172)	(214)
Net (gain) loss on step acquisition of nonconsolidated affiliate	47	—	(2,445)
Restructuring, goodwill impairment and asset related charges - net	1,105	3,280	595
Amortization of Merger-related inventory step-up	1,628	1,573	—
Asbestos-related charge	—	—	1,113
Other net loss	673	470	361
Changes in assets and liabilities, net of effects of acquired and divested companies:			
Accounts and notes receivable	(1,611)	(9,782)	(8,833)
Inventories	(1,490)	(2,218)	610
Accounts payable	201	2,631	569
Other assets and liabilities, net	(2,389)	1,565	(723)
Cash provided by (used for) operating activities	4,731	(765)	(2,957)
Investing Activities			
Capital expenditures	(3,837)	(3,570)	(3,804)
Investment in gas field developments	(114)	(121)	(113)
Purchases of previously leased assets	(26)	(187)	—
Proceeds from sales of property and businesses, net of cash divested	202	2,959	284
Acquisitions of property and businesses, net of cash acquired	(20)	50	(187)
Cash acquired in Merger transaction	—	4,005	—
Cash acquired in step acquisition of nonconsolidated affiliate	—	—	1,070
Investments in and loans to nonconsolidated affiliates	(26)	(754)	(1,020)
Distributions and loan repayments from nonconsolidated affiliates	55	106	109
Proceeds from sales of ownership interests in nonconsolidated affiliates	4	64	22
Purchases of investments	(2,787)	(1,690)	(577)
Proceeds from sales and maturities of investments	3,402	4,101	733
Proceeds from interests in trade accounts receivable conduits	657	9,462	8,551
Other investing activities, net	28	(100)	24
Cash provided by (used for) investing activities	(2,462)	14,325	5,092
Financing Activities			
Changes in short-term notes payable	223	(2,248)	(33)
Proceeds from issuance of long-term debt	15,455	499	32
Payments on long-term debt	(9,009)	(663)	(588)
Purchases of treasury stock	(4,421)	(1,000)	(916)
Proceeds from issuance of company stock	197	66	—
Proceeds from sales of common stock	—	453	398
Transaction financing, debt issuance and other costs	(555)	—	—
Employee taxes paid for share-based payment arrangements	(128)	(99)	(65)
Distributions to noncontrolling interests	(195)	(136)	(176)
Purchases of noncontrolling interests	—	—	(202)
Dividends paid to stockholders	(3,491)	(3,394)	(2,462)
Other financing activities, net	6	(32)	(2)
Cash used for financing activities	(1,918)	(6,554)	(4,014)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(344)	297	(77)
Cash reclassified as held for sale	—	88	—
Summary			
Increase (Decrease) in cash, cash equivalents and restricted cash	7	7,391	(1,956)
Cash, cash equivalents and restricted cash at beginning of year	14,015	6,624	8,580
Cash, cash equivalents and restricted cash at end of year	\$ 14,022	\$ 14,015	\$ 6,624
Less: Restricted cash and cash equivalents, included in "Other current assets"	540	577	17
Cash and cash equivalents at end of year	\$ 13,482	\$ 13,438	\$ 6,607
Supplemental cash flow information			
Cash paid during the year for:			

Interest, net of amounts capitalized	\$ 2,116	\$ 1,254	\$ 1,192
Income taxes	\$ 2,199	\$ 1,368	\$ 1,592

See Notes to the Consolidated Financial Statements.

DowDuPont Inc.
Consolidated Statements of Equity

(In millions, except per share amounts)	<i>Preferred Stock</i>	<i>Common Stock</i>	<i>Add'l Paid in Capital</i>	<i>Retained Earnings</i>	<i>Accum Other Comp Loss</i>	<i>Unearned ESOP</i>	<i>Treasury Stock</i>	<i>Non-controlling Interests</i>	<i>Total Equity</i>
2016									
Balance at Jan 1, 2016	\$ 4,000	\$ 3,107	\$ 4,936	\$ 28,425	\$ (8,667)	\$ (272)	\$ (6,155)	\$ 809	\$ 26,183
Net income available for DowDuPont Inc. common stockholders	—	—	—	3,978	—	—	—	—	3,978
Other comprehensive loss	—	—	—	—	(1,155)	—	—	—	(1,155)
Dividends (\$1.84 per common share)	—	—	—	(2,037)	—	—	—	—	(2,037)
Common stock issued/sold	—	—	398	—	—	—	717	—	1,115
Stock-based compensation and allocation of ESOP shares	—	—	(376)	—	—	51	—	—	(325)
ESOP shares acquired	—	—	—	—	—	(18)	—	—	(18)
Impact of noncontrolling interests	—	—	—	—	—	—	—	433	433
Treasury stock purchases	—	—	—	—	—	—	(916)	—	(916)
Preferred stock converted to common stock	(4,000)	—	(695)	—	—	—	4,695	—	—
Other	—	—	(1)	(28)	—	—	—	—	(29)
Balance at Dec 31, 2016	\$ —	\$ 3,107	\$ 4,262	\$ 30,338	\$ (9,822)	\$ (239)	\$ (1,659)	\$ 1,242	\$ 27,229
2017									
Net income available for DowDuPont Inc. common stockholders	—	—	—	1,460	—	—	—	—	1,460
Other comprehensive income	—	—	—	—	850	—	—	—	850
Dividends (\$1.76 per common share)	—	—	—	(2,558)	—	—	—	—	(2,558)
Common stock issued/sold	—	—	519	—	—	—	724	—	1,243
Stock-based compensation and allocation of ESOP shares	—	—	(332)	—	—	50	—	—	(282)
Impact of noncontrolling interests	—	—	—	—	—	—	—	355	355
Treasury stock purchases	—	—	—	—	—	—	(1,000)	—	(1,000)
Merger impact	—	(3,084)	76,829	—	—	—	935	—	74,680
Other	—	—	(21)	(29)	—	—	—	—	(50)
Balance at Dec 31, 2017	\$ —	\$ 23	\$ 81,257	\$ 29,211	\$ (8,972)	\$ (189)	\$ (1,000)	\$ 1,597	\$ 101,927
2018									
Adoption of accounting standards (Note 1)	—	—	—	996	(1,037)	—	—	—	(41)
Net income available for DowDuPont Inc. common stockholders	—	—	—	3,844	—	—	—	—	3,844
Other comprehensive loss	—	—	—	—	(2,385)	—	—	—	(2,385)
Dividends (\$1.52 per common share)	—	—	—	(3,491)	—	—	—	—	(3,491)
Common stock issued/sold	—	1	197	—	—	—	—	—	198
Stock-based compensation and allocation of ESOP shares	—	—	506	—	—	55	—	—	561
Impact of noncontrolling interests	—	—	—	—	—	—	—	11	11
Treasury stock purchases	—	—	—	—	—	—	(4,421)	—	(4,421)
Other	—	—	—	(24)	—	—	—	—	(24)
Balance at Dec 31, 2018	\$ —	\$ 24	\$ 81,960	\$ 30,536	\$ (12,394)	\$ (134)	\$ (5,421)	\$ 1,608	\$ 96,179

See Notes to the Consolidated Financial Statements.

DowDuPont Inc.
Notes to the Consolidated Financial Statements

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NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**Merger**

Effective August 31, 2017, pursuant to the merger of equals transactions contemplated by the Agreement and Plan of Merger, dated as of December 11, 2015, as amended on March 31, 2017 ("Merger Agreement"), The Dow Chemical Company ("Historical Dow") and E. I. du Pont de Nemours and Company ("Historical DuPont") each merged with subsidiaries of DowDuPont Inc. ("DowDuPont" or the "Company") and, as a result, Historical Dow and Historical DuPont became subsidiaries of DowDuPont (the "Merger"). Prior to the Merger, DowDuPont did not conduct any business activities other than those required for its formation and matters contemplated by the Merger Agreement. Historical Dow was determined to be the accounting acquirer in the Merger. As a result, the financial statements of Historical Dow for periods prior to the Merger are considered to be the historical financial statements of DowDuPont.

On August 31, 2017, Historical Dow's common stock, par value \$2.50 per share, and Historical DuPont's common stock, par value \$0.30 per share, were voluntarily delisted from the New York Stock Exchange ("NYSE") in connection with the Merger and were suspended from trading on the NYSE prior to the open of trading on September 1, 2017. DowDuPont's common stock, par value \$0.01 per share, commenced trading on the NYSE under ticker symbol DWDP on September 1, 2017.

Intended Business Separations

DowDuPont plans to separate into three , independent, publicly traded companies - one for each of its agriculture, materials science and specialty products businesses (the “Intended Business Separations” and the transactions to accomplish the Intended Business Separations, the “separations”). DowDuPont has formed two wholly owned subsidiaries: Dow Holdings Inc., to serve as a holding company for its materials science business, and Corteva, Inc., to serve as a holding company for its agriculture business.

In furtherance of the Intended Business Separations, DowDuPont is engaged in a series of internal reorganization and realignment steps (the “Internal Reorganization”) to realign its businesses into three subgroups: agriculture, materials science and specialty products. As part of the Internal Reorganization, the assets and liabilities aligned with the materials science business will be transferred or conveyed to legal entities that will ultimately be subsidiaries of Dow Holdings Inc. and the assets and liabilities aligned with the agriculture business will be transferred or conveyed to legal entities that will ultimately be subsidiaries of Corteva, Inc.

Following the Internal Reorganization, DowDuPont expects to distribute its materials science and agriculture businesses through two separate U.S. federal tax-free spin-offs in which DowDuPont stockholders, at the time of such spin-offs, will receive a pro rata dividend of the shares of the capital stock of Dow Holdings Inc. and of Corteva, Inc., as applicable (the “distributions”). The materials science business, after the consummation of the applicable Internal Reorganization, will be referred to as “Dow” and the agriculture business, after the consummation of the applicable Internal Reorganization, will be referred to as “Corteva.” Following the separation and distribution of Dow, which is targeted to occur on April 1, 2019, DowDuPont, as the remaining company, will continue to hold the agriculture and specialty products businesses. DowDuPont is then targeted to complete the separation and distribution of Corteva on June 1, 2019, resulting in DowDuPont holding the specialty products businesses of the combined Company. After the distribution of Corteva, it is expected that DowDuPont will become known as “DuPont.”

Basis of Presentation

The consolidated financial statements of DowDuPont and its subsidiaries were prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) and include the assets, liabilities, revenues and expenses of all majority-owned subsidiaries over which the Company exercises control and, when applicable, entities for which the Company has a controlling financial interest or is the primary beneficiary. Intercompany transactions and balances are eliminated in consolidation. Investments in nonconsolidated affiliates (20-50 percent owned companies or less than 20 percent owned companies over which significant influence is exercised) are accounted for using the equity method.

Except as otherwise indicated by the context, the term “Historical Dow” includes Historical Dow and its consolidated subsidiaries, “Historical DuPont” includes Historical DuPont and its consolidated subsidiaries, “Union Carbide” means Union Carbide Corporation, a wholly owned subsidiary of Historical Dow, and, “Dow Silicones” means Dow Silicones Corporation (formerly known as Dow Corning Corporation, which changed its name effective as of February 1, 2018), a wholly owned subsidiary of Historical Dow.

Use of Estimates in Financial Statement Preparation

The preparation of financial statements in accordance with U.S. GAAP requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. The Company’s consolidated financial statements include amounts that are based on management’s best estimates and judgments. Actual results could differ from those estimates.

Significant Accounting Policies

Asbestos-Related Matters

Accruals for asbestos-related matters, including defense and processing costs of Union Carbide, are recorded based on an analysis of claim and resolution activity, defense spending, and pending and future claims. These accruals are assessed at each balance sheet date to determine if the asbestos-related liability remains appropriate. Accruals for asbestos-related matters are included in the consolidated balance sheets in “Accrued and other current liabilities” and “Asbestos-related liabilities - noncurrent.”

Legal Costs

The Company expenses legal costs as incurred, with the exception of Union Carbide's defense and processing costs associated with asbestos-related matters.

Foreign Currency Translation

The Company’s worldwide operations utilize the local currency or the U.S. dollar (“USD”) as the functional currency, where applicable. For foreign entities where the local currency is the functional currency, assets and liabilities denominated in local currencies are translated into USD at end-of-period exchange rates and the resultant translation adjustments are reported, net of their related tax effects, as a component of “Accumulated other comprehensive loss” (“AOCL”) in the equity section of the consolidated balance sheets. Income and expenses are translated at average exchange rates in effect during the period.

For certain subsidiaries, USD is used as the functional currency. This occurs when the subsidiary is considered an extension of the parent, or when the foreign subsidiary operates in a hyper-inflationary environment. Where USD is used as the functional currency, all foreign currency-denominated asset and liability amounts are remeasured into USD at end-of-period exchange rates, except for inventories, prepaid expenses, property, plant and equipment, goodwill and other intangible assets, which are remeasured at historical rates. Foreign currency income and expenses are remeasured at average exchange rates in effect during the year, except for expenses related to balance sheet amounts remeasured at historical exchange rates. Exchange gains and losses arising from remeasurement of foreign currency-denominated monetary assets and liabilities are included in income in the period in which they occur.

Environmental Matters

Accruals for environmental matters are recorded when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated based on current law and existing technologies. These accruals are adjusted periodically as assessment and remediation efforts progress or as additional technical or legal information becomes available. Accruals for environmental liabilities are included in the consolidated balance sheets in "Accrued and other current liabilities" and "Other noncurrent obligations" at undiscounted amounts. Accruals for related insurance or other third-party recoveries for environmental liabilities are recorded when it is probable that a recovery will be realized and are included in the consolidated balance sheets in "Accounts and notes receivable - Other."

Environmental costs are capitalized if the costs extend the life of the property, increase its capacity and/or mitigate or prevent contamination from future operations. Environmental costs are also capitalized in recognition of legal asset retirement obligations resulting from the acquisition, construction and/or normal operation of a long-lived asset. Costs related to environmental contamination treatment and cleanup are charged to expense. Estimated future incremental operations, maintenance and management costs directly related to remediation are accrued when such costs are probable and reasonably estimable.

Cash and Cash Equivalents

Cash and cash equivalents include time deposits and investments with maturities of three months or less at the time of purchase.

Financial Instruments

The Company calculates the fair value of financial instruments using quoted market prices when available. When quoted market prices are not available for financial instruments, the Company uses standard pricing models with market-based inputs that take into account the present value of estimated future cash flows.

The Company utilizes derivatives to manage exposures to foreign currency exchange rates, commodity prices and interest rate risk. The fair values of all derivatives are recognized as assets or liabilities at the balance sheet date. Changes in the fair values of these instruments are reported in income or AOCL, depending on the use of the derivative and whether the Company has elected hedge accounting treatment.

Gains and losses on derivatives that are designated and qualify as cash flow hedging instruments are recorded in AOCL until the underlying transactions are recognized in income. Gains and losses on derivative and non-derivative instruments used as hedges of the Company's net investment in foreign operations are recorded in AOCL as part of the cumulative translation adjustment. Prior to the adoption of Accounting Standards Update ("ASU") 2017-12, "Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities" in 2018, the ineffective portions of hedges, if any, were recognized in income immediately. See Note 2 for additional information.

Gains and losses on derivatives designated and qualifying as fair value hedging instruments, as well as the offsetting losses and gains on the hedged items, are reported in income in the same accounting period. Derivatives not designated as hedging instruments are marked-to-market at the end of each accounting period with the results included in income.

Inventories

Inventories are stated at the lower of cost or net realizable value. The method of determining cost for each subsidiary varies among last-in, first-out ("LIFO"); first-in, first-out ("FIFO"); and average cost, and is used consistently from year to year. At December 31, 2018, approximately 19 percent, 61 percent and 20 percent of the Company's inventories were accounted for under the LIFO, FIFO and average cost methods, respectively. At December 31, 2017, approximately 18 percent, 63 percent and 19 percent of the Company's inventories were accounted for under the LIFO, FIFO and average cost methods, respectively.

The Company routinely exchanges and swaps raw materials and finished goods with other companies to reduce delivery time, freight and other transportation costs. These transactions are treated as non-monetary exchanges and are valued at cost.

Property

Land, buildings and equipment, including property under capital lease agreements, are carried at cost less accumulated depreciation. Depreciation is based on the estimated service lives of depreciable assets and is calculated primarily using the straight-line method. Fully depreciated assets are retained in property and accumulated depreciation accounts until they are removed from service. In the case of disposals, assets and related accumulated depreciation are removed from the accounts, and the net amounts, less proceeds from disposal, are included in income.

Impairment and Disposal of Long-Lived Assets

The Company evaluates long-lived assets and certain identifiable intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. When undiscounted future cash flows are not expected to be sufficient to recover an asset's carrying amount, the asset is written down to its fair value based on bids received from third parties, prices of similar assets or other valuation methodologies, including a discounted cash flow analysis based on market participant assumptions.

Long-lived assets to be disposed of by sale, if material, are classified as held for sale and reported at the lower of carrying amount or fair value less cost to sell, and depreciation is ceased. Long-lived assets to be disposed of other than by sale are classified as held and used until they are disposed of and reported at the lower of carrying amount or fair value, and depreciation is recognized over the remaining useful life of the assets.

Goodwill and Other Intangible Assets

The Company records goodwill when the purchase price of a business combination exceeds the estimated fair value of net identified tangible and intangible assets acquired. Goodwill is tested for impairment at the reporting unit level annually during the fourth quarter, or more frequently when events or changes in circumstances indicate that the fair value of a reporting unit has more likely than not declined below its carrying value. When testing goodwill for impairment, the Company may first assess qualitative factors. If an initial qualitative assessment identifies that it is more likely than not that the fair value of a reporting unit is less than its carrying value, additional quantitative testing is performed. The Company may also elect to skip the qualitative testing and proceed directly to the quantitative testing. If the quantitative testing indicates that goodwill is impaired, an impairment charge is recognized based on the difference between the reporting unit's carrying value and its fair value. The Company primarily utilizes a discounted cash flow methodology to calculate the fair value of its reporting units.

Finite-lived intangible assets such as purchased customer lists, developed technology, patents, trademarks and software, are amortized over their estimated useful lives, generally on a straight-line basis for periods ranging primarily from 3 to 20 years, or amortized based on units of production. Indefinite-lived intangible assets are reviewed for impairment or obsolescence annually, or more frequently when events or changes in circumstances indicate that the carrying amount of an intangible asset may not be recoverable. If impaired, intangible assets are written down to fair value based on discounted cash flows.

Investments

Investments in debt securities, primarily held by the Company's insurance operations, are classified as trading, available-for-sale or held-to-maturity. Investments classified as trading are reported at fair value with unrealized gains and losses related to mark-to-market adjustments included in income. Those classified as available-for-sale are reported at fair value with unrealized gains and losses recorded in AOCL. Those classified as held-to-maturity are recorded at amortized cost. The cost of investments sold is determined by FIFO or specific identification.

Investments in equity securities, primarily held by the Company's insurance operations, with a readily determinable fair value are reported at fair value with unrealized gains and losses related to mark-to-market adjustments included in income. Equity securities without a readily determinable fair value are accounted for at cost, adjusted for impairments and observable price changes in orderly transactions.

The Company routinely reviews its investments for declines in fair value below the cost basis. When events or changes in circumstances indicate the carrying value of an asset may not be recoverable, the security is written down to fair value, establishing a new cost basis.

Revenue

Effective with the January 1, 2018 adoption of ASU 2014-09, "Revenue from Contracts with Customers (Topic 606)," and the associated ASUs (collectively, "Topic 606"), the Company recognizes revenue when its customer obtains control of promised goods or services in an amount that reflects the consideration which the Company expects to receive in exchange for those goods or services. To determine revenue recognition for the arrangements that the Company determines are within the scope of Topic 606, the Company performs the following five steps: (1) identify the contract(s) with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in

the contract and (5) recognize revenue when (or as) the entity satisfies a performance obligation. See Note 4 for additional information.

Revenue related to the Company's insurance operations includes third-party insurance premiums, which are earned over the terms of the related insurance policies and reinsurance contracts.

In periods prior to the adoption of Topic 606, the Company's accounting policy was to recognize revenue when it was realized or realizable, and the earnings process was complete. Revenue for product sales was recognized as risk and title to the product transferred to the customer, which usually occurred at the time shipment was made. As such, title to the product passed when the product was delivered to the freight carrier. The Company's standard terms of delivery were included in its contracts of sale, order confirmation documents and invoices. Revenue related to the initial licensing of patent and technology was recognized when earned; revenue related to running royalties was recognized according to licensee production levels.

Prepaid Royalties

The Company's Agriculture segment currently has certain third-party biotechnology trait license agreements, which require up-front and variable payments subject to the licensor meeting certain conditions. These payments are reflected as "Other current assets" and "Deferred charges and other assets" in the consolidated balance sheets and are amortized to "Cost of sales" in the consolidated statements of income as seeds containing the respective trait technology are utilized over the life of the license. At December 31, 2018, the balance of prepaid royalties reflected in "Other current assets" and "Deferred charges and other assets" was \$239 million and \$1,139 million, respectively. The Company evaluates the carrying value of the prepaid royalties when events or changes in circumstances indicate the carrying value may not be recoverable.

Severance Costs

The Company routinely reviews its operations around the world in an effort to ensure competitiveness across its businesses and geographic regions. When the reviews result in a workforce reduction related to the shutdown of facilities or other optimization activities, severance benefits are provided to employees primarily under Historical Dow and Historical DuPont's ongoing benefit arrangements. These severance costs are accrued once management commits to a plan of termination and it becomes probable that employees will be entitled to benefits at amounts that can be reasonably estimated.

Integration and Separation Costs

The Company classifies expenses related to the Merger and the ownership restructure of Dow Silicones as "Integration and separation costs" in the consolidated statements of income. Merger-related costs include: costs incurred to prepare for and close the Merger, post-Merger integration expenses and costs incurred to prepare for the intended separation of the Company's agriculture, materials science and specialty products businesses. The Dow Silicones-related costs include costs incurred to prepare for and close the ownership restructure, as well as integration expenses. These costs primarily consist of financial advisory, information technology, legal, accounting, consulting and other professional advisory fees associated with preparation and execution of these activities.

Income Taxes

The Company accounts for income taxes using the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the future tax consequences of temporary differences between the carrying amounts and tax bases of assets and liabilities using enacted tax rates. The effect of a change in tax rates on deferred tax assets or liabilities is recognized in income in the period that includes the enactment date. The Company uses the portfolio approach for releasing income tax effects from AOCL.

The Company recognizes the financial statement effects of an uncertain income tax position when it is more likely than not, based on the technical merits, that the position will be sustained upon examination. The Company accrues for other tax contingencies when it is probable that a liability to a taxing authority has been incurred and the amount of the contingency can be reasonably estimated. The current portion of uncertain income tax positions is included in "Income taxes payable" and the long-term portion is included in "Other noncurrent obligations" in the consolidated balance sheets.

See Note 8 for further information relating to the enactment of the Tax Cuts and Jobs Act ("The Act").

Earnings per Common Share

The calculation of earnings per common share is based on the weighted-average number of the Company's common shares outstanding for the applicable period. The calculation of diluted earnings per common share reflects the effect of all potential common shares that were outstanding during the respective periods, unless the effect of doing so is antidilutive.

Changes to Prior Period Consolidated Financial Statements

In the first quarter of 2018, the Company adopted new accounting standards that required retrospective application. The Company updated the consolidated statements of income as a result of adopting ASU 2017-07, "Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost." The consolidated statements of cash flows were updated as a result of adopting ASU 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments" and ASU 2016-18, "Statement of Cash Flows (Topic 230): Restricted Cash." See Note 2 for additional information on the ASUs. In the third quarter of 2018, the U.S. Securities and Exchange Commission's ("SEC") Office of the Chief Accountant provided additional guidance related to ASU 2016-15 that indicated an entity must evaluate daily transaction activity to calculate the value of cash received from beneficial interests in conduits, resulting in additional retrospective updates to the consolidated statements of cash flows.

Changes to the consolidated financial statements as a result of the retrospective application of the new accounting standards are summarized as follows:

Summary of Changes to the Consolidated Statements of Income	2017		2016	
	As Filed	Updated ¹	As Filed	Updated ¹
In millions				
Cost of sales	\$ 50,414	\$ 49,791	\$ 37,640	\$ 37,668
Research and development expenses	\$ 2,110	\$ 2,141	\$ 1,584	\$ 1,593
Selling, general and administrative expenses	\$ 4,021	\$ 4,064	\$ 2,956	\$ 2,953
Sundry income (expense) - net	\$ 966	\$ 417	\$ 1,452	\$ 1,486

1. Reflects changes resulting from the adoption of ASU 2017-07. See Note 2 for additional information.

Summary of Changes to the Consolidated Statements of Cash Flows	2017		2016	
	As Filed	Updated ¹	As Filed	Updated ¹
In millions				
Operating Activities				
Accounts and notes receivable	\$ (2,589)	\$ (9,782)	\$ (1,539)	\$ (8,833)
Proceeds from interests in trade accounts receivable conduits	\$ 2,269	\$ —	\$ 1,257	\$ —
Other assets and liabilities, net	\$ 1,563	\$ 1,565	\$ (717)	\$ (723)
Cash provided by (used for) operating activities	\$ 8,695	\$ (765)	\$ 5,600	\$ (2,957)
Investing Activities				
Payment into escrow / trust accounts	\$ (701)	\$ —	\$ (835)	\$ —
Distribution from escrow / trust accounts	\$ 143	\$ —	\$ 835	\$ —
Acquisitions of property and businesses, net of cash acquired	\$ 19	\$ 50	\$ (187)	\$ (187)
Cash acquired in step acquisition of nonconsolidated affiliate	\$ —	\$ —	\$ 1,050	\$ 1,070
Proceeds from interests in trade accounts receivable conduits	\$ —	\$ 9,462	\$ —	\$ 8,551
Cash provided by (used for) investing activities	\$ 4,274	\$ 14,325	\$ (3,479)	\$ 5,092
Financing Activities				
Other financing activities, net	\$ (1)	\$ (32)	\$ (2)	\$ (2)
Cash used for financing activities	\$ (6,523)	\$ (6,554)	\$ (4,014)	\$ (4,014)
Summary				
Increase (Decrease) in cash, cash equivalents and restricted cash	\$ 6,831	\$ 7,391	\$ (1,970)	\$ (1,956)
Cash, cash equivalents and restricted cash at beginning of period	\$ 6,607	\$ 6,624	\$ 8,577	\$ 8,580
Cash, cash equivalents and restricted cash at end of period	\$ 13,438	\$ 14,015	\$ 6,607	\$ 6,624

1. Reflects the adoption of ASU 2016-15 and ASU 2016-18. In connection with the review and implementation of ASU 2016-15, the Company also changed the value of "Proceeds from interests in trade accounts receivable conduits" due to additional interpretive guidance of the required method for calculating the cash received from beneficial interests in the conduits, including additional guidance from the SEC's Office of the Chief Accountant issued in the third quarter of 2018.

Opening Balance Sheet Impact of Accounting Standards Adoption

In the first quarter of 2018, the Company adopted Topic 606, ASU 2016-01 and ASU 2016-16, "Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory." See Note 2 for additional information on these ASUs. The cumulative effect on the Company's January 1, 2018, consolidated balance sheet as a result of adopting these accounting standards is summarized in the following table:

Summary of Impacts to the Consolidated Balance Sheet	Dec 31, 2017	Adjustments due to:			Jan 1, 2018
	As Filed	Topic 606	ASU 2016-01	ASU 2016-16	Updated
In millions					
Assets					
Accounts and notes receivable - Trade	\$ 11,314	\$ 87	\$ —	\$ —	\$ 11,401
Accounts and notes receivable - Other	\$ 5,579	\$ (8)	\$ —	\$ —	\$ 5,571
Inventories	\$ 16,992	\$ (64)	\$ —	\$ —	\$ 16,928
Other current assets	\$ 1,614	\$ 130	\$ —	\$ 31	\$ 1,775
Total current assets	\$ 49,893	\$ 145	\$ —	\$ 31	\$ 50,069
Deferred income tax assets	\$ 1,869	\$ 26	\$ —	\$ 10	\$ 1,905
Deferred charges and other assets	\$ 2,774	\$ 43	\$ —	\$ —	\$ 2,817
Total other assets	\$ 97,444	\$ 69	\$ —	\$ 10	\$ 97,523
Total Assets	\$ 192,164	\$ 214	\$ —	\$ 41	\$ 192,419
Liabilities					
Accounts payable - Trade	\$ 9,134	\$ (3)	\$ —	\$ —	\$ 9,131
Accounts payable - Other	\$ 3,727	\$ 10	\$ —	\$ —	\$ 3,737
Income taxes payable	\$ 843	\$ (2)	\$ —	\$ —	\$ 841
Accrued and other current liabilities	\$ 8,409	\$ 171	\$ —	\$ —	\$ 8,580
Total current liabilities	\$ 26,128	\$ 176	\$ —	\$ —	\$ 26,304
Deferred income tax liabilities	\$ 6,266	\$ 3	\$ —	\$ —	\$ 6,269
Other noncurrent obligations	\$ 7,969	\$ 117	\$ —	\$ —	\$ 8,086
Total other noncurrent liabilities	\$ 34,053	\$ 120	\$ —	\$ —	\$ 34,173
Stockholders' Equity					
Retained earnings	\$ 29,211	\$ (82)	\$ (20)	\$ 41	\$ 29,150
Accumulated other comprehensive loss	\$ (8,972)	\$ —	\$ 20	\$ —	\$ (8,952)
DowDuPont's stockholders' equity	\$ 100,330	\$ (82)	\$ —	\$ 41	\$ 100,289
Total equity	\$ 101,927	\$ (82)	\$ —	\$ 41	\$ 101,886
Total Liabilities and Equity	\$ 192,164	\$ 214	\$ —	\$ 41	\$ 192,419

The most significant changes as a result of adopting Topic 606 relate to the reclassification of the Company's return assets and refund liabilities in the Agriculture segment in the consolidated balance sheets. Under previous guidance, the Company accrued the amount of expected product returns as a reduction of "Accounts and notes receivable - Trade" with the value associated with the expected returns recorded in "Inventories" in the consolidated balance sheets. Under Topic 606, the Company now records the amount of expected product returns as refund liabilities, included in "Accrued and other current liabilities" and the products expected to be recovered as return assets, included in "Other current assets" in the consolidated balance sheets. The reclassifications of return assets and refund liabilities were \$61 million and \$119 million, respectively, at January 1, 2018. In addition, deferred revenue, included in "Accrued and other current liabilities" and "Other noncurrent obligations" in the consolidated balance sheets, increased as certain performance obligations, which were previously recognized over time and related to the licensing of certain rights to patents and technology, as well as other performance obligations, are now recognized at a point in time as none of the three criteria for 'over time' recognition under Topic 606 are met.

In the second quarter of 2018, the Company early adopted ASU 2018-02, "Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income." This standard was adopted on April 1, 2018, and resulted in a \$1,057 million increase to retained earnings due to the reclassification from accumulated other comprehensive loss. The reclassification was primarily related to the change in the federal corporate tax rate and the effect of The Act on the Company's pension plans, derivative instruments, available-for-sale securities and cumulative translation adjustments. This reclassification is reflected in the "Adoption of accounting standards" line in the consolidated statements of equity. See Note 2 for additional information.

Current Period Impact of Topic 606

The following table summarizes the effects of adopting Topic 606 on the Company's consolidated balance sheets, which was applied prospectively to contracts not completed at January 1, 2018. The effects of adopting Topic 606 did not have a material impact on the consolidated statements of income and the consolidated statements of cash flows.

Summary of Impacts to the Consolidated Balance Sheets			Balance at Dec 31, 2018 Excluding Adoption of Topic 606
In millions	As Reported at Dec 31, 2018	Adjustments	
Assets			
Accounts and notes receivable - Trade	\$ 12,376	\$ (81)	\$ 12,295
Accounts and notes receivable - Other	\$ 4,963	\$ 41	\$ 5,004
Inventories	\$ 16,621	\$ 38	\$ 16,659
Other current assets	\$ 2,027	\$ (96)	\$ 1,931
Total current assets	\$ 49,603	\$ (98)	\$ 49,505
Deferred income tax assets	\$ 1,724	\$ (27)	\$ 1,697
Deferred charges and other assets	\$ 2,476	\$ (43)	\$ 2,433
Total other assets	\$ 94,197	\$ (70)	\$ 94,127
Total Assets	\$ 188,030	\$ (168)	\$ 187,862
Liabilities			
Accounts payable - Other	\$ 3,656	\$ (10)	\$ 3,646
Income taxes payable	\$ 857	\$ 2	\$ 859
Accrued and other current liabilities	\$ 7,943	\$ (95)	\$ 7,848
Total current liabilities	\$ 24,715	\$ (103)	\$ 24,612
Deferred income tax liabilities	\$ 5,435	\$ (3)	\$ 5,432
Other noncurrent obligations	\$ 6,988	\$ (140)	\$ 6,848
Total other noncurrent liabilities	\$ 29,474	\$ (143)	\$ 29,331
Stockholders' Equity			
Retained earnings	\$ 30,536	\$ 78	\$ 30,614
DowDuPont's stockholders' equity	\$ 94,571	\$ 78	\$ 94,649
Total equity	\$ 96,179	\$ 78	\$ 96,257
Total Liabilities and Equity	\$ 188,030	\$ (168)	\$ 187,862

NOTE 2 - RECENT ACCOUNTING GUIDANCE

Recently Adopted Accounting Guidance

In the fourth quarter of 2018, the Company early adopted ASU 2018-14, "Compensation - Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20): Disclosure Framework - Changes to the Disclosure Requirements for Defined Benefit Plans," which, as part of the Financial Accounting Standards Board ("FASB") disclosure framework project, removes disclosures that are no longer considered cost beneficial, clarifies the specific requirements of certain disclosures and adds new disclosure requirements that are considered relevant for employers that sponsor defined benefit pension and/or other postretirement benefit plans. The new standard is effective for fiscal years ending after December 15, 2020, and early adoption is permitted. The new guidance should be applied on a retrospective basis for all periods presented. See Note 19 for updated disclosures for defined benefit pension and other postretirement benefit plans.

In the second quarter of 2018, the Company early adopted ASU 2017-12, "Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities," which amends the hedge accounting recognition and presentation under Topic 815, with the objectives of improving the financial reporting of hedging relationships to better portray the economic results of an entity's risk management activities and simplifying the application of hedge accounting by preparers. The new standard expands the strategies eligible for hedge accounting, relaxes the timing requirements of hedge documentation and effectiveness assessments, and permits, in certain cases, the use of qualitative assessments on an ongoing basis to assess hedge effectiveness. The new guidance also requires new disclosures and presentation. The new standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. Early adoption is permitted in any interim or annual period after issuance of the ASU. Entities must adopt the new guidance by applying a modified retrospective approach to hedging relationships.

existing as of the adoption date. The adoption of the new guidance did not have a material impact on the consolidated financial statements.

In the second quarter of 2018, the Company early adopted ASU 2018-02, "Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income," which allows a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from The Act, which was enacted on December 22, 2017, and requires certain disclosures about stranded tax effects. An entity has the option of applying the new guidance at the beginning of the period of adoption or retrospectively to each period (or periods) in which the tax effects related to items remaining in accumulated other comprehensive income are recognized. The new standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018, and early adoption is permitted, including adoption in an interim period for reporting periods for which financial statements have not yet been issued. The Company's adoption of the new standard was applied prospectively at the beginning of the second quarter of 2018, with a reclassification of the stranded tax effects as a result of The Act from accumulated other comprehensive loss to retained earnings. See Note 1 for additional information.

In the first quarter of 2018, the Company adopted ASU 2014-09, "Revenue from Contracts with Customers (Topic 606)," which is the new comprehensive revenue recognition standard that supersedes the revenue recognition requirements in Topic 605, "Revenue Recognition," and most industry specific guidance. The standard's core principle is that a company will recognize revenue when it transfers promised goods or services to a customer in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. In 2015 and 2016, the FASB issued additional ASUs related to Topic 606 that delayed the effective date of the guidance and clarified various aspects of the new revenue guidance, including principal versus agent considerations, identification of performance obligations, and accounting for licenses, and included other improvements and practical expedients. The new guidance was effective for annual and interim periods beginning after December 15, 2017. The Company elected to adopt the new guidance using the modified retrospective transition method for all contracts not completed as of the date of adoption. The Company recognized the cumulative effect of applying the new revenue standard as an adjustment to the opening balance of retained earnings at the beginning of the first quarter of 2018. The comparative periods have not been restated and continue to be accounted for under Topic 605. The adoption of the new guidance did not have a material impact on the consolidated financial statements. See Notes 1 and 4 for additional disclosures regarding the Company's contracts with customers as well as the impact of adopting Topic 606.

In the first quarter of 2018, the Company adopted ASU 2016-01, "Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities," which amends the guidance in U.S. GAAP on the classification and measurement of financial instruments. Changes to the current guidance primarily affects the accounting for equity investments, financial liabilities under the fair value option, and the presentation and disclosure requirements for financial instruments. In addition, the ASU clarifies guidance related to the valuation allowance assessment when recognizing deferred tax assets resulting from unrealized losses on available-for-sale debt securities. The new standard was effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. The Company applied the amendments in the new guidance by means of a cumulative-effect adjustment to the opening balance of retained earnings at the beginning of the first quarter of 2018. The adoption of the new guidance did not have a material impact on the consolidated financial statements. See Notes 1 and 21 for additional information.

In the first quarter of 2018, the Company adopted ASU 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments," which addresses diversity in practice in how certain cash receipts and cash payments are presented and classified in the statements of cash flows and addresses eight specific cash flow issues. The new standard was effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. A key provision in the new guidance impacted the presentation of proceeds from interests in certain trade accounts receivable conduits, which were retrospectively reclassified from "Operating Activities" to "Investing Activities" in the consolidated statements of cash flows. See Note 1 for additional information.

In the first quarter of 2018, the Company adopted ASU 2016-16, "Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory," which requires an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. The amendments were effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. The new guidance was applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings at the beginning of the first quarter of 2018. The adoption of this guidance did not have a material impact on the consolidated financial statements. See Note 1 for additional information.

In the first quarter of 2018, the Company adopted ASU 2016-18, "Statement of Cash Flows (Topic 230): Restricted Cash," which clarifies how entities should present restricted cash and restricted cash equivalents in the statements of cash flows, and as a result, entities will no longer present transfers between cash and cash equivalents and restricted cash and restricted cash equivalents in the statements of cash flows. An entity with a material balance of restricted cash and restricted cash equivalents must disclose

information about the nature of the restrictions. The new standard was effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. The new guidance changed the presentation of restricted cash in the consolidated statements of cash flows and was implemented on a retrospective basis in the first quarter of 2018. See Notes 1 and 7 for additional information.

In the first quarter of 2018, the Company adopted ASU 2017-01, "Business Combinations (Topic 805): Clarifying the Definition of a Business," which narrows the existing definition of a business and provides a framework for evaluating whether a transaction should be accounted for as an acquisition (or disposal) of assets or a business. The guidance requires an entity to evaluate if substantially all of the fair value of gross assets acquired is concentrated in a single identifiable asset or a group of similar identifiable assets; if so, the set of transferred assets and activities (collectively the "set") is not a business. To be considered a business, the set would need to include an input and a substantive process that together significantly contribute to the ability to create outputs, as defined by the ASU. The new standard was effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017, and should be applied prospectively. The Company will apply the new guidance to all applicable transactions after the adoption date.

In the first quarter of 2018, the Company adopted ASU 2017-07, "Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost," which amends the requirements related to the income statement presentation of the components of net periodic benefit cost for employer sponsored defined benefit pension and other postretirement benefit plans. Under the new guidance, an entity must disaggregate and present the service cost component of net periodic benefit cost in the same income statement line items as other employee compensation costs arising from services rendered during the period, and only the service cost component will be eligible for capitalization. Other components of net periodic benefit cost must be presented separately from the line items that includes the service cost. The new standard was effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. Entities were required to use a retrospective transition method to adopt the requirement for separate income statement presentation of the service cost and other components, and a prospective transition method to adopt the requirement to limit the capitalization of benefit cost to the service component. Accordingly, in the first quarter of 2018, the Company used a retrospective transition method to reclassify net periodic benefit cost, other than the service component, from "Cost of sales," "Research and development expenses" and "Selling, general and administrative expenses" to "Sundry income (expense) - net" in the consolidated statements of income. See Note 1 and 7 for additional information.

Accounting Guidance Issued But Not Adopted at December 31, 2018

In February 2016, the FASB issued ASU 2016-02, "Leases (Topic 842)," and associated ASUs related to Topic 842, which requires organizations that lease assets to recognize on the balance sheet the assets and liabilities for the rights and obligations created by those leases. The new guidance requires that a lessee recognize assets and liabilities for leases, and recognition, presentation and measurement in the financial statements will depend on its classification as a finance or operating lease. In addition, the new guidance will require disclosures to help investors and other financial statement users better understand the amount, timing and uncertainty of cash flows arising from leases. Lessor accounting remains largely unchanged from current U.S. GAAP but does contain some targeted improvements to align with the new revenue recognition guidance issued in 2014 (Topic 606). The new standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018, and early adoption is permitted.

The Company has a cross-functional team in place to evaluate and implement the new guidance and the Company has substantially completed the implementation of third-party software solutions to facilitate compliance with accounting and reporting requirements. The team continues to review existing lease arrangements and has collected and loaded a significant portion of the lease portfolio into the software. The Company continues to enhance accounting systems and update business processes and controls related to the new guidance for leases. Collectively, these activities are expected to facilitate the Company's ability to meet the new accounting and disclosure requirements upon adoption in the first quarter of 2019.

The ASU requires a modified retrospective transition approach, applying the new standard to all leases existing at the date of initial adoption. An entity may choose to use either (1) the effective date or (2) the beginning of the earliest comparative period presented in the financial statements at the date of initial application. The Company has elected to apply the transition requirements at the January 1, 2019, effective date rather than at the beginning of the earliest comparative period presented. This approach allows for a cumulative effect adjustment in the period of adoption, and prior periods will not be restated. In addition, the Company has elected the package of practical expedients permitted under the transition guidance, which does not require reassessment of prior conclusions related to contracts containing a lease, lease classification and initial direct lease costs. As an accounting policy election, the Company will exclude short-term leases (term of 12 months or less) from the balance sheet presentation and will account for non-lease and lease components in a contract as a single lease component for most asset classes. The Company is finalizing the evaluation of the January 1, 2019, impact and estimates a material increase of lease-related assets and liabilities,

ranging from \$3.0 billion to \$3.6 billion in the consolidated balance sheets. The impact to the Company's consolidated statements of income and consolidated statements of cash flows is not expected to be material.

In August 2018, the FASB issued ASU 2018-13, "Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement," which is part of the FASB disclosure framework project to improve the effectiveness of disclosures in the notes to the financial statements. The amendments in the new guidance remove, modify and add certain disclosure requirements related to fair value measurements covered in Topic 820, "Fair Value Measurement." The new standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. Early adoption is permitted for either the entire standard or only the requirements that modify or eliminate the disclosure requirements, with certain requirements applied prospectively, and all other requirements applied retrospectively to all periods presented. The Company is currently evaluating the impact of adopting this guidance.

In August 2018, the FASB issued ASU 2018-15, "Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That is a Service Contract," which requires a customer in a cloud computing arrangement that is a service contract to follow the internal-use software guidance in Topic 350, "Intangibles - Goodwill and Other" to determine which implementation costs to capitalize as assets or expense as incurred. The new standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. Early adoption is permitted and an entity can elect to apply the new guidance on a prospective or retrospective basis. The Company is currently evaluating the impact of adopting this guidance.

NOTE 3 - BUSINESS COMBINATIONS

Merger of Equals of Historical Dow and Historical DuPont

At the effective time of the Merger, each share of common stock, par value \$2.50 per share, of Historical Dow ("Historical Dow Common Stock") (excluding any shares of Historical Dow Common Stock that were held in treasury immediately prior to the effective time of the Merger, which were automatically canceled and retired for no consideration) was converted into the right to receive one fully paid and non-assessable share of common stock, par value \$0.01 per share, of DowDuPont ("DowDuPont Common Stock"). Upon completion of the Merger, (i) each share of common stock, par value \$0.30 per share, of Historical DuPont ("Historical DuPont Common Stock") (excluding any shares of Historical DuPont Common Stock that were held in treasury immediately prior to the effective time of the Merger, which were automatically canceled and retired for no consideration) was converted into the right to receive 1.2820 fully paid and non-assessable shares of DowDuPont Common Stock, in addition to cash in lieu of any fractional shares of DowDuPont Common Stock, and (ii) each share of Historical DuPont Preferred Stock \$4.50 Series and Historical DuPont Preferred Stock \$3.50 Series (collectively, the "Historical DuPont Preferred Stock") issued and outstanding immediately prior to the effective time of the Merger remains issued and outstanding and was unaffected by the Merger.

As provided in the Merger Agreement, at the effective time of the Merger, Historical Dow stock options and other equity awards were generally automatically converted into stock options and equity awards with respect to DowDuPont Common Stock and Historical DuPont stock options and other equity awards, after giving effect to the exchange ratio, were converted into stock options and equity awards with respect to DowDuPont Common Stock, and otherwise generally on the same terms and conditions under the applicable plans and award agreements immediately prior to the effective time of the Merger. See Notes 17 and 20 for additional information.

DowDuPont intends to pursue the Intended Business Separations, subject to certain customary conditions, including, among others, the effectiveness of registration statements filed with the SEC and approval by the Board of Directors ("Board") of DowDuPont.

Allocation of Purchase Price

Based on an evaluation of the provisions of Accounting Standards Codification ("ASC") 805, "Business Combinations" ("ASC 805"), Historical Dow was determined to be the accounting acquirer in the Merger. DowDuPont applied the acquisition method of accounting with respect to the assets and liabilities of DuPont, which were measured at fair value as of the date of the Merger.

Historical DuPont's assets and liabilities were measured at estimated fair values at August 31, 2017, primarily using Level 3 inputs. Estimates of fair value represent management's best estimate and require a complex series of judgments about future events and uncertainties. Third-party valuation specialists were engaged to assist in the valuation of these assets and liabilities.

The total fair value of consideration transferred for the Merger was \$74,680 million. Total consideration is comprised of the equity value of the DowDuPont shares at August 31, 2017, that were issued in exchange for Historical DuPont shares, the cash value for fractional shares, and the portion of Historical DuPont's share awards and share options earned at August 31, 2017. Share awards

and share options converted to DowDuPont equity instruments, but not vested, were \$144 million at August 31, 2017, which will be expensed over the remaining future vesting period.

The following table summarizes the fair value of consideration exchanged as a result of the Merger:

Merger Consideration	
In millions (except exchange ratio)	
Historical DuPont Common Stock outstanding at Aug 31, 2017	868.3
Historical DuPont exchange ratio	1.2820
DowDuPont Common Stock issued in exchange for Historical DuPont Common Stock	1,113.2
Fair value of DowDuPont Common Stock issued ¹	\$ 74,195
Fair value of DowDuPont equity awards issued in exchange for outstanding Historical DuPont equity awards ²	485
Total consideration	\$ 74,680

1. Amount was determined based on the price per share of Historical Dow Common Stock of \$66.65 on August 31, 2017.

2. Represents the fair value of replacement awards issued for Historical DuPont's equity awards outstanding immediately before the Merger and attributable to the service periods prior to the Merger. The previous Historical DuPont equity awards were converted into the right to receive 1.2820 shares of DowDuPont Common Stock.

The acquisition method of accounting requires, among other things, that identifiable assets acquired and liabilities assumed be recognized on the balance sheet at their respective fair value as of the acquisition date. In determining the fair value, DowDuPont utilized various forms of the income, cost and market approaches depending on the asset or liability being fair valued. The estimation of fair value required significant judgments related to future net cash flows (including net sales, cost of products sold, selling and marketing costs, and working capital/contributory asset charges), discount rates reflecting the risk inherent in each cash flow stream, competitive trends, market comparables and other factors. Inputs were generally determined by taking into account historical data, supplemented by current and anticipated market conditions, and growth rates.

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The table below presents the final fair value that was allocated to Historical DuPont's assets and liabilities based upon fair values as determined by DowDuPont. The valuation process to determine the fair values is complete. For the year ended December 31, 2018, DowDuPont made measurement period adjustments to reflect facts and circumstances in existence as of the effective time of the Merger. These adjustments primarily included a \$392 million increase in goodwill, a \$257 million decrease in property, and a \$150 million decrease in indefinite-lived trademarks and trade names and customer-related assets.

Historical DuPont Assets Acquired and Liabilities Assumed on Aug 31, 2017	
In millions	<i>Final fair value</i>
Fair Value of Assets Acquired	
Cash and cash equivalents	\$ 4,005
Marketable securities	2,849
Accounts and notes receivable - Trade	6,199
Accounts and notes receivable - Other	1,635
Inventories	8,805
Other current assets	420
Assets held for sale	3,732
Investment in nonconsolidated affiliates	1,596
Other investments	50
Noncurrent receivables	84
Property	11,684
Goodwill	45,497
Other intangible assets	27,071
Deferred income tax assets	279
Deferred charges and other assets	1,932
Total Assets	\$ 115,838
Fair Value of Liabilities Assumed	
Notes payable	\$ 4,046
Long-term debt due within one year	1,273
Accounts payable - Trade	2,346
Accounts payable - Other	952
Income taxes payable	261
Accrued and other current liabilities	3,517
Liabilities held for sale	125
Long-Term Debt	9,878
Deferred income tax liabilities	8,259
Pension and other postretirement benefits - noncurrent	8,056
Other noncurrent obligations	1,967
Total Liabilities	\$ 40,680
Noncontrolling interests	478
Net Assets (Consideration for the Merger)	\$ 74,680

The significant fair value adjustments included in the allocation of purchase price are discussed below.

Inventories

Acquired inventory is comprised of finished goods of \$4,927 million, work in process of \$3,055 million and raw materials and supplies of \$823 million. The fair value of finished goods was calculated as the estimated selling price, adjusted for costs of the selling effort and a reasonable profit allowance relating to the selling effort. The fair value of work in process inventory was primarily calculated as the estimated selling price, adjusted for estimated costs to complete the manufacturing, estimated costs of the selling effort, as well as a reasonable profit margin on the remaining manufacturing and selling effort. The fair value of raw materials and supplies was determined to approximate the historical carrying value. For inventory accounted for under the FIFO method and average cost method, the fair value step-up of inventories will be recognized in "Cost of sales" as the inventory is sold. For inventory accounted for under the LIFO method, the acquired inventory becomes the LIFO base layer inventory. The pretax amounts of inventory step-up recognized for the year ended December 31, 2018 and the period ended December 31, 2017, were \$1,563 million and \$1,538 million, respectively. For the year ended December 31, 2018, the pretax amount is reflected within "Cost of sales" within "Income from continuing operations before income taxes." For the period ended December 31, 2017, \$1,434 million was reflected within "Cost of sales" within "Income from continuing operations before income taxes" and \$104 million was reflected in "Loss from discontinued operations, net of tax" in the consolidated statements of income.

Property

Property, plant and equipment is comprised of machinery and equipment of \$7,344 million, buildings of \$2,418 million, construction in progress of \$995 million and land and land improvements of \$927 million. The fair value was primarily determined using a market approach for land and certain types of equipment, and a replacement cost approach for property, plant and equipment. The market approach for certain types of equipment represents a sales comparison that measures the value of an asset through an analysis of sales and offerings of comparable assets. The replacement cost approach used for all other depreciable property, plant and equipment measures the value of an asset by estimating the cost to acquire or construct comparable assets and adjusts for age and condition of the asset.

Goodwill

The excess of the consideration for the Merger over the net fair value of assets and liabilities acquired was recorded as goodwill. The Merger resulted in the recognition of \$45,497 million of goodwill, which is not deductible for tax purposes. Goodwill largely consists of expected cost synergies resulting from the Merger and the Intended Business Separations, the assembled workforce of Historical DuPont and future technology and customers.

Other Intangible Assets

Other intangible assets primarily consist of acquired customer-related assets, developed technology, trademarks/trade names and germplasm. The customer-related value was determined using the excess earnings method while the developed technology, trademarks/trade names and germplasm values were primarily determined utilizing the relief from royalty method. Both the excess earnings and relief from royalty methods are forms of the income approach. See Note 13 for further information on other intangible assets.

Deferred Income Tax Assets and Liabilities

The deferred income tax assets and liabilities include the expected future federal, state and foreign tax consequences associated with temporary differences between the fair values of the assets acquired and liabilities assumed and the respective tax bases. Tax rates utilized in calculating deferred income taxes generally represent the enacted statutory tax rates at the effective date of the Merger in the jurisdictions in which legal title of the underlying asset or liability resides. See Note 8 for further information related to the remeasurement of deferred income tax assets and liabilities as a result of the enactment of The Act.

Deferred income tax assets includes a \$172 million adjustment to derecognize certain deferred income tax assets on historical net operating losses that will not be fully realized as a result of the Merger. Deferred income tax liabilities include a \$546 million adjustment reflecting a change in determination as to the reinvestment strategy of certain foreign operations of Historical DuPont.

Pension and Other Postretirement Liabilities

DowDuPont recognized a pretax net liability of \$8,413 million, representing the unfunded portion of Historical DuPont's defined-benefit pension and other postretirement benefit ("OPEB") plans. Historical Dow and Historical DuPont did not merge their pension and OPEB plans as a result of the Merger. See Note 19 for further information on pension and OPEB.

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Other Assets Acquired and Liabilities Assumed

DowDuPont utilized the carrying values net of allowances to value accounts and notes receivable and accounts payable as well as other current assets and liabilities as it was determined that carrying values represented the fair value of those items at the Merger date.

The following table provides "Net sales" and "Loss from continuing operations before income taxes" of Historical DuPont included in the Company's results for the period September 1 through December 31, 2017. Included in the results from Historical DuPont was \$180 million of "Restructuring, goodwill impairment and asset related charges - net" (see Note 6 for additional information), \$1,434 million that was recognized in "Cost of sales" as inventory was sold related to the fair value step-up of inventories and \$314 million of "Integration and separation costs" in the consolidated statements of income.

Historical DuPont Results of Operations		<i>Sep 1 - Dec 31, 2017</i>
In millions		
Net sales	\$	7,033
Loss from continuing operations before income taxes	\$	(1,578)

Unaudited Supplemental Pro Forma Information

The DowDuPont unaudited pro forma results presented below were prepared pursuant to the requirements of ASC 805 and give effect to the Merger as if it had been consummated on January 1, 2016. The pro forma results have been prepared for comparative purposes only and do not necessarily represent what the revenue or results of operations would have been had the Merger been completed on January 1, 2016. In addition, these results are not intended to be a projection of future operating results and do not reflect synergies that might be achieved from DowDuPont.

The pro forma results include adjustments for the purchase accounting impact (including, but not limited to, depreciation and amortization associated with the acquired tangible and intangible assets, amortization of the fair value adjustment to investment in nonconsolidated affiliates, and reduction of interest expense related to the fair value adjustment to long-term debt, along with the related tax impacts), the alignment of accounting policies, and the elimination of transactions between Historical Dow and Historical DuPont. Other adjustments were reflected in the pro forma results as follows:

- From January 1, 2016 through December 31, 2017, Historical Dow and Historical DuPont collectively incurred \$455 million of after tax costs (\$553 million pretax) to prepare for and close the Merger. These Merger costs were reflected within the results of operations in the pro forma results presented below as if they were incurred on January 1, 2016. The costs incurred related to integration and to prepare for the Intended Business Separations were reflected in the pro forma results in the period in which they were incurred.
- The Company incurred an after tax charge of \$931 million (\$1,113 million pretax) in 2017 related to the fair value step-up of inventories acquired and sold, excluding the acquired inventory related to Historical DuPont's Seed business. The 2017 pro forma results were adjusted to exclude this charge. The pro forma results for 2016 were adjusted to include this charge, as well as estimated charges of \$60 million after tax (\$69 million pretax) related to the remaining fair value step-up of inventories to be sold, excluding acquired inventory related to Historical DuPont's Seed business.
- To align with seasonality, charges related to the fair value step-up of acquired inventory related to Historical DuPont's Seed business were reflected in the pro forma results based on actual quantity of units sold during those periods as if the fair value step-up of inventories had occurred on January 1, 2016. Accordingly, \$300 million of after tax charges (\$431 million pretax) for the year ended December 31, 2017 and \$1,222 million of after tax charges (\$1,667 million pretax) for the year ended December 31, 2016, were reflected in the pro forma results.
- The pro forma results for the year ended December 31, 2016 were adjusted to include charges related to change in control provisions within a U.S. non-qualified pension plan for Historical Dow and within other certain employee agreements as if they were incurred on January 1, 2016. The majority of which related to charges for the payment of pension plan obligations of \$594 million after tax (\$892 million pretax) recorded in the fourth quarter of 2017. See Note 19 for further information.
- The 2017 pro forma results were adjusted to exclude a \$170 million after tax charge incurred in September 2017 related to the impact of changes in tax attributes. The pro forma results for the year ended December 31, 2016, were adjusted to include this charge as if it were incurred on January 1, 2016.

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The unaudited pro forma results for all periods presented below exclude the results of operations of the Historical DuPont Divested Ag Business, as defined in the "Acquisition of H&N Business" section below, as this divestiture was reflected as discontinued operations. The Historical Dow global Ethylene Acrylic Acid copolymers and ionomers business ("EAA Business"), through August 31, 2017, and a portion of Historical Dow Agrosciences' Brazil corn seed business ("DAS Divested Ag Business") divestitures are included in the results from continuing operations in the unaudited pro forma results presented below, for all periods presented, as these divestitures did not qualify for discontinued operations.

DowDuPont Pro Forma Results of Operations		
In millions (except share amounts)	2017	2016
Net sales	\$ 79,686	\$ 71,321
Income from continuing operations, net of tax	\$ 4,677	\$ 2,341
Earnings per common share from continuing operations - basic	\$ 1.94	\$ 0.84
Earnings per common share from continuing operations - diluted	\$ 1.92	\$ 0.83

Integration and Separation Costs

The Company incurred "Integration and separation costs," reflected in "Income from continuing operations before income taxes" in the consolidated statements of income, of \$2,463 million, \$1,101 million and \$349 million for the years ended December 31, 2018, 2017 and 2016, respectively. These costs to date primarily consisted of financial advisory, information technology, legal, accounting, consulting, and other professional advisory fees associated with the preparation and execution of activities related to the Merger, post-merger integration and separation, and the ownership restructure of Dow Silicones. "Integration and separation costs" related to post-Merger integration and Intended Business Separation activities are expected to continue to be significant in 2019.

Acquisition of H&N Business

On March 31, 2017, Historical DuPont entered into a definitive agreement (the "FMC Transaction Agreement") with FMC Corporation ("FMC") for FMC to acquire the assets related to Historical DuPont's crop protection business and research and development ("R&D") organization (the "Divested Ag Business") that Historical DuPont was required to divest in order to obtain European Commission ("EC") approval of the Merger Transaction. In addition, under the FMC Transaction Agreement, Historical DuPont agreed to acquire certain assets relating to FMC's Health and Nutrition segment, excluding its Omega-3 products (the "H&N Business") (the sale of the Divested Ag Business and acquisition of the H&N Business referred to collectively as the "FMC Transactions"). See Note 5 for further discussion of the Divested Ag Business.

On November 1, 2017, Historical DuPont completed the FMC Transactions through the acquisition of the H&N Business and the divestiture of the Divested Ag Business. The acquisition was integrated into Nutrition & Biosciences to enhance the Company's position as a leading provider of sustainable, bio-based food ingredients and allow for expanded capabilities in the pharma excipients space. Historical DuPont accounted for the acquisition in accordance with ASC 805, which requires the assets acquired and liabilities assumed to be recognized on the balance sheet at their fair values as of the acquisition date.

The following table summarizes the fair value of consideration exchanged as a result of the FMC Transactions:

Consideration Exchanged in FMC Transactions	
In millions	
Fair Value of Divested Ag Business ¹	\$ 3,665
Less: Cash received ²	1,200
Less: Favorable contracts ³	495
Fair Value of the H&N Business	\$ 1,970

1. See Note 5 for additional information.

2. The FMC Transactions include a cash consideration payment to Historical DuPont of approximately \$1,200 million, which reflected the difference in value between the Divested Ag Business and the H&N Business, subject to certain customary inventory and net working capital adjustments.

3. Upon closing and pursuant to the terms of the FMC Transaction Agreement, Historical DuPont entered into favorable supply contracts with FMC. Historical DuPont recorded these contracts as intangible assets recognized at the fair value of off-market contracts. See Notes 5 and 13 for additional information.

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The table below presents the fair value that was allocated to the assets acquired and liabilities assumed. The purchase accounting and purchase price allocation for the H&N Business is complete. There were no material updates to the preliminary purchase accounting and purchase price allocation during 2018.

H&N Business Assets Acquired and Liabilities Assumed on Nov 1, 2017	
In millions	
Fair Value of Assets Acquired	
Cash and cash equivalents	\$ 16
Accounts and notes receivable - Trade and other	144
Inventories	304
Property	489
Goodwill	732
Other intangible assets	435
Other current assets, deferred charges and other non-current assets	14
Total Assets	\$ 2,134
Fair Value of Liabilities Assumed	
Accounts payable, accrued and other current liabilities	72
Deferred income tax liabilities	92
Total Liabilities	\$ 164
Net Assets (Consideration for the H&N Business)	\$ 1,970

The significant fair value adjustments included in the allocation of purchase price are discussed below.

Inventories

Acquired inventory is comprised of finished goods of \$143 million, work in process of \$85 million, raw materials and supplies of \$76 million. Fair value of inventory was calculated using a net realizable value approach for finished goods and work in process and a replacement cost approach for raw materials and supplies. For inventory accounted for under the FIFO method and average cost method, the fair value step-up of inventory of \$100 million was recognized in "Costs of sales" in the consolidated statements of income as the inventory was sold. The pretax amounts recognized for the year ended December 31, 2018 and the period November 1 through December 31, 2017, was \$65 million and \$35 million, respectively.

Property

Property, plant and equipment is comprised of machinery and equipment of \$347 million, buildings of \$63 million, land and land improvements of \$39 million, construction in progress of \$31 million and other property of \$9 million. The estimated fair values were determined using a combination of a market approach and replacement cost approach.

Goodwill

The excess of the consideration for the H&N Business over the net fair value of assets acquired and liabilities assumed resulted in the recognition of \$732 million of goodwill, of which \$208 million is tax-deductible. Goodwill is attributable to the H&N Business's workforce and expected cost synergies in procurement, production and market access.

Other Intangible Assets

Other intangible assets includes acquired customer-related intangible assets of \$268 million, developed technology of \$130 million and trademarks/trade names of \$37 million. The customer-related fair value was determined using the excess earnings method while the developed technology and trademarks/trade names fair values were primarily determined utilizing the relief from royalty method.

DowDuPont evaluated the disclosure requirements under ASC 805 and determined the H&N Business was not considered a material business combination for purposes of disclosing the revenue and earnings of the H&N Business since the date of acquisition or supplemental pro forma information.

Ownership Restructure of Dow Silicones

On June 1, 2016, Historical Dow announced the closing of the transaction with Corning Incorporated ("Corning"), Dow Silicones and HS Upstate Inc., ("Splitco"), pursuant to which Corning exchanged with Dow Silicones its 50 percent equity interest in Dow Silicones for 100 percent of the stock of Splitco which held Corning's historical proportional interest in the Hemlock Semiconductor Group ("HSC Group") and approximately \$4.8 billion in cash. As a result, Dow Silicones, previously a 50 :50 joint venture between Historical Dow and Corning, became a wholly owned subsidiary of Historical Dow. In connection with the ownership restructure,

on May 31, 2016, Dow Silicones incurred \$4.5 billion of indebtedness in order to fund the contribution of cash to Splitco. See Notes 12 , 15 and 23 for additional information.

At June 1, 2016, Historical Dow's equity interest in Dow Silicones, excluding the HSC Group, was \$1,968 million . This equity interest was remeasured to fair value. As a result, Historical Dow recognized a non-taxable gain of \$2,445 million in the second quarter of 2016, net of closing costs and other comprehensive loss related to Historical Dow's interest in Dow Silicones. The gain was included in "Sundry income (expense) - net" in the consolidated statements of income and related to Performance Materials & Coatings (\$1,617 million), Electronics & Imaging (\$512 million) and Transportation & Advanced Polymers (\$316 million). Historical Dow recognized a tax benefit of \$141 million on the ownership restructure in the second quarter of 2016, primarily due to the reassessment of a previously recognized deferred tax liability related to the basis difference in Historical Dow's investment in Dow Silicones. In addition, the fair value step-up of "Inventories" acquired was an increase of \$317 million , which was expensed to "Cost of sales" over a three-month period beginning on June 1, 2016, and related to Performance Materials & Coatings (\$213 million), Electronics & Imaging (\$69 million) and Transportation & Advanced Polymers (\$35 million). In 2018, Historical Dow recorded a pretax loss of \$47 million for post-closing adjustments related to the Dow Silicones ownership restructure, included in "Sundry income (expense) - net" in the consolidated statements of income and related to Electronics & Imaging (\$27 million) and Performance Materials & Coatings (\$20 million).

The ownership restructure resulted in the recognition of \$3,229 million of "Goodwill" which was not deductible for tax purposes. Goodwill largely consisted of expected synergies resulting from the ownership restructure. Cost synergies were achieved through a combination of workforce consolidation and savings from actions such as harmonizing energy contracts at large sites, optimizing warehouse and logistics footprints, implementing materials and maintenance best practices, combining information technology service structures and leveraging existing R&D knowledge management systems.

Historical Dow evaluated the disclosure requirements under ASC 805 and determined the ownership restructure was not considered a material business combination for purposes of disclosing the revenue and earnings of Dow Silicones since the date of the ownership restructure as well as supplemental pro forma information.

Beginning in June 2016, the results of Dow Silicones, excluding the HSC Group, were fully consolidated in Historical Dow's consolidated statements of income. Prior to June 2016, Historical Dow's 50 percent share of Dow Silicones' results of operations was reported in "Equity in earnings of nonconsolidated affiliates" in the consolidated statements of income. The results of the HSC Group continue to be treated as an equity method investment and reported as "Equity in earnings of nonconsolidated affiliates" in the consolidated statements of income.

NOTE 4 - REVENUE

Revenue Recognition

The majority of the Company's revenue is derived from product sales. In 2018 , 99 percent of the Company's sales related to product sales (98 percent in 2017 and 99 percent in 2016). The remaining sales were primarily related to Historical Dow's insurance operations and licensing of patents and technologies. As of January 1, 2018, the Company accounts for revenue in accordance with Topic 606, except for revenue from Historical Dow's insurance operations, which is accounted for in accordance with Topic 944, "Financial Services - Insurance."

Product Sales

Product sales consist of sales of the Company's products to manufacturers, distributors and farmers. The Company considers order confirmations or purchase orders, which in some cases are governed by master supply agreements, to be contracts with a customer. Product sale contracts are generally short-term contracts where the time between order confirmation and satisfaction of all performance obligations is less than one year. However, the Company has some long-term contracts which can span multiple years.

Revenue from product sales is recognized when the customer obtains control of the Company's product, which occurs at a point in time, usually upon shipment, with payment terms typically in the range of 30 to 60 days after invoicing depending on business and geographic region, with the exception of the Agriculture segment, where payment terms are generally less than one year after invoicing. The Company elected the practical expedient to not adjust the amount of consideration for the effects of a significant financing component for all instances in which the period between payment and transfer of the goods will be one year or less. When the Company performs shipping and handling activities after the transfer of control to the customer (e.g., when control transfers prior to shipment), these are considered fulfillment activities, and accordingly, the costs are accrued when the related revenue is recognized. Taxes collected from customers relating to product sales and remitted to governmental authorities are

excluded from revenues. The Company elected to use the practical expedient to expense cash and non-cash sales incentives as the amortization period for the costs to obtain the contract would have been one year or less.

Certain long-term contracts include a series of distinct goods that are delivered continuously to the customer through a pipeline (e.g., feedstocks). For these types of product sales, the Company invoices the customer in an amount that directly corresponds with the value to the customer of the Company's performance-to-date. As a result, the Company recognizes revenue based on the amount billable to the customer in accordance with the right to invoice practical expedient.

The transaction price includes estimates for reductions in revenue from customer rebates and rights of return on product sales. These amounts are estimated based upon the most likely amount of consideration to which the customer will be entitled. The Company's obligation for rights of returns is limited primarily to the Agriculture segment. All estimates are based on historical experience, anticipated performance, and the Company's best judgment at the time to the extent it is probable, that a significant reversal of revenue recognized will not occur. All estimates for variable consideration are reassessed periodically.

For contracts with multiple performance obligations, the Company allocates the transaction price to each performance obligation based on the relative standalone selling price. The standalone selling price is the observable price which depicts the price as if sold to a similar customer in similar circumstances.

Patents, Trademarks and Licenses

The Company enters into licensing arrangements in which it licenses certain rights of its patents and technology to customers. Revenue from the majority of the Company's licenses for patents and technology is derived from sales-based royalties. The Company estimates the amount of sales-based royalties to which it expects to be entitled to based on historical sales to the customer. For the remaining revenue from licensing arrangements, payments are typically received from the Company's licensees based on billing schedules established in each contract. Revenue is recognized by the Company when the performance obligation is satisfied.

Remaining Performance Obligations

Remaining performance obligations represent the transaction price allocated to unsatisfied or partially unsatisfied performance obligations. At December 31, 2018, the Company had remaining performance obligations related to material rights granted to customers for contract renewal options of \$102 million and unfulfilled performance obligations for the licensing of technology of \$407 million. The Company expects revenue to be recognized for the remaining performance obligations over the next one to six years.

The remaining performance obligations are for product sales that have expected durations of one year or less, product sales of materials delivered through a pipeline for which the Company has elected the right to invoice practical expedient, or variable consideration attributable to royalties for licenses of patents and technology. The Company has received advance payments from customers related to long-term supply agreements and royalty payments that are deferred and recognized over the life of the contract, with remaining contract terms that range up to 22 years. The Company will have rights to future consideration for revenue recognized when product is delivered to the customer. These payments are included in "Accrued and other current liabilities" and "Other noncurrent obligations" in the consolidated balance sheets.

Disaggregation of Revenue

The Company disaggregates its revenue from contracts with customers by segment and business or major product line and geographic region, as the Company believes it best depicts the nature, amount, timing and uncertainty of its revenue and cash flows. See details in the tables below:

Net Trade Revenue by Segment and Business or Major Product Line	2018
In millions	
Crop Protection	\$ 6,332
Seed	7,969
Agriculture	\$ 14,301
Coatings & Performance Monomers	\$ 3,915
Consumer Solutions	5,660
Performance Materials & Coatings	\$ 9,575
Industrial Solutions	\$ 4,733
Polyurethanes & CAV	10,363
Others	20
Industrial Intermediates & Infrastructure	\$ 15,116
Hydrocarbons & Energy	\$ 7,486
Packaging and Specialty Plastics	16,610
Packaging & Specialty Plastics	\$ 24,096
Advanced Printing	\$ 512
Display Technologies	313
Interconnect Solutions	1,174
Photovoltaic & Advanced Materials	1,085
Semiconductor Technologies	1,636
Electronics & Imaging	\$ 4,720
Industrial Biosciences	\$ 2,152
Nutrition & Health	4,649
Nutrition & Biosciences	\$ 6,801
Engineering Polymers	\$ 2,730
Performance Resins	1,309
Performance Solutions	1,581
Transportation & Advanced Polymers	\$ 5,620
Aramids	\$ 1,566
Construction	1,661
TYVEK® Enterprise	1,211
Water Solutions	1,015
Safety & Construction	\$ 5,453
Corporate	\$ 295
Total	\$ 85,977

Net Trade Revenue by Geographic Region	2018
In millions	
U.S. & Canada	\$ 32,090
EMEA ¹	24,371
Asia Pacific	20,416
Latin America	9,100
Total	\$ 85,977

1. Europe, Middle East and Africa.

Contract Balances

The Company receives payments from customers based upon contractual billing schedules. Accounts receivable are recorded when the right to consideration becomes unconditional. Contract assets include amounts related to the Company's contractual right to consideration for completed performance obligations not yet invoiced. Contract liabilities include payments received in

advance of performance under the contract, and are realized when the associated revenue is recognized under the contract. "Contract liabilities - current" primarily reflects deferred revenue from prepayments in the Agriculture segment for contracts with customers where the Company receives advance payments for product to be delivered in future periods. "Contract liabilities - noncurrent" includes advance payment for product that the Company has received from customers related to long-term supply agreements and royalty payments that are deferred and recognized over the life of the contract. The Company classifies deferred revenue as current (12 months or less) or noncurrent based on the timing of when the Company expects to recognize revenue.

Revenue recognized in 2018, from amounts included in contract liabilities at the beginning of the period, was approximately \$2,215 million. In 2018, the amount of contract assets reclassified to receivables as a result of the right to the transaction consideration becoming unconditional was insignificant. The Company did not recognize any asset impairment charges related to contract assets in 2018.

The following table summarizes the contract balances at December 31, 2018 and 2017:

Contract Balances		<i>Topic 606 Adjustments Jan 1, 2018</i>	
In millions	<i>Dec 31, 2018</i>		<i>Dec 31, 2017</i>
Accounts and notes receivable - Trade	\$ 12,376	\$ 87	\$ 11,314
Contract assets - current ¹	\$ 85	\$ 58	\$ —
Contract assets - noncurrent ²	\$ 47	\$ 43	\$ —
Contract liabilities - current ³	\$ 2,092	\$ 52	\$ 2,131
Contract liabilities - noncurrent ⁴	\$ 1,420	\$ 117	\$ 1,413

1. Included in "Other current assets" in the consolidated balance sheets.

2. Included in "Deferred charges and other assets" in the consolidated balance sheets.

3. Included in "Accrued and other current liabilities" in the consolidated balance sheets.

4. Included in "Other noncurrent obligations" in the consolidated balance sheets.

NOTE 5 - DIVESTITURES

Merger Related Divestitures

As a condition of the European Commission ("EC"), Chinese Ministry of Commerce, Brazilian Administrative Council for Economic Defense and the U.S. Department of Justice ("DOJ") approval of the Merger, Historical Dow and Historical DuPont were required to divest the following:

Historical Dow Merger Remedy - Divestiture of the Global Ethylene Acrylic Acid Copolymers and Ionomers Business

On February 2, 2017, Historical Dow announced it would divest the EAA Business to SK Global Chemical Co., Ltd. The divestiture included production assets located in Freeport, Texas, and Tarragona, Spain, along with associated intellectual property and product trademarks. Under terms of the purchase agreement, SK Global Chemical Co., Ltd will honor certain customer and supplier contracts and other agreements. On September 1, 2017, the sale was completed for \$296 million, net of working capital adjustments, costs to sell and other adjustments, with proceeds subject to customary post-closing adjustments. In 2017, the Company recognized a pretax gain of \$227 million on the sale, included in "Sundry income (expense) - net" in the consolidated statements of income and related to the Packaging & Specialty Plastics segment.

Historical Dow Merger Remedy - Divestiture of a Portion of Dow AgroSciences' Brazil Corn Seed Business

On July 11, 2017, Historical Dow announced it had entered into a definitive agreement with CITIC Agri Fund to sell the DAS Divested Ag Business, including some seed processing plants and seed research centers, a copy of Historical Dow AgroSciences' Brazilian corn germplasm bank, the MORGAN™ brand and a license for the use of the DOW SEMENTES™ brand for a certain period of time. On November 30, 2017, the sale was completed for \$1,093 million, net of working capital adjustments, costs to sell and other adjustments, with proceeds subject to customary post-closing adjustments. In 2017, the Company recognized a pretax gain of \$635 million on the sale, included in "Sundry income (expense) - net" in the consolidated statements of income and related to the Agriculture segment.

The Company evaluated the divestiture of the EAA Business and determined it did not represent a strategic shift that had a major effect on the Company's operations and financial results and did not qualify as an individually significant component of the Company. The divestiture of the DAS Divested Ag Business did not qualify as a component of the Company. As a result, these divestitures were not reported as discontinued operations.

Historical DuPont Merger Remedy - Divested Ag Business

Historical DuPont was required to sell its Divested Ag Business, specifically Historical DuPont's Cereal Broadleaf Herbicides and Chewing Insecticides portfolios, including Rynaxypyr®, Cyazypyr®, and Indoxacarb as well as the crop protection R&D pipeline and organization, excluding seed treatment, nematicides, and late-stage R&D programs. On March 31, 2017, Historical DuPont and FMC entered into the FMC Transaction Agreement under which FMC agreed to acquire the Divested Ag Business; in addition, Historical DuPont agreed to acquire the H&N Business. The sale of the Divested Ag Business met the criteria for discontinued operations and as such, earnings were included within "Loss from discontinued operations, net of tax" in periods subsequent to the Merger.

On November 1, 2017, Historical DuPont completed the FMC Transactions through the disposition of the Divested Ag Business and the acquisition of the H&N Business. The final fair value as determined by Historical DuPont of the H&N Business was \$1,970 million. The FMC Transactions included a cash consideration payment to Historical DuPont of approximately \$1,200 million, which reflected the difference in value between the Divested Ag Business and the H&N Business, as well as favorable contracts with FMC of \$495 million, subject to adjustments for inventory of the Divested Ag Business and net working capital of the H&N Business. Due to the proximity of the Merger and the closing of the sale, the carrying value of the Divested Ag Business approximated the fair value of the consideration received, thus no resulting gain or loss was recognized on the sale. Refer to Note 3 for further information on the H&N Business.

The results of operations of Historical DuPont's Divested Ag Business were presented as discontinued operations as summarized below, representing activity subsequent to the Merger:

Results of Operations of Historical DuPont's Divested Ag Business	Period Ended
	Sep 1 - Dec 31, 2017 ¹
In millions	
Net sales	\$ 199
Cost of sales	194
Research and development expenses	30
Selling, general and administrative expenses ²	102
Restructuring, goodwill impairment and asset related charges - net	(1)
Sundry income (expense) - net	(1)
Loss from discontinued operations before income taxes	\$ (127)
Benefit from income taxes	(50)
Loss from discontinued operations, net of tax	\$ (77)

1. The Divested Ag Business was disposed of on November 1, 2017.

2. Includes \$44 million of transaction costs associated with the disposal of the Divested Ag Business.

Upon closing and pursuant to the terms of the FMC Transaction Agreement, Historical DuPont and FMC entered into favorable supply agreements and certain ancillary agreements, including manufacturing service agreements and transition service agreements. Under the terms of the favorable supply agreements, FMC will supply product to Historical DuPont at cost for a period of up to five years and, as a result, Historical DuPont recorded an intangible asset of \$495 million upon closing that is being amortized over a period of five years.

NOTE 6 - RESTRUCTURING, GOODWILL IMPAIRMENT AND ASSET RELATED CHARGES - NET

Charges for restructuring programs, goodwill impairments, and other asset related charges, which includes other asset impairments, were \$1,105 million in 2018, \$3,280 million in 2017 and \$595 million in 2016. These charges were recorded in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income and consist primarily of the following:

DowDuPont Agriculture Division Restructuring Program

During the fourth quarter of 2018 and in connection with the ongoing integration activities, DowDuPont approved restructuring actions to simplify and optimize certain organizational structures within the Agriculture segment in preparation for the Intended Business Separations ("Agriculture Division Program"). As a result of these actions, the Company expects to record total pretax charges of approximately \$96 million, comprised of \$83 million of severance and related benefit costs, \$8 million of asset write-downs and write-offs and \$5 million of costs associated with exit and disposal activities. For the year ended December 31, 2018, DowDuPont recorded pretax restructuring charges of \$84 million, consisting of severance and related benefit costs of \$78 million and asset write-downs and write-offs of \$6 million. The impact of these charges was shown as "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income. The Company expects actions related to the Agriculture Division Program to be substantially complete by mid 2019.

The following table summarizes the activities related to the Agriculture Division Program. At December 31, 2018, \$77 million was included in "Accrued and other current liabilities" in the consolidated balance sheets.

Agriculture Division Program	<i>Severance and Related Benefit Costs</i>	<i>Asset Write-downs and Write-offs</i>	<i>Total</i>
(In millions)			
2018 restructuring charges			
Agriculture	\$ —	\$ 6	\$ 6
Corporate	78	—	78
Total 2018 restructuring charges	\$ 78	\$ 6	\$ 84
Charges against the reserve	—	(6)	(6)
Cash payments	(1)	—	(1)
Reserve balance at Dec 31, 2018	\$ 77	\$ —	\$ 77

DowDuPont Cost Synergy Program

In September and November 2017, DowDuPont approved post-merger restructuring actions under the DowDuPont Cost Synergy Program (the "Synergy Program"), which is designed to integrate and optimize the organization following the Merger and in preparation for the Intended Business Separations. The Company expects to record total pretax restructuring charges of approximately \$2 billion, comprised of approximately \$895 million to \$975 million of severance and related benefit costs; \$525 million to \$615 million of asset write-downs and write-offs; and \$370 million to \$410 million of costs associated with exit and disposal activities.

As a result of the Synergy Program, the Company recorded pretax restructuring charges of \$874 million in 2017, consisting of severance and related benefit costs of \$510 million, asset write-downs and write-offs of \$290 million and costs associated with exit and disposal activities of \$74 million. The impact of these charges was shown as "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income. For the year ended December 31, 2018, the Company recorded pretax restructuring charges of \$873 million of which \$869 million was recorded in "Restructuring, goodwill impairment and asset related charges - net" and \$4 million was recorded in "Equity in earnings of nonconsolidated affiliates" in the consolidated statements of income. These charges consisted of severance and related benefit costs of \$423 million, asset write-downs and write-offs of \$289 million and costs associated with exit and disposal activities of \$161 million. The Company expects to record additional restructuring charges during 2019 and substantially complete the Synergy Program by the end of 2019.

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The following table summarizes the activities related to the Synergy Program. At December 31, 2018, \$490 million was included in "Accrued and other current liabilities" (\$377 million at December 31, 2017) and \$84 million was included in "Other noncurrent obligations" (\$133 million at December 31, 2017) in the consolidated balance sheets.

DowDuPont Synergy Program	<i>Severance and Related Benefit Costs</i>	<i>Asset Write- downs and Write- offs</i>	<i>Costs Associated with Exit and Disposal Activities</i>	<i>Total</i>
In millions				
2017 restructuring charges				
Agriculture	\$ —	\$ 94	\$ 40	\$ 134
Performance Materials & Coatings	—	9	2	11
Industrial Intermediates & Infrastructure	—	12	—	12
Packing & Specialty Plastics	—	33	3	36
Electronics & Imaging	—	86	—	86
Nutrition & Biosciences	—	1	—	1
Transportation & Advanced Polymers	—	1	1	2
Safety & Construction	—	21	—	21
Corporate	510	33	28	571
Total 2017 restructuring charges	\$ 510	\$ 290	\$ 74	\$ 874
Charges against the reserve	—	(290)	—	(290)
Non-cash compensation	(7)	—	—	(7)
Cash payments	(64)	—	(3)	(67)
Reserve balance at Dec 31, 2017	\$ 439	\$ —	\$ 71	\$ 510
2018 restructuring charges				
Agriculture	\$ —	\$ 207	\$ 133	\$ 340
Performance Materials & Coatings	—	7	—	7
Industrial Intermediates & Infrastructure	—	—	11	11
Packing & Specialty Plastics	—	10	3	13
Electronics & Imaging	—	2	—	2
Nutrition & Biosciences	—	29	—	29
Transportation & Advanced Polymers	4	3	(1)	6
Safety & Construction	—	7	17	24
Corporate	419	24	(2)	441
Total 2018 restructuring charges	\$ 423	\$ 289	\$ 161	\$ 873
Charges against the reserve	—	(289)	—	(289)
Impact of currency	(5)	—	—	(5)
Cash payments	(366)	—	(149)	(515)
Reserve balance at Dec 31, 2018	\$ 491	\$ —	\$ 83	\$ 574

Asset Write-downs and Write-offs

The restructuring charges related to the write-down and write-off of assets in 2017 totaled \$290 million . Details regarding the write-downs and write-offs are as follows:

- The Company will close or consolidate several manufacturing, R&D and administrative facilities around the world aligned with Seed and Crop Protection businesses, including the write-down of other non-manufacturing assets. As a result, the Company recorded a charge of \$94 million , related to Agriculture. These facilities will be shut down or consolidated by the end of 2019.
- The Company recorded a charge of \$86 million for asset write-downs and write-offs in Electronics & Imaging, including the shutdown of a metalorganic manufacturing facility in Cheonan, South Korea, the write-off of in-process research and development ("IPR&D") and other intangible assets and the consolidation of certain R&D facilities. The South Korean facility was shut down in the second quarter of 2018.
- The Company recorded a charge of \$22 million for asset write-downs and write-offs aligned with an energy project, including the write-off of capital projects and other non-manufacturing assets in Packaging & Specialty Plastics.

- The Company wrote-off \$21 million of assets in Safety & Construction, including intangible assets as a result of the Clean Filtration Technologies plant shutdown in the fourth quarter of 2017.
- The Company recorded a charge of \$67 million for other miscellaneous asset write-downs and write-offs, including the shutdown of several small manufacturing facilities and the write-off of non-manufacturing assets, certain corporate facilities and data centers. The charge related to Performance Materials & Coatings (\$9 million), Industrial Intermediates & Infrastructure (\$12 million), Packaging & Specialty Plastics (\$11 million), Nutrition & Biosciences (\$1 million), Transportation & Advanced Polymers (\$1 million) and Corporate (\$33 million). These manufacturing facilities will be shut down primarily by the end of 2019.

The restructuring charges related to the write-down and write-off of assets in 2018 totaled \$289 million . Details regarding the write-downs and write-offs are as follows:

- The Company recorded a charge of \$207 million in Agriculture related primarily to the consolidation or shutdown of manufacturing, R&D and other non-manufacturing facilities and the write-down of inventory. These facilities will be shut down primarily by the end of the third quarter of 2019.
- The Company recorded a charge of \$29 million for asset write-downs and write-offs in Nutrition & Biosciences, including the shutdown of a microbial control manufacturing facility. The manufacturing facility will be shut down by the end of 2019.
- The Company recorded a charge of \$53 million for other miscellaneous asset write-downs and write-offs, including the shutdown of several small manufacturing facilities and the write-off of non-manufacturing assets and certain corporate facilities. The charge related to Packaging & Specialty Plastics (\$10 million), Performance Materials & Coatings (\$7 million), Electronics & Imaging (\$2 million), Transportation & Advanced Polymers (\$3 million), Safety & Construction (\$7 million) and Corporate (\$24 million). These manufacturing facilities will be shut down by the end of the third quarter of 2019.

Costs Associated with Exit and Disposal Activities

The restructuring charges for costs associated with exit and disposal activities, including contract cancellation penalties and environmental remediation liabilities, totaled \$74 million in 2017 and \$161 million in 2018.

The Company expects to incur additional costs in the future related to its restructuring activities. Future costs are expected to include demolition costs related to closed facilities and restructuring plan implementation costs; these costs will be recognized as incurred. The Company also expects to incur additional employee-related costs, including involuntary termination benefits, related to its other optimization activities. These costs cannot be reasonably estimated at this time.

Restructuring Plans Initiated Prior to Merger

Historical Dow 2016 Restructuring Plan

On June 27, 2016, Historical Dow's Board of Directors approved a restructuring plan that incorporated actions related to the ownership restructure of Dow Silicones. These actions, aligned with Historical Dow's value growth and synergy targets, resulted in a global workforce reduction of approximately 2,500 positions, with most of these positions resulting from synergies related to the ownership restructure of Dow Silicones.

As a result of these actions, Historical Dow recorded pretax restructuring charges of \$449 million in the second quarter of 2016, consisting of severance and related benefit costs of \$268 million , asset write-downs and write-offs of \$153 million and costs associated with exit and disposal activities of \$28 million . The impact of these charges is shown as "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income. The 2016 restructuring activities were substantially complete at June 30, 2018, with remaining liabilities for severance and related benefit costs and costs associated with exit and disposal activities to be settled over time.

The following table summarizes the activities related to Historical Dow's 2016 restructuring reserve.

2016 Restructuring Charges	<i>Severance and Related Benefit Costs</i>	<i>Asset Write- downs and Write- offs</i>	<i>Costs Associated with Exit and Disposal Activities</i>	<i>Total</i>
In millions				
Performance Materials & Coatings	\$ —	\$ 27	\$ 15	\$ 42
Industrial Intermediates & Infrastructure	—	70	13	83
Packaging & Specialty Plastics	—	10	—	10
Corporate	268	46	—	314
2016 restructuring charges	\$ 268	\$ 153	\$ 28	\$ 449
Charges against the reserve	—	(153)	—	(153)
Cash payments	(67)	—	(1)	(68)
Reserve balance at Dec 31, 2016	\$ 201	\$ —	\$ 27	\$ 228
Adjustments to the reserve ¹	—	—	(7)	(7)
Cash payments	(150)	—	(3)	(153)
Reserve balance at Dec 31, 2017	\$ 51	\$ —	\$ 17	\$ 68
Adjustments to the reserve ¹	(8)	—	14	6
Cash payments	(37)	—	(4)	(41)
Reserve balance at Dec 31, 2018	\$ 6	\$ —	\$ 27	\$ 33

1. Included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income. Charges for severance and related benefit costs related to Corporate and costs associated with exit and disposal activities related to Performance Materials & Coatings.

Asset Write-downs and Write-offs

The restructuring charges related to the write-down and write-off of assets in the second quarter of 2016 totaled \$153 million. Details regarding the write-downs and write-offs are as follows:

- Historical Dow recorded a charge of \$70 million for asset write-downs and write-offs including the shutdown of a solar manufacturing facility in Midland, Michigan; the write-down of a solar facility in Milpitas, California; and, the write-off of capital projects and IPR&D. The charge was related to Industrial Intermediates & Infrastructure. The Midland facility was shut down in the third quarter of 2016.
- To enhance competitiveness and streamline costs associated with the ownership restructure of Dow Silicones, a silicones manufacturing facility in Yamakita, Japan, was shut down in the fourth quarter of 2018. In addition, an idled facility was shut down in the second quarter of 2016. As a result, Historical Dow recorded a charge of \$25 million related to Performance Materials & Coatings.
- Historical Dow recorded a charge of \$25 million related to Corporate to close and/or consolidate certain corporate facilities and data centers.
- A decision was made to shut down a small manufacturing facility and to write-down other non-manufacturing assets, including a cost method investment and certain aircraft. Write-downs of \$33 million were recorded, related to Performance Materials & Coatings (\$2 million), Packaging & Specialty Plastics (\$10 million) and Corporate (\$21 million). The manufacturing facility was shut down in the second quarter of 2016.

Costs Associated with Exit and Disposal Activities

The restructuring charges for costs associated with exit and disposal activities, including contract cancellation penalties, environmental remediation and warranty liabilities, were \$28 million in the second quarter of 2016.

Goodwill Impairment

Upon completion of the goodwill impairment testing in the fourth quarter of 2017, the Company determined the fair value of the Coatings & Performance Monomers reporting unit was lower than its carrying amount. As a result, the Company recorded an impairment charge of \$1,491 million in the fourth quarter of 2017, included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income and related to Performance Materials & Coatings. See Note 13 for additional information on the impairment charge.

Asset Related Charges

2018 Charges

During the third quarter of 2018, the Company recognized an \$85 million pretax impairment charge in “Restructuring, goodwill impairment and asset related charges - net” in the consolidated statements of income related to certain IPR&D assets within the Agriculture segment. See Notes 13 and 22 for additional information.

In addition, based on updated projections for the Company’s equity method investments in joint ventures in China related to the Agriculture segment, management determined the fair values of the equity method investments were below the carrying values and had no expectation the fair values would recover due to the continuing unfavorable regulatory environment, including lack of intellectual property protection, uncertain product registration timing and limited freedom to operate. As a result, management concluded the impairment was other than temporary and in the third quarter of 2018 recorded an impairment charge of \$41 million in “Restructuring, goodwill impairment and asset related charges - net” in the consolidated statements of income. See Note 22 for additional information.

In 2018, the Company recognized an additional pretax impairment charge of \$34 million related primarily to capital additions made to the biopolymers manufacturing facility in Santa Vitoria, Minas Gerais, Brazil, which was impaired in 2017. The impairment charge was included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income and related to Packaging & Specialty Plastics. See Note 22 for additional information.

2017 Charges

In the fourth quarter of 2017, the Company recognized a \$622 million pretax impairment charge related to a biopolymers manufacturing facility in Santa Vitoria, Minas Gerais, Brazil. Historical Dow determined it would not pursue an expansion of the facility’s ethanol mill into downstream derivative products, primarily as a result of cheaper ethane-based production as well as Historical Dow’s new assets coming online on the U.S. Gulf Coast which can be used to meet growing market demands in Brazil. As a result of this decision, cash flow analysis indicated the carrying amount of the impacted assets was not recoverable. The impairment charge was included in “Restructuring, goodwill impairment and asset related charges - net” in the consolidated statements of income and related to Packaging & Specialty Plastics. See Notes 22 and 23 for additional information.

The Company also recognized other pretax impairment charges of \$317 million in the fourth quarter of 2017, including charges related to manufacturing assets of \$230 million, an equity method investment of \$81 million and other assets of \$6 million. The impairment charges were included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income and related to Performance Materials & Coatings (\$82 million), Industrial Intermediates & Infrastructure (\$6 million), Packaging & Specialty Plastics (\$57 million), Electronics & Imaging (\$39 million), Safety & Construction (\$32 million) and Corporate (\$101 million). See Note 22 for additional information.

2016 Charges

In the fourth quarter of 2016, Historical Dow recognized a \$143 million pretax impairment charge related to its equity interest in AgroFresh Solutions, Inc. ("AFSI") due to a decline in the market value of AFSI. The impairment charge was included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income and related to Corporate. See Notes 12, 22 and 23 for additional information.

NOTE 7 - SUPPLEMENTARY INFORMATION

Sundry Income (Expense) - Net			
In millions	2018	2017	2016
Non-operating pension and other postretirement benefit plan net credits (costs) ¹	\$ 487	\$ (549)	\$ 34
Gain on sales of other assets and investments ²	110	198	170
Interest income	210	147	107
Foreign exchange losses, net ³	(234)	(63)	(126)
Loss on early extinguishment of debt ⁴	(135)	—	—
Gain and post-close adjustments on Historical Dow's ownership restructure of Dow Silicones ⁵	(47)	—	2,445
Loss on divestitures	(14)	—	(26)
Gain on DAS Divested Ag Business ⁶	—	635	—
Gain on divestiture of Historical Dow's EAA Business ⁶	—	227	—
Gain related to Historical Dow's Nova patent infringement award ⁷	—	137	—
Loss related to Historical Dow's Bayer CropScience arbitration matter ⁷	—	(469)	—
Impact of split-off of Historical Dow's chlorine value chain	—	7	6
Settlement of Historical Dow's urethane matters class action lawsuit and opt-out cases ⁷	—	—	(1,235)
Costs associated with Historical Dow's portfolio and productivity actions	—	—	(41)
Other - net	215	147	152
Total sundry income (expense) - net	\$ 592	\$ 417	\$ 1,486

1. Presented in accordance with ASU 2017-07. See Notes 1, 2 and 19 for additional information.

2. The 2018 amount includes a \$20 million gain related to Historical Dow's sale of its equity interest in MEGlobal and a \$22 million gain related to Agriculture asset sales.

3. The 2018 amount includes a \$50 million foreign exchange loss related to adjustments to Historical DuPont's foreign currency exchange contracts as a result of U.S. tax reform.

4. See Note 15 for additional information.

5. See Note 3 for additional information.

6. See Note 5 for additional information.

7. See Note 16 for additional information.

Accrued and Other Current Liabilities

"Accrued and other current liabilities" were \$7,943 million at December 31, 2018 and \$8,409 million at December 31, 2017. Components of "Accrued and other current liabilities" that were more than 5 percent of total current liabilities were:

Accrued and Other Current Liabilities at Dec 31		
In millions	2018	2017
Accrued payroll	\$ 1,686	\$ 1,931
Deferred revenue	\$ 2,565	\$ 2,606

Cash, Cash Equivalents and Restricted Cash

The Company is required to set aside funds for various activities that arise in the normal course of business including, but not limited to, insurance contracts, legal matters and other agreements. These funds typically have legal restrictions associated with them and are deposited in an escrow account or held in a separately identifiable account by the Company. At December 31, 2018, the Company had restricted cash and cash equivalents of \$540 million (\$577 million at December 31, 2017), included in "Other current assets" in the consolidated balance sheets.

Historical DuPont entered into a trust agreement in 2013 (as amended and restated in 2017), establishing and requiring Historical DuPont to fund a trust (the "Trust") for cash obligations under certain non-qualified benefit and deferred compensation plans upon a change in control event as defined in the Trust agreement. Under the Trust agreement, the consummation of the Merger was a change in control event. At December 31, 2018, \$500 million of the restricted cash and cash equivalents balance was related to the Trust (\$558 million at December 31, 2017).

NOTE 8 - INCOME TAXES

On December 22, 2017, The Act was enacted. The Act reduces the U.S. federal corporate income tax rate from 35 percent to 21 percent, requires companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously deferred, creates new provisions related to foreign sourced earnings, eliminates the domestic manufacturing deduction and moves to a hybrid territorial system. At December 31, 2017, the Company had not completed its accounting for the tax effects of The Act; however, as described below, the Company made a reasonable estimate of the effects on its existing deferred tax balances and the one-time transition tax. In accordance with Staff Accounting Bulletin 118 ("SAB 118"), income tax effects of The Act were refined upon obtaining, preparing, and analyzing additional information during the measurement period. At December 31, 2018, the Company had completed its accounting for the tax effects of The Act.

- As a result of The Act, the Company remeasured its U.S. federal deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future, which is generally 21 percent. The Company recorded a cumulative benefit of \$2,784 million (\$118 million benefit in 2018 and \$2,666 million benefit in 2017) to "Provision (Credit) for income taxes on continuing operations" in the consolidated statements of income with respect to the remeasurement of the Company's deferred tax balances.
- The Act requires a mandatory deemed repatriation of post-1986 undistributed foreign earnings and profits ("E&P"), which results in a one-time transition tax. The Company recorded a cumulative charge of \$1,639 million (\$59 million charge in 2018 and \$1,580 million charge in 2017) to "Provision (Credit) for income taxes on continuing operations" with respect to the one-time transition tax.
- In the year ended December 31, 2018, the Company recorded an indirect impact of The Act related to prepaid tax on the intercompany sale of inventory. The amount recorded related to the inventory was a \$54 million charge to "Provision (Credit) for income taxes on continuing operations."
- For tax years beginning after December 31, 2017, The Act introduces new provisions for U.S. taxation of certain global intangible low-taxed income ("GILTI"). The Company has made the policy election to record any liability associated with GILTI in the period in which it is incurred.

Geographic Allocation of Income (Loss) and Provision (Credit) for Income Taxes			
In millions	2018	2017	2016
Income (Loss) from continuing operations before income taxes			
Domestic ^{1, 2, 3}	\$ 230	\$ (2,804)	\$ 485
Foreign ^{1, 2}	5,263	3,997	3,928
Income from continuing operations before income taxes	\$ 5,493	\$ 1,193	\$ 4,413
Current tax expense (benefit)			
Federal	\$ (60)	\$ (98)	\$ 91
State and local	13	22	21
Foreign	1,970	1,766	1,156
Total current tax expense	\$ 1,923	\$ 1,690	\$ 1,268
Deferred tax (benefit) expense			
Federal ⁴	\$ (160)	\$ (1,764)	\$ (1,255)
State and local	(36)	8	(10)
Foreign	(238)	(410)	6
Total deferred tax benefit	\$ (434)	\$ (2,166)	\$ (1,259)
Provision (Credit) for income taxes on continuing operations	\$ 1,489	\$ (476)	\$ 9
Income from continuing operations, net of tax	\$ 4,004	\$ 1,669	\$ 4,404

1. In 2018, the domestic component of "Income (Loss) from continuing operations before income taxes" included \$2.1 billion of integration and separation costs and a \$1.0 billion charge recognized in "Cost of sales" related to the fair value step-up of inventories assumed in the Merger and the acquisition of the H&N Business. The foreign component included a \$0.6 billion charge recognized in "Cost of sales" related to the fair value step-up of inventories assumed in the Merger and the acquisition of the H&N Business. See Note 3 for additional information.

2. In 2017, the domestic component of "Income (Loss) from continuing operations before income taxes" included a \$1.5 billion goodwill impairment charge, \$1.0 billion of integration and separation costs, \$0.5 billion of restructuring charges related to the Synergy Program and \$0.3 billion of income from portfolio actions, primarily related to the Merger remedy actions. The foreign component included a \$1.1 billion charge recognized in "Cost of sales" related to the fair value step-up of inventories assumed in the Merger and the acquisition of the H&N Business, \$0.6 billion of income from portfolio actions and \$0.4 billion of restructuring charges. See Notes 3, 6 and 13 for additional information.

3. In 2016, the domestic component of "Income (Loss) from continuing operations before income taxes" included approximately \$2.1 billion of income from portfolio actions, primarily related to the Dow Silicones ownership restructure, and approximately \$2.6 billion of expenses related to the urethane matters class action lawsuit and opt-out cases settlements, asbestos-related charge and charges for environmental matters. See Notes 3, 6 and 16 for additional information.

4. The 2016 amount reflects the tax impact of accrued one-time items and reduced domestic income which limited the utilization of tax credits.

In 2017, as a result of the Merger and subsequent change in ownership, certain net operating loss carryforwards available for Historical Dow's consolidated German tax group were derecognized. In addition, the sale of stock between two Historical Dow consolidated subsidiaries in 2014 created a gain that was initially deferred for tax purposes. This deferred gain became taxable as a result of activities executed in anticipation of the Intended Business Separations. As a result, in 2017, the Company recorded a charge of \$267 million to "Provision (Credit) for income taxes on continuing operations" in the consolidated statements of income.

Reconciliation to U.S. Statutory Rate	2018	2017	2016
Statutory U.S. federal income tax rate	21.0 %	35.0 %	35.0 %
Equity earnings effect	(2.5)	(11.0)	(1.2)
Foreign income taxed at rates other than the statutory U.S. federal income tax rate ¹	6.1	(26.7)	(7.0)
U.S. tax effect of foreign earnings and dividends	(0.2)	(2.5)	(4.6)
Unrecognized tax benefits	—	2.9	(0.8)
Acquisitions, divestitures and ownership restructuring activities ^{2, 3}	1.7	6.5	(21.2)
Exchange gains, net	0.5	2.4	—
SAB 118 Impact of Enactment of U.S. Tax Reform	(0.1)	(90.9)	—
State and local income taxes	—	6.1	0.2
Goodwill impairment	—	44.9	—
Excess tax benefits from stock-based compensation ⁴	(1.0)	(8.5)	—
Other - net	1.6	1.9	(0.2)
Effective tax rate	27.1 %	(39.9)%	0.2 %

1. Includes the impact of valuation allowances in foreign jurisdictions.

2. See Notes 3 and 5 for additional information.

3. Includes a net tax charge of \$25 million and a net tax benefit of \$261 million related to an internal entity restructuring associated with the Intended Business Separations for the years ended December 31, 2018 and 2017, respectively.

4. Reflects the impact of the adoption of ASU 2016-09, "Compensation - Stock Compensation (Topic 718), Improvements to Employee Share-Based Payment Accounting," which was adopted January 1, 2017, and resulted in the recognition of excess tax benefits related to stock-based compensation in "Provision (Credit) for income taxes on continuing operations."

Deferred Tax Balances at Dec 31	2018		2017	
	Assets	Liabilities	Assets	Liabilities
In millions				
Property	\$ 460	\$ 3,593	\$ 508	\$ 3,634
Tax loss and credit carryforwards ¹	3,634	—	3,187	—
Postretirement benefit obligations	3,845	376	4,227	199
Other accruals and reserves	1,639	168	1,661	190
Intangibles	471	6,818	460	7,296
Inventory	197	534	165	768
Long-term debt	24	—	109	—
Investments	295	641	295	611
Unrealized exchange gains (losses), net	—	141	—	71
Other – net	984	582	806	535
Subtotal	\$ 11,549	\$ 12,853	\$ 11,418	\$ 13,304
Valuation allowances ^{1,2,3}	(2,407)	—	(2,511)	—
Total	\$ 9,142	\$ 12,853	\$ 8,907	\$ 13,304
Net Deferred Tax Liability	\$ (3,711)		\$ (4,397)	

1. The Company has corrected its valuation allowance (with a corresponding reduction in tax loss and credit carryforwards) in the amount of \$238 million for the year ended December 31, 2017 as a result of a change in the Delaware state apportionment methodology.

2. Primarily related to the realization of recorded tax benefits on tax loss carryforwards from operations in the United States, Brazil, Luxembourg and Asia Pacific.

3. In 2018, the Company established a full valuation allowance against the net deferred tax asset position of a legal entity in Brazil due to revised financial projections, resulting in a charge of \$75 million to "Provision (Credit) for income taxes on continuing operations" in the consolidated statements of income.

Operating Loss and Tax Credit Carryforwards	Deferred Tax Asset	
	2018	2017
In millions		
Operating loss carryforwards		
Expire within 5 years	\$ 344	\$ 288
Expire after 5 years or indefinite expiration ¹	2,456	2,550
Total operating loss carryforwards	\$ 2,800	\$ 2,838
Tax credit carryforwards		
Expire within 5 years	\$ 40	\$ 49
Expire after 5 years or indefinite expiration	794	300
Total tax credit carryforwards	\$ 834	\$ 349
Total operating loss and tax credit carryforwards	\$ 3,634	\$ 3,187

1. The Company has corrected its valuation allowance (with a corresponding reduction in tax loss and credit carryforwards) in the amount of \$238 million for the year ended December 31, 2017 as a result of a change in the Delaware state apportionment methodology.

Undistributed earnings of foreign subsidiaries and related companies that are deemed to be permanently invested amounted to \$22,365 million at December 31, 2018 and \$22,460 million at December 31, 2017. In addition to the U.S. federal tax imposed by The Act on all accumulated unrepatriated earnings through December 31, 2017, The Act introduced additional U.S. federal tax on foreign earnings, effective as of January 1, 2018. The undistributed foreign earnings as of December 31, 2018 may still be subject to certain taxes upon repatriation, primarily where foreign withholding taxes apply. It is not practicable to calculate the unrecognized deferred tax liability on undistributed foreign earnings due to the complexity of the hypothetical calculation.

During 2018, the Company repatriated certain funds from its non-U.S. subsidiaries that are not needed to finance local operations or separation activities. During the year ended December 31, 2018, the Company recorded tax expense of \$74 million associated with these repatriation activities.

The following table provides a reconciliation of the Company's unrecognized tax benefits:

Total Gross Unrecognized Tax Benefits	2018	2017 ¹	2016
In millions			
Total unrecognized tax benefits at Jan 1	\$ 994	\$ 231	\$ 280
Decreases related to positions taken on items from prior years	(51)	(6)	(12)
Increases related to positions taken on items from prior years ²	142	46	153
Increases related to positions taken in the current year ³	11	747	135
Settlement of uncertain tax positions with tax authorities ²	(13)	(11)	(325)
Decreases due to expiration of statutes of limitations	(6)	(14)	—
Exchange (gain) loss	(15)	1	—
Total unrecognized tax benefits at Dec 31	\$ 1,062	\$ 994	\$ 231
Total unrecognized tax benefits that, if recognized, would impact the effective tax rate	\$ 393	\$ 496	\$ 223
Total amount of interest and penalties (benefit) recognized in "Provision (Credit) for income taxes on continuing operations"	\$ (1)	\$ 3	\$ (55)
Total accrual for interest and penalties associated with unrecognized tax benefits	\$ 154	\$ 157	\$ 89

1. The prior year amounts have been revised for amounts previously omitted.

2. The 2016 balance includes the impact of a settlement agreement related to a historical change in the legal ownership structure of a nonconsolidated affiliate discussed below.

3. The 2017 balance includes \$709 million assumed in the Merger. The 2016 balance includes \$126 million assumed in the Dow Silicones ownership restructure.

On January 9, 2017, the U.S. Supreme Court denied *certiorari* in Historical Dow's tax treatment of partnerships and transactions associated with Chemtech, a wholly owned subsidiary of Historical Dow. Historical Dow has fully accrued the position and does not expect a future impact to "Provision (Credit) for income taxes on continuing operations" in the consolidated statements of income as a result of the ruling.

In the fourth quarter of 2016, a settlement of \$206 million was reached on a tax matter associated with a historical change in the legal ownership structure of a nonconsolidated affiliate of Historical Dow. As a result of the settlement, Historical Dow recorded a charge of \$13 million to "Provision (Credit) for income taxes on continuing operations" in the consolidated statements of income.

Each year Historical Dow, Historical DuPont and/or the Company file tax returns in the various national, state and local income taxing jurisdictions in which it operates. These tax returns are subject to examination and possible challenge by the tax authorities.

Positions challenged by the tax authorities may be settled or appealed by the Company. As a result, there is an uncertainty in income taxes recognized in the Company's financial statements in accordance with accounting for income taxes and accounting for uncertainty in income taxes. The impact on the Company's results of operations is not expected to be material.

Tax years that remain subject to examination for the Company's major tax jurisdictions are shown below:

Tax Years Subject to Examination by Major Tax Jurisdiction at Dec 31, 2018	<i>Earliest Open Year</i>
<i>Jurisdiction</i>	
Argentina	2009
Brazil	2006
Canada	2012
China	2008
Denmark	2012
Germany	2006
India	2001
Italy	2013
The Netherlands	2016
Switzerland	2012
United States:	
Federal income tax	2004
State and local income tax	2004

NOTE 9 - EARNINGS PER SHARE CALCULATIONS

The following tables provide earnings per share calculations for the years ended December 31, 2018 , 2017 , and 2016 :

Net Income for Earnings Per Share Calculations - Basic			
In millions	2018	2017	2016
Income from continuing operations, net of tax	\$ 4,004	\$ 1,669	\$ 4,404
Net income attributable to noncontrolling interests	(155)	(132)	(86)
Preferred stock dividends ¹	—	—	(340)
Net income attributable to participating securities ²	(17)	(13)	(22)
Income from continuing operations attributable to common stockholders	\$ 3,832	\$ 1,524	\$ 3,956
Loss from discontinued operations, net of tax	(5)	(77)	—
Net income attributable to common stockholders	\$ 3,827	\$ 1,447	\$ 3,956

Earnings Per Share Calculations - Basic			
Dollars per share	2018	2017	2016
Income from continuing operations attributable to common stockholders	\$ 1.66	\$ 0.97	\$ 3.57
Loss from discontinued operations, net of tax	—	(0.05)	—
Net income attributable to common stockholders	\$ 1.66	\$ 0.92	\$ 3.57

Net Income for Earnings Per Share Calculations - Diluted			
In millions	2018	2017	2016
Income from continuing operations, net of tax	\$ 4,004	\$ 1,669	\$ 4,404
Net income attributable to noncontrolling interests	(155)	(132)	(86)
Preferred stock dividends ^{1,3}	—	—	(340)
Net income attributable to participating securities ²	(17)	(13)	(22)
Income from continuing operations attributable to common stockholders	\$ 3,832	\$ 1,524	\$ 3,956
Loss from discontinued operations, net of tax	(5)	(77)	—
Net income attributable to common stockholders	\$ 3,827	\$ 1,447	\$ 3,956

Earnings Per Share Calculations - Diluted			
Dollars per share	2018	2017	2016
Income from continuing operations attributable to common stockholders	\$ 1.65	\$ 0.95	\$ 3.52
Loss from discontinued operations, net of tax	—	(0.04)	—
Net income attributable to common stockholders	\$ 1.65	\$ 0.91	\$ 3.52

Share Count Information			
Shares in millions	2018	2017	2016
Weighted-average common shares - basic ^{4,5}	2,301.0	1,579.8	1,108.1
Plus dilutive effect of equity compensation plans ⁴	14.5	18.3	15.1
Weighted-average common shares - diluted ^{4,6}	2,315.5	1,598.1	1,123.2
Stock options and restricted stock units excluded from EPS calculations ⁷	9.6	1.4	1.9

1. On December 30, 2016, Historical Dow converted all shares of its Cumulative Convertible Perpetual Preferred Stock, Series A ("Preferred Stock") into shares of Historical Dow's common stock. As a result of this conversion, no shares of Historical Dow Preferred Stock are issued or outstanding. See Note 17 for additional information.

2. Historical Dow restricted stock units (formerly termed deferred stock) are considered participating securities due to Historical Dow's practice of paying dividend equivalents on unvested shares.

3. Preferred Stock dividends were not added back in the calculation of diluted earnings per share for the period ended December 31, 2016, because the effect of an assumed conversion of Historical Dow's Preferred Stock would have been antidilutive.

4. As a result of the Merger, the share amounts for the year ended December 31, 2017, reflect a weighted averaging effect of Historical Dow shares outstanding prior to August 31, 2017 and DowDuPont shares outstanding on and after August 31, 2017.

5. On December 30, 2016, Historical Dow converted 4 million shares of Historical Dow Preferred Stock into 96.8 million shares of Historical Dow's common stock. As a result of this conversion, 0.5 million shares of Historical Dow common stock are included in "Weighted-average common shares - basic" for the year ended December 31, 2016.

6. The calculation of diluted earnings per share for the year ended December 31, 2016, excludes 96.3 million shares of Historical Dow common stock because the effect of an assumed conversion of Historical Dow Preferred Stock for the full period would have been antidilutive.

7. These outstanding options to purchase shares of common stock and restricted stock units were excluded from the calculation of diluted earnings per share because the effect of including them would have been antidilutive.

NOTE 10 - INVENTORIES

The following table provides a breakdown of inventories:

Inventories at Dec 31		
In millions	2018	2017
Finished goods	\$ 9,814	\$ 9,701
Work in process	3,969	4,512
Raw materials	1,419	1,267
Supplies	1,321	1,296
Total	\$ 16,523	\$ 16,776
Adjustment of inventories to a LIFO basis	98	216
Total inventories	\$ 16,621	\$ 16,992

NOTE 11 - PROPERTY

The following table provides a breakdown of property:

Property at Dec 31	<i>Estimated Useful Lives (Years)</i>		
In millions		2018	2017
Land and land improvements	0-25	\$ 3,472	\$ 3,448
Buildings	1-50	8,723	8,667
Machinery and equipment	1-25	53,864	51,312
Other property	3-50	5,414	5,277
Construction in progress	—	3,870	4,600
Total property		\$ 75,343	\$ 73,304

	2018	2017	2016
In millions			
Depreciation expense	\$ 3,740	\$ 2,755	\$ 2,130
Capitalized interest	\$ 108	\$ 247	\$ 243

The increase in depreciation expense in 2018 compared with 2017, is primarily related to the inclusion of a full year of depreciation expense for the property acquired as a result of the Merger.

NOTE 12 - NONCONSOLIDATED AFFILIATES AND RELATED COMPANY TRANSACTIONS

The Company's investments in companies accounted for using the equity method ("nonconsolidated affiliates"), by classification in the consolidated balance sheets, and dividends received from nonconsolidated affiliates are shown in the following tables:

Investments in Nonconsolidated Affiliates at Dec 31		
In millions	2018 ¹	2017 ¹
Investment in nonconsolidated affiliates	\$ 5,204	\$ 5,336
Accrued and other current liabilities	(81)	(46)
Other noncurrent obligations	(495)	(752)
Net investment in nonconsolidated affiliates	\$ 4,628	\$ 4,538

1. The carrying amount of the Company's investments in nonconsolidated affiliates at December 31, 2018, was \$23 million less than its share of the investees' net assets (\$32 million less at December 31, 2017), exclusive of additional differences relating to the Merger, EQUATE Petrochemical K.S.C.C. ("EQUATE") and AFSI, which are discussed separately in the disclosures that follow.

Dividends Received from Nonconsolidated Affiliates			
In millions	2018	2017 ¹	2016
Dividends from nonconsolidated affiliates	\$ 1,084	\$ 900	\$ 685

1. Includes a non-cash dividend of \$8 million .

Except for AFSI, the nonconsolidated affiliates in which the Company has investments are privately held companies; therefore, quoted market prices are not available.

Merger with Historical DuPont

In connection with the Merger, the net investment in nonconsolidated affiliates increased by \$1,551 million (consisting of \$1,596 million in "Investment in nonconsolidated affiliates" and \$45 million in "Accrued and other current liabilities"), which represented the fair value of investments acquired at August 31, 2017. At December 31, 2018, the carrying value of investments acquired in the Merger was \$822 million more than the Company's proportionate share of underlying net assets of the investees (\$930 million more at December 31, 2017). An aggregate basis difference of \$246 million at December 31, 2018 (\$290 million at December 31, 2017), is being amortized through 2029 and the remainder is considered a permanent difference.

Dow Silicones and the HSC Group

As a result of the Dow Silicones ownership restructure, Dow Silicones, previously a 50:50 joint venture between Historical Dow and Corning, became a wholly owned subsidiary of Historical Dow as of June 1, 2016. Historical Dow's equity interest in Dow Silicones, which was previously classified as "Investment in nonconsolidated affiliates" in the consolidated balance sheets, was remeasured to fair value. See Note 3 for additional information on the Dow Silicones ownership restructure. Dow Silicones continues to maintain equity interests in the HSC Group, which includes Hemlock Semiconductor L.L.C. and DC HSC Holdings LLC. The negative investment balance in Hemlock Semiconductor L.L.C. was \$495 million at December 31, 2018 (\$752 million at December 31, 2017).

EQUATE

At December 31, 2018 , the Company had an investment balance in EQUATE of \$131 million (\$42 million at December 31, 2017), which is classified as "Investment in nonconsolidated affiliates" in the consolidated balance sheets. The Company's investment in EQUATE was \$502 million less than the Company's proportionate share of EQUATE's underlying net assets at December 31, 2018 (\$516 million less at December 31, 2017), which represents the difference between the fair values of certain MEGlobal assets acquired by EQUATE and the Company's related valuation on a U.S. GAAP basis. A basis difference of \$184 million at December 31, 2018 (\$200 million at December 31, 2017) is being amortized over the remaining useful lives of the assets and the remainder is considered a permanent difference.

AFSI

On July 31, 2015, Historical Dow sold its AgroFresh business to AFSI. Proceeds received on the divestiture of AgroFresh included 17.5 million common shares of AFSI, which were valued at \$210 million and represented an approximate 35 percent ownership interest in AFSI. Based on the December 31, 2016 closing stock price of AFSI, the value of this investment would have been lower than the carrying value by \$143 million . In the fourth quarter of 2016, Historical Dow determined the decline in market value of AFSI was other-than-temporary and recognized a \$143 million pretax impairment charge related to its equity interest in AFSI. The impairment charge was included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income and related to the Corporate segment. At December 31, 2018 , the Company's investment in AFSI was \$101 million less than the Company's proportionate share of AFSI's underlying net assets (\$92 million less at December 31, 2017). This amount primarily relates to the other-than-temporary decline in the Company's investment in AFSI.

On April 4, 2017, Historical Dow and AFSI revised certain agreements related to the divestiture of the AgroFresh business and Historical Dow entered into a stock purchase agreement to purchase up to 5,070,358 shares of AFSI's common stock, which represented approximately 10 percent of AFSI's common stock outstanding at signing of the agreement, subject to certain terms and conditions. On November 19, 2018, the stock purchase agreement concluded. At December 31, 2018 , Historical Dow held a 42 percent ownership interest in AFSI (36 percent at December 31, 2017). See Notes 22 and 23 for further information on this investment.

Sadara

Historical Dow and Saudi Arabian Oil Company formed Sadara Chemical Company ("Sadara") to build and operate a world-scale, fully integrated chemicals complex in Jubail Industrial City, Kingdom of Saudi Arabia. Sadara achieved its first polyethylene production in December 2015 and announced the start-up of its mixed feed cracker and a third polyethylene train (which added to the two polyethylene trains already in operation) in August 2016. Sadara achieved successful startup of its remaining production units in 2017. In 2018, Historical Dow entered into a shareholder loan reduction agreement with Sadara and converted \$312 million of the remaining loan and accrued interest balance into equity. At December 31, 2018 , Historical Dow's note receivable with Sadara was zero. In addition, in the fourth quarter of 2018, Historical Dow waived \$70 million of accounts receivable with Sadara, which was converted into equity. In 2017, Historical Dow loaned \$735 million to Sadara and converted \$718 million into equity, and had a note receivable from Sadara of \$275 million at December 31, 2017, included in "Noncurrent receivables" in the consolidated balance sheets.

Transactions with Nonconsolidated Affiliates

Historical Dow has service agreements with certain nonconsolidated affiliates, including contracts to manage the operations of manufacturing sites and the construction of new facilities; licensing and technology agreements; and marketing, sales, purchase, lease and sublease agreements.

Historical Dow sells excess ethylene glycol produced at Historical Dow's manufacturing facilities in the United States and Europe to MEGlobal, an EQUATE subsidiary. Historical Dow also sells ethylene to MEGlobal as a raw material for its ethylene glycol plants in Canada. Sales of these products to MEGlobal represented 1 percent of total net sales in 2018, 2017 and 2016. Sales of ethylene glycol to MEGlobal are reflected in Industrial Intermediates & Infrastructure and represented 2 percent of the segment's sales in 2018, 2017 and 2016. Sales of ethylene to MEGlobal are reflected in the Packaging & Specialty Plastics segment and represented 1 percent of the segment's sales in 2018, 2017 and 2016.

Dow Silicones supplies trichlorosilane, a raw material used in the production of polycrystalline silicon, to the HSC Group. Sales of this material to the HSC Group represented less than 1 percent of total net sales in 2018, 2017 and from June 1, 2016 through December 31, 2016. Sales of this material to the HSC Group are reflected in Electronics & Imaging and represented 8 percent of the segment's sales in 2018 (11 percent in 2017 and 9 percent from June 1, 2016 through December 31, 2016).

Historical Dow is responsible for marketing the majority of Sadara products outside of the Middle East zone through Historical Dow's established sales channels. Under this arrangement, Historical Dow purchases and sells Sadara products for a marketing fee. Purchases of Sadara products represented 6 percent of "Cost of sales" in 2018 (3 percent in 2017 and not material in 2016).

Historical Dow purchases products from The SCG-Dow Group, primarily for marketing and distribution in Asia Pacific. Purchases of products from the The SCG-Dow Group represented 1 percent of "Cost of sales" in 2018 (2 percent in 2017 and 3 percent in 2016).

Sales to and purchases from other nonconsolidated affiliates were not material to the consolidated financial statements.

Balances due to or due from nonconsolidated affiliates at December 31, 2018 and 2017 were as follows:

Balances Due To or Due From Nonconsolidated Affiliates at Dec 31		
In millions	2018	2017
Accounts and notes receivable - Other	\$ 582	\$ 496
Noncurrent receivables	8	283
Total assets	\$ 590	\$ 779
Notes payable	\$ 42	\$ 40
Accounts payable - Other	1,328	1,260
Total current liabilities	\$ 1,370	\$ 1,300

Principal Nonconsolidated Affiliates

The Company had an ownership interest in 77 nonconsolidated affiliates at December 31, 2018 (82 at December 31, 2017). The Company's principal nonconsolidated affiliates and its ownership interest (direct and indirect) for each at December 31, 2018 , 2017 and 2016 are as follows:

Principal Nonconsolidated Affiliates at Dec 31	Country	Ownership Interest		
		2018	2017	2016
EQUATE Petrochemical Company K.S.C.C.	Kuwait	42.5%	42.5%	42.5%
The HSC Group:				
DC HSC Holdings LLC ¹	United States	50%	50%	50%
Hemlock Semiconductor L.L.C.	United States	50.1%	50.1%	50.1%
The Kuwait Olefins Company K.S.C.C.	Kuwait	42.5%	42.5%	42.5%
The Kuwait Styrene Company K.S.C.C.	Kuwait	42.5%	42.5%	42.5%
Map Ta Phut Olefins Company Limited ²	Thailand	32.77%	32.77%	32.77%
Sadara Chemical Company	Saudi Arabia	35%	35%	35%
The SCG-Dow Group:				
Siam Polyethylene Company Limited	Thailand	50%	50%	50%
Siam Polystyrene Company Limited	Thailand	50%	50%	50%
Siam Styrene Monomer Co., Ltd.	Thailand	50%	50%	50%
Siam Synthetic Latex Company Limited	Thailand	50%	50%	50%

1. DC HSC Holdings LLC holds an 80.5 percent indirect ownership interest in Hemlock Semiconductor Operations LLC.

2. Historical Dow's effective ownership of Map Ta Phut Olefins Company Limited is 32.77 percent , of which Historical Dow directly owns 20.27 percent and indirectly owns 12.5 percent through its equity interest in Siam Polyethylene Company Limited.

The Company's investment in and equity earnings from its principal nonconsolidated affiliates are shown in the tables below:

Investment in Principal Nonconsolidated Affiliates at Dec 31	2018	2017
In millions		
Investment in principal nonconsolidated affiliates	\$ 3,411	\$ 3,323
Other noncurrent obligations	(495)	(752)
Net investment in principal nonconsolidated affiliates	\$ 2,916	\$ 2,571

Equity Earnings from Principal Nonconsolidated Affiliates	2018	2017	2016 ¹
In millions			
Equity in earnings of principal nonconsolidated affiliates	\$ 950	\$ 701	\$ 449

1. Equity in earnings of principal nonconsolidated affiliates for 2016 includes the results of Dow Silicones through May 31, 2016.

The summarized financial information that follows represents the combined accounts (at 100 percent) of the principal nonconsolidated affiliates:

Summarized Balance Sheet Information at Dec 31		
In millions	2018	2017
Current assets	\$ 8,741	\$ 8,039
Noncurrent assets	27,385	28,300
Total assets	\$ 36,126	\$ 36,339
Current liabilities	\$ 5,706	\$ 5,164
Noncurrent liabilities	20,807	22,240
Total liabilities	\$ 26,513	\$ 27,404
Noncontrolling interests	\$ 332	\$ 304

Summarized Income Statement Information ¹			
In millions	2018	2017	2016 ²
Sales	\$ 15,619	\$ 13,345	\$ 12,003
Gross profit	\$ 3,130	\$ 2,461	\$ 2,518
Net income	\$ 1,943	\$ 1,401	\$ 831

1. The results in this table reflect purchase and sale activity between certain principal nonconsolidated affiliates and Historical Dow, as previously discussed in the "Transactions with Nonconsolidated Affiliates" section.

2. The summarized income statement information for 2016 includes the results of Dow Silicones through May 31, 2016.

NOTE 13 - GOODWILL AND OTHER INTANGIBLE ASSETS

The Company changed its reportable segments as a result of the Merger to reflect the manner in which the Company's chief operating decision maker assesses performance and allocates resources. Effective with the Merger, the Company also updated its reporting units to align with the level at which discrete financial information is available for review by management. In connection with the Merger, the Company recorded \$45,497 million of goodwill, representing the final fair value as of the effective date of the Merger. Goodwill resulting from the Merger was assigned to reporting units based on the acquisition method of accounting. For the remaining goodwill balance, a relative fair value method was used to reallocate goodwill for reporting units of which the composition had changed. The following table reflects the carrying amounts of goodwill by reportable segment. Prior year data has been updated to conform with the current year presentation for changes in reportable segments discussed in Note 24 .

Goodwill									
In millions	<i>Agri- culture</i>	<i>Perf. Materials & Coatings</i>	<i>Ind. Inter- & Infrac.</i>	<i>Pack. & Spec. Plastics</i>	<i>Elect. & Imaging</i>	<i>Nutrition & Biosciences</i>	<i>Transp. & Adv. Polymers</i>	<i>Safety & Const.</i>	<i>Total</i>
Balance at Jan 1, 2017 ¹	\$ 1,472	\$ 4,938	\$ 1,085	\$ 1,518	\$ 4,155	\$ 320	\$ 601	\$ 1,183	\$ 15,272
Goodwill recognized from Merger ²	13,644	—	—	3,521	4,040	12,201	6,283	5,416	45,105
Goodwill impairment	—	(1,491)	—	—	—	—	—	—	(1,491)
Sale of SKC Haas Display Films ³	—	—	—	—	(34)	—	—	—	(34)
Divestiture of EAA Business ⁴	—	—	—	(23)	—	—	—	—	(23)
Goodwill recognized from H&N acquisition ⁵	—	—	—	—	—	718	—	—	718
Divestiture of DAS Divested Ag Business ⁶	(128)	—	—	—	—	—	—	—	(128)
Dissolution of joint venture ⁷	—	48	—	—	—	—	—	—	48
Other	—	—	—	(5)	—	—	—	—	(5)
Foreign currency impact	(115)	194	16	33	14	(59)	(14)	(4)	65
Balance at Dec 31, 2017	\$ 14,873	\$ 3,689	\$ 1,101	\$ 5,044	\$ 8,175	\$ 13,180	\$ 6,870	\$ 6,595	\$ 59,527
Measurement period adjustments - Merger ²	94	—	—	82	57	(201)	162	198	392
Measurement period adjustments - H&N Business ⁵	—	—	—	—	—	14	—	—	14
Foreign currency impact	(278)	(39)	(5)	(25)	(44)	(350)	(65)	(85)	(891)
Other	—	—	—	—	—	—	—	(10)	(10)
Balance at Dec 31, 2018	\$ 14,689	\$ 3,650	\$ 1,096	\$ 5,101	\$ 8,188	\$ 12,643	\$ 6,967	\$ 6,698	\$ 59,032

1. Updated for changes in reportable segments effective in the third quarter of 2018. Refer to Note 24 for additional information.

2. See Note 3 for further information on goodwill recognized in connection with the Merger.

3. On June 30, 2017, Historical Dow sold its ownership interest in the SKC Haas Display Films group of companies. See Note 18 for additional information.

4. On September 1, 2017, Historical Dow divested its EAA Business to SK Global Chemical Co., Ltd. See Note 5 for additional information.

5. On November 1, 2017, Historical DuPont acquired FMC's H&N Business. See Note 3 for additional information.

6. On November 30, 2017, Historical Dow divested the DAS Divested Ag Business. See Note 5 for additional information.

7. On December 31, 2017, Historical Dow dissolved a crude acrylic acid joint venture. See Note 23 for additional information.

Goodwill Impairments

The carrying amounts for all periods presented were net of accumulated impairments of \$120 million in Transportation & Advanced Polymers and \$309 million in Industrial Intermediates & Infrastructure. In addition, the carrying amount of goodwill at December 31, 2018 and 2017, was net of accumulated impairments of \$1,491 million in Performance Materials & Coatings as discussed below.

Goodwill Impairment Testing

The Company performs an impairment test of goodwill annually in the fourth quarter.

In 2018 , the Company performed quantitative testing for four reporting units (12 in 2017 and 3 in 2016) and a qualitative assessment was performed for the remaining reporting units that carry goodwill. The qualitative assessment indicated that it was not more likely than not that fair value was less than the carrying value for those reporting units included in the qualitative test. Based on the quantitative testing performed on the remaining four reporting units, the Company concluded that fair value exceeded carrying value for all reporting units and no impairments were identified as a result of the 2018 testing. Due to the fair value and carrying value of two of these reporting units, Industrial Biosciences and Clean Technologies, being equal at the date of the Merger resulting in little margin of fair value in excess of carrying value, the Company believes these reporting units are at risk to have impairment charges in future periods. The carrying amount of goodwill for the Industrial Biosciences and Clean Technologies reporting units

at December 31, 2018 was \$3,113 million and \$461 million, respectively. The Industrial Biosciences and Clean Technologies reporting units both relate to the Nutrition & Biosciences segment.

Upon completion of quantitative testing in the fourth quarter of 2017, the Company determined the Coatings & Performance Monomers reporting unit was impaired. Throughout 2017, the Coatings & Performance Monomers reporting unit did not consistently meet expected financial performance targets, primarily due to increasing commoditization in coatings markets and competition, as well as customer consolidation in end markets which reduced growth opportunities. As a result, the Coatings & Performance Monomers reporting unit lowered future revenue and profitability expectations. The fair value of the Coatings & Performance Monomers reporting unit was determined using a discounted cash flow methodology that reflected reductions in projected revenue growth rates, primarily driven by modified sales volume and pricing assumptions, as well as revised expectations for future growth rates. These discounted cash flows did not support the carrying value of the Coatings & Performance Monomers reporting unit. As a result, the Company recorded a goodwill impairment charge for the Coatings & Performance Monomers reporting unit of \$1,491 million in the fourth quarter of 2017, included in “Restructuring, goodwill impairment and asset related charges - net” in the consolidated statements of income and related to Performance Materials & Coatings. The Coatings & Performance Monomers reporting unit carried \$1,071 million of goodwill at December 31, 2017.

No other goodwill impairments were identified as a result of the 2017 testing. Impairment tests conducted in 2016 concluded that no goodwill impairments existed.

Other Intangible Assets

The following table provides information regarding the Company's other intangible assets:

Other Intangible Assets	Dec 31, 2018			Dec 31, 2017		
	Gross Carrying Amount	Accum Amort	Net	Gross Carrying Amount	Accum Amort	Net
In millions						
Intangible assets with finite lives:						
Developed technology	\$ 7,761	\$ (2,562)	\$ 5,199	\$ 7,627	\$ (1,834)	\$ 5,793
Software	1,529	(876)	653	1,420	(780)	640
Trademarks/trade names	1,772	(745)	1,027	1,814	(596)	1,218
Customer-related	14,236	(2,895)	11,341	14,537	(2,151)	12,386
Microbial cell factories	386	(22)	364	397	(6)	391
Favorable supply contracts	475	(111)	364	495	(17)	478
Other ¹	620	(203)	417	703	(166)	537
Total other intangible assets with finite lives	\$ 26,779	\$ (7,414)	\$ 19,365	\$ 26,993	\$ (5,550)	\$ 21,443
Intangible assets with indefinite lives:						
IPR&D ²	594	—	594	710	—	710
Germplasm	6,265	—	6,265	6,265	—	6,265
Trademarks/trade names	4,741	—	4,741	4,856	—	4,856
Total other intangible assets	\$ 38,379	\$ (7,414)	\$ 30,965	\$ 38,824	\$ (5,550)	\$ 33,274

1. Primarily consists of sales and farmer networks, marketing and manufacturing alliances and noncompetition agreements.

2. Refer to discussion of interim impairment test that follows.

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In connection with the Merger, the Company recorded \$27,071 million of intangible assets, as shown in the table below, representing the final fair values at the Merger date. See Note 3 for additional information on the Merger.

Merger Intangible Assets	<i>Gross Carrying Amount</i>	<i>Weighted-average Amort Period</i>
Amounts in millions		
Intangible assets with finite lives:		
Developed technology	\$ 4,239	12 years
Trademarks/trade names	1,045	16 years
Customer-related	9,215	17 years
Microbial cell factories	400	23 years
Other	461	17 years
Total other intangible assets with finite lives	\$ 15,360	
Intangible assets with indefinite lives:		
IPR&D	660	
Germplasm	6,263	
Trademarks/trade names	4,788	
Total other intangible assets	\$ 27,071	

The following table provides information regarding amortization expense related to intangible assets:

Amortization Expense			
In millions	2018	2017	2016
Other intangible assets, excluding software	\$ 1,903	\$ 1,013	\$ 544
Software, included in "Cost of sales"	\$ 100	\$ 87	\$ 73

In the third quarter of 2018, the Company determined that the fair value of certain IPR&D assets in the Agriculture segment had declined as a result of delays in timing of commercialization and increases to expected research and development costs. The Company performed an analysis of the fair value using the relief from royalty method (a form of the income approach) using Level 3 inputs within the fair value hierarchy. The key assumptions used in the calculation included projected revenue, royalty rates and discount rates. These key assumptions involve management judgment and estimates relating to future operating performance and economic conditions that may differ from actual cash flows. As a result, the Company recorded a pretax, non-cash intangible asset impairment charge of \$85 million, which is reflected in "Restructuring, goodwill impairment and asset related charges - net," in the consolidated statements of income, and related to the Agriculture segment.

In the fourth quarter of 2017, Historical Dow wrote off \$69 million of intangible assets (including \$11 million of IPR&D) as part of the Synergy Program. In 2016, Historical Dow wrote off \$11 million of IPR&D as part of the 2016 restructuring charge. See Note 6 for additional information.

Total estimated amortization expense for the next five fiscal years is as follows:

Estimated Amortization Expense for Next Five Years	
In millions	
2019	\$ 1,876
2020	\$ 1,825
2021	\$ 1,784
2022	\$ 1,698
2023	\$ 1,566

NOTE 14 - TRANSFERS OF FINANCIAL ASSETS

Historical Dow has sold trade accounts receivable of select North American entities and qualifying trade accounts receivable of select European entities on a revolving basis to certain multi-seller commercial paper conduit entities ("conduits"). The proceeds received are comprised of cash and interests in specified assets of the conduits (the receivables sold by Historical Dow) that entitle Historical Dow to the residual cash flows of such specified assets in the conduits after the commercial paper has been repaid. Neither the conduits nor the investors in those entities have recourse to other assets of Historical Dow in the event of nonpayment by the debtors.

In the fourth quarter of 2017, Historical Dow suspended further sales of trade accounts receivable through these facilities and began reducing outstanding balances through collections of trade accounts receivable previously sold to such conduits. In September and October 2018, the North American and European facilities, respectively, were amended and the terms of the agreements changed from off-balance sheet arrangements to secured borrowing arrangements. See Note 15 for additional information on the secured borrowing arrangements.

For the year ended December 31, 2018, Historical Dow recognized a loss of \$7 million on the sale of these receivables (\$25 million loss for the year ended December 31, 2017 and \$20 million loss for the year ended December 31, 2016), which is included in "Interest expense and amortization of debt discount" in the consolidated statements of income.

The following table summarizes the carrying value of interests held, which represents Historical Dow's maximum exposure to loss related to the receivables sold, and the percentage of anticipated credit losses related to the trade accounts receivable sold. Also provided is the sensitivity of the fair value of the interests held to hypothetical adverse changes in the anticipated credit losses; amounts shown below are the corresponding hypothetical decreases in the carrying value of interests.

Interests Held at Dec 31		
In millions	2018	2017
Carrying value of interests held ¹	\$ —	\$ 677
Percentage of anticipated credit losses	—%	2.64%
Impact to carrying value - 10% adverse change	\$ —	\$ —
Impact to carrying value - 20% adverse change	\$ —	\$ 1

1. Included in "Accounts and notes receivable - other" in the consolidated balance sheets.

Credit losses, net of any recoveries, on receivables were insignificant for the years ended December 31, 2018, 2017 and 2016.

Following is an analysis of certain cash flows between Historical Dow and the conduits:

Cash Proceeds			
In millions	2018	2017	2016
Sale of receivables	\$ —	\$ 1	\$ 1
Collections reinvested in revolving receivables	\$ —	\$ 21,293	\$ 21,652
Interests in conduits ¹	\$ 657	\$ 9,462	\$ 8,551

1. Presented in "Investing Activities" in the consolidated statements of cash flows in accordance with ASU 2016-15. See Notes 1 and 2 for additional information. In connection with the review and implementation of ASU 2016-15, Historical Dow also changed the prior year value of "Interests in conduits" due to additional interpretive guidance of the required method for calculating the cash received from beneficial interests in the conduits, including additional guidance from the SEC's Office of the Chief Accountant issued in the third quarter of 2018 that indicated an entity must evaluate daily transaction activity to calculate the value of cash received from beneficial interests in conduits.

Following is additional information related to the sale of receivables under these facilities:

Trade Accounts Receivable Sold at Dec 31		
In millions	2018	2017
Delinquencies on sold receivables still outstanding	\$ —	\$ 82
Trade accounts receivable outstanding and derecognized	\$ —	\$ 612

In 2017, Historical Dow repurchased \$5 million of previously sold receivables.

NOTE 15 - NOTES PAYABLE, LONG-TERM DEBT AND AVAILABLE CREDIT FACILITIES

The following tables summarize the consolidated notes payable and long-term debt of the DowDuPont holding company, Historical Dow and Historical DuPont:

Notes Payable	<i>Dec 31, 2018</i>			<i>Dec 31, 2017</i>		
	<i>Historical Dow</i>	<i>Historical DuPont</i>	<i>Total</i>	<i>Historical Dow</i>	<i>Historical DuPont</i>	<i>Total</i>
In millions						
Commercial paper	\$ 10	\$ 1,847	\$ 1,857	\$ 231	\$ 1,436	\$ 1,667
Notes payable to banks and other lenders	292	16	308	253	28	281
Total notes payable	\$ 302	\$ 1,863	\$ 2,165	\$ 484	\$ 1,464	\$ 1,948
Period-end average interest rates	8.61%	3.07%		4.42%	1.95%	

Long-Term Debt	<i>Dec 31, 2018</i>						
	<i>DowDuPont Weighted Average Rate</i>	<i>DowDuPont ¹</i>	<i>Historical Dow Weighted Average Rate</i>	<i>Historical Dow</i>	<i>Historical DuPont Weighted Average Rate</i>	<i>Historical DuPont</i>	<i>Total</i>
In millions							
Promissory notes and debentures:							
Final maturity 2019	—%	\$ —	9.80%	\$ 7	2.23%	\$ 263	\$ 270
Final maturity 2020	3.68%	2,000	4.46%	1,547	2.14%	2,496	6,043
Final maturity 2021	—%	—	4.71%	1,424	2.08%	475	1,899
Final maturity 2022	—%	—	3.50%	1,373	—%	—	1,373
Final maturity 2023	4.16%	2,800	7.64%	325	2.48%	386	3,511
Final maturity 2024 and thereafter	4.98%	7,900	5.73%	8,859	3.69%	249	17,008
Other facilities:							
U.S. dollar loans, various rates and maturities	—%	—	3.59%	4,533	3.47%	2,015	6,548
Foreign currency loans, various rates and maturities	—%	—	3.21%	713	—%	—	713
Medium-term notes, varying maturities through 2043	—%	—	3.26%	778	2.37%	110	888
Capital lease obligations		—		369		117	486
Unamortized debt discount and issuance costs		(104)		(334)		(2)	(440)
Long-term debt due within one year ^{2, 3}		—		(340)		(297)	(637)
Long-term debt		\$ 12,596		\$ 19,254		\$ 5,812	\$ 37,662

1. Represents the DowDuPont holding company.

2. Presented net of current portion of unamortized debt issuance costs.

3. Includes capital lease obligations due within a year.

Long-Term Debt	Dec 31, 2017				
	Historical Dow Weighted Average Rate	Historical Dow	Historical DuPont Weighted Average Rate	Historical DuPont	Total
In millions					
Promissory notes and debentures:					
Final maturity 2018	5.78%	\$ 339	1.59%	\$ 1,280	\$ 1,619
Final maturity 2019	8.55%	2,122	2.23%	521	2,643
Final maturity 2020	4.46%	1,547	1.79%	3,070	4,617
Final maturity 2021	4.71%	1,424	2.07%	1,580	3,004
Final maturity 2022	3.50%	1,373	—%	—	1,373
Final maturity 2023 and thereafter	6.00%	7,182	3.32%	3,492	10,674
Other facilities:					
U.S. dollar loans, various rates and maturities	2.44%	4,564	2.37%	1,518	6,082
Foreign currency loans, various rates and maturities	3.00%	814	2.85%	30	844
Medium-term notes, varying maturities through 2043	3.20%	873	1.22%	110	983
Tax-exempt bonds, varying maturities through 2038	5.66%	343	—%	—	343
Capital lease obligations		282		5	287
Unamortized debt discount and issuance costs		(346)		—	(346)
Long-term debt due within one year ¹		(752)		(1,315)	(2,067)
Long-term debt		\$ 19,765		\$ 10,291	\$ 30,056

1. Presented net of current portion of unamortized debt issuance costs.

Maturities of Long-Term Debt for Next Five Years at Dec 31, 2018	DowDuPont ¹	Historical Dow ₂	Historical DuPont ³	Total
In millions				
2019	\$ —	\$ 340	\$ 295	\$ 635
2020	\$ 2,000	\$ 1,833	\$ 4,504	\$ 8,337
2021	\$ —	\$ 6,247	\$ 484	\$ 6,731
2022	\$ —	\$ 1,510	\$ 17	\$ 1,527
2023	\$ 2,800	\$ 480	\$ 392	\$ 3,672

1. Represents the DowDuPont holding company.

2. Assumes the option to extend a term loan facility related to the Dow Silicones ownership restructure will be exercised.

3. Excludes unamortized debt step-up premium.

2018 Activity

In contemplation of the separations and distributions and in preparation to achieve the intended credit profiles of Corteva, Dow and DuPont, in the fourth quarter of 2018, DowDuPont consummated a public underwritten offer of eight series of senior unsecured notes (the "DowDuPont Notes") in an aggregate principal amount of \$12.7 billion. The DowDuPont Notes are a senior unsecured obligation of the Company and will rank equally with Company's future senior unsecured debt outstanding from time to time.

In the fourth quarter of 2018, DowDuPont used \$4.8 billion of the aggregate proceeds from the DowDuPont Notes to fund Historical DuPont's tender offers for certain of its outstanding debt securities of which \$4.4 billion aggregate principal amount was tendered and retired, resulting in a pretax loss of \$81 million on the early extinguishment of debt, included in "Sundry income (expense) - net" in the consolidated statements of income. In addition, proceeds were used to purchase \$1.4 billion of shares under the \$3.0 billion share buyback program; as well as costs and expenses associated with the DowDuPont Notes offering, the Historical DuPont tender offers and related premiums, fees and expenses.

In November 2018, Historical Dow issued \$2.0 billion of senior unsecured notes in an offering under Rule 144A of the Securities Act of 1933. The offering included \$900 million aggregate principal amount of 5.55 percent notes due 2048; \$600 million aggregate principal amount of 4.80 percent notes due 2028; and \$500 million aggregate principal amount of 4.55 percent notes due 2025.

In December 2018, Historical Dow tendered and redeemed \$2.1 billion of 8.55 percent notes issued by Historical Dow with maturity in 2019. As a result, Historical Dow recognized a pretax loss of \$48 million on the early extinguishment of debt, included in "Sundry income (expense) - net" in the consolidated statements of income.

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In 2018, Historical Dow redeemed \$333 million of 5.70 percent notes at maturity and an aggregate principal amount of \$91 million of International Notes ("InterNotes") at maturity. In addition, approximately \$138 million of long-term debt was repaid by consolidated variable interest entities. Historical Dow also called an aggregate principal amount of \$343 million tax-exempt bonds of various interest rates and maturities in 2029, 2033 and 2038. As a result of these redemptions, Historical Dow recognized a pretax loss of \$6 million on the early extinguishment of debt, included in "Sundry income (expense) - net" in the consolidated statements of income.

In July 2018, Historical DuPont fully repaid \$1,250 million of 6.00 percent coupon bonds at maturity.

2017 Activity

In 2017, Historical Dow redeemed \$436 million of 6.00 percent notes that matured on September 15, 2017, and \$32 million aggregate principal amount of International Notes ("InterNotes") at maturity. In addition, approximately \$119 million of Historical Dow's long-term debt was repaid by consolidated variable interest entities.

In connection with the Merger, the fair value of debt assumed was \$15,197 million and was reflected in the preceding Notes Payable and Long-Term Debt tables. See Note 3 for additional information.

2016 Activity

In 2016, Historical Dow redeemed \$349 million of 2.50 percent notes that matured on February 15, 2016, and \$52 million principal amount of InterNotes at maturity. In addition, approximately \$128 million of Historical Dow's long-term debt (net of \$28 million of additional borrowings) was repaid by consolidated variable interest entities.

As part of the Dow Silicones ownership restructure, the fair value of debt assumed by Historical Dow was \$4,672 million.

Available Credit Facilities

The following table summarizes the Company's credit facilities:

Committed and Available Credit Facilities at Dec 31, 2018						
In millions	Subsidiary	Effective Date	Committed Credit	Credit Available	Maturity Date	Interest
Five Year Competitive Advance and Revolving Credit Facility	Historical Dow	October 2018	\$ 5,000	\$ 5,000	October 2023	Floating rate
Bilateral Revolving Credit Facility	Historical Dow	August 2015	100	100	March 2019	Floating rate
Bilateral Revolving Credit Facility	Historical Dow	August 2015	100	100	October 2019	Floating rate
Bilateral Revolving Credit Facility	Historical Dow	August 2015	100	100	March 2020	Floating rate
Bilateral Revolving Credit Facility	Historical Dow	August 2015	280	280	March 2020	Floating rate
Bilateral Revolving Credit Facility	Historical Dow	August 2015	100	100	March 2020	Floating rate
Bilateral Revolving Credit Facility	Historical Dow	August 2015	200	200	March 2020	Floating rate
Historical Dow Term Loan Facility	Historical Dow	February 2016	4,500	—	December 2021	Floating rate
Bilateral Revolving Credit Facility	Historical Dow	May 2016	200	200	May 2020	Floating rate
Bilateral Revolving Credit Facility	Historical Dow	July 2016	200	200	July 2020	Floating rate
Bilateral Revolving Credit Facility	Historical Dow	August 2016	100	100	August 2020	Floating rate
North American Securitization Facility	Historical Dow	September 2018	800	800	September 2019	Floating rate
European Securitization Facility ¹	Historical Dow	October 2018	457	457	October 2020	Floating rate
Revolving Credit Facility	Historical DuPont	March 2018	3,000	2,956	June 2020	Floating rate
Term Loan Facility	Historical DuPont	March 2018	4,500	2,500	June 2020	Floating rate
Total Committed and Available Credit Facilities			\$ 19,637	\$ 13,093		

1. Equivalent to Euro 400 million.

Historical Dow Term Loan Facility

In connection with the ownership restructure of Dow Silicones, on May 31, 2016, Dow Silicones incurred \$4.5 billion of indebtedness under a certain third party credit agreement ("Historical Dow Term Loan Facility"). Historical Dow subsequently guaranteed the obligations of Dow Silicones under the Historical Dow Term Loan Facility and, as a result, the covenants and events of default applicable to the Historical Dow Term Loan Facility are substantially similar to the covenants and events of default set forth in Historical Dow's Five Year Competitive Advance and Revolving Credit Facility. In the second quarter of 2018,

Dow Silicones exercised the 19 -month extension option making amounts borrowed under the Historical Dow Term Loan Facility repayable on December 20, 2019. In addition, Dow Silicones amended the Historical Dow Term Loan Facility to include an additional 2 -year extension option, at Dow Silicones' election, upon satisfaction of certain customary conditions precedent. Dow Silicones intends to exercise the 2-year extension option on the Historical Dow Term Loan Facility. See Note 3 for additional information on the Dow Silicones ownership restructure.

Historical Dow Secured Borrowings

In September 2018, Historical Dow renewed its North American accounts receivable securitization facility for a one year term and amended the terms of the agreement from an off-balance sheet arrangement to a secured borrowing arrangement, with a borrowing capacity up to \$800 million . Under the structure of the amended agreement, Historical Dow will use select trade accounts receivable to collateralize the credit facility with certain lenders. At December 31, 2018, the facility had not been drawn upon.

In October 2018, Historical Dow renewed its European accounts receivable securitization facility for a two year term and amended the terms of the agreement from an off-balance sheet arrangement to a secured borrowing arrangement, with a borrowing capacity up to Euro 400 million . Under the structure of the amended agreement, Historical Dow will use select trade accounts receivable to collateralize the credit facility with certain lenders. At December 31, 2018, the facility had not been drawn upon.

Historical DuPont Term Loan and Revolving Credit Facilities

In March 2016, Historical DuPont entered into a credit agreement that provides for a three -year, senior unsecured term loan facility in the aggregate principal amount of \$4.5 billion (as may be amended, from time to time, the "Term Loan Facility") under which Historical DuPont may make up to seven term loan borrowings and amounts repaid or prepaid are not available for subsequent borrowings. The proceeds from the borrowings under the Term Loan Facility will be used for Historical DuPont's general corporate purposes including debt repayment, working capital and funding a portion of the Company's costs and expenses. The Term Loan Facility was amended in 2018 to extend the maturity date to June 2020, at which time all outstanding borrowings, including accrued but unpaid interest, become immediately due and payable, and to extend the date on which the commitment to lend terminates to June 2019. At December 31, 2018 , Historical DuPont had made four term loan borrowings in an aggregate principal amount of \$2.0 billion and had unused commitments of \$2.5 billion under the Term Loan Facility. In 2018, Historical DuPont also amended its \$3.0 billion revolving credit facility to extend the maturity date to June 2020.

Uncommitted Credit Facilities and Outstanding Letters of Credit

The Subsidiaries had uncommitted credit facilities in the form of unused bank credit lines of approximately \$3,480 million for Historical Dow and \$663 million for Historical DuPont at December 31, 2018 . These lines can be used to support short-term liquidity needs and general corporate purposes, including letters of credit. Outstanding letters of credit were \$439 million for Historical Dow (\$433 million at December 31, 2017) and \$172 million for Historical DuPont at December 31, 2018 (\$177 million at December 31, 2017). These letters of credit support commitments made in the ordinary course of business.

Debt Covenants and Default Provisions

The Company's indenture covenants include customary limitations on liens, sale and leaseback transactions, and mergers and consolidations, subject to certain limitations. The DowDuPont Notes also contain customary default provisions. In addition, the Company will be required to redeem all of the DowDuPont Notes at a redemption price equal to 101 percent of the principal amount of such series of DowDuPont Notes, plus accrued and unpaid interest to, but excluding, the redemption date if each of the separations and distributions has not been completed on or before May 1, 2020, or, if prior to such date, DowDuPont has abandoned any of the separations or distributions.

The Subsidiaries outstanding long-term debt obligations have been issued primarily under indentures which contain, among other provisions, certain customary restrictive covenants with which each of the Subsidiaries must comply while the underlying notes are outstanding. Failure of either Historical Dow or Historical DuPont to comply with any of its respective covenants, could result in a default under the applicable indenture and allow the note holders to accelerate the due date of the outstanding principal and accrued interest on the underlying notes.

Historical Dow Debt Covenants and Default Provisions

Historical Dow's indenture covenants include obligations to not allow liens on principal U.S. manufacturing facilities, enter into sale and lease-back transactions with respect to principal U.S. manufacturing facilities, merge or consolidate with any other corporation, or sell, lease or convey, directly or indirectly, all or substantially all of Historical Dow's assets. The outstanding debt also contains customary default provisions.

Historical Dow's primary, private credit agreements also contain certain customary restrictive covenant and default provisions in addition to the covenants set forth above with respect to Historical Dow's debt. Significant other restrictive covenants and default provisions related to these agreements include:

- (a) the obligation to maintain the ratio of Historical Dow's consolidated indebtedness to consolidated capitalization at no greater than 0.65 to 1.00 at any time the aggregate outstanding amount of loans under the Five Year Competitive Advance and Revolving Credit Facility Agreement dated October 30, 2018 equals or exceeds \$500 million ,
- (b) a default if Historical Dow or an applicable subsidiary fails to make any payment, including principal, premium or interest, under the applicable agreement on other indebtedness of, or guaranteed by, Historical Dow or such applicable subsidiary in an aggregate amount of \$100 million or more when due, or any other default or other event under the applicable agreement with respect to such indebtedness occurs which permits or results in the acceleration of \$400 million or more in the aggregate of principal, and
- (c) a default if Historical Dow or any applicable subsidiary fails to discharge or stay within 60 days after the entry of a final judgment against Historical Dow or such applicable subsidiary of more than \$400 million .

Failure of Historical Dow to comply with any of the covenants or default provisions could result in a default under the applicable credit agreement which would allow the lenders to not fund future loan requests and to accelerate the due date of the outstanding principal and accrued interest on any outstanding Historical Dow indebtedness.

Historical DuPont Debt Covenants and Default Provisions

Historical DuPont's indenture covenants include customary limitations on liens, sale and leaseback transactions, and mergers and consolidations affecting manufacturing plants, mineral producing properties or research facilities located in the U.S. and the consolidated subsidiaries owning such plants, properties and facilities subject to certain limitations. The outstanding long-term debt also contains customary default provisions. In addition, in May 2017, Historical DuPont issued \$1,250 million of 2.20 percent notes due 2020 and \$750 million of floating rate notes due 2020 that must be redeemed upon the announcement of the record date for the separation of Historical DuPont's agriculture line or specialty products line of business or the entry into an agreement to sell all or substantially all of the assets of either line of business to a third party.

The Historical DuPont Term Loan Facility and the amended Historical DuPont Revolving Credit Facility contain customary representations and warranties, affirmative and negative covenants, and events of default that are typical for companies with similar credit ratings and generally consistent with Historical DuPont's indenture covenants. The Historical DuPont Term Loan Facility and the amended Historical DuPont Revolving Credit Facility also contain a financial covenant requiring that the ratio of total indebtedness to total capitalization for Historical DuPont and its consolidated subsidiaries not exceed 0.6667 to 1.00 .

The Historical DuPont Term Loan Facility and the amended Historical DuPont Revolving Credit Facility impose additional affirmative and negative covenants on Historical DuPont and its subsidiaries after the closing of the Merger, subject to certain limitations, including to:

- (a) not sell, lease or otherwise convey to DowDuPont, its shareholders or its non-Historical DuPont subsidiaries, any assets or properties of Historical DuPont or its subsidiaries unless the aggregate amount of revenues attributable to all such assets and properties so conveyed after the Merger does not exceed 30 percent of the consolidated revenues of Historical DuPont and its subsidiaries as of December 31, 2015, and
- (b) not guarantee any indebtedness or other obligations of DowDuPont, Historical Dow or their respective subsidiaries (other than of Historical DuPont and its subsidiaries).

The Historical DuPont Term Loan Facility and the amended Historical DuPont Revolving Credit Facility will terminate, and the loans and other amounts thereunder will become due and payable, upon the sale, transfer, lease or other disposition of all or substantially all of the assets of Historical DuPont's agriculture line of business to DowDuPont, its shareholders or any of its non-Historical DuPont subsidiaries.

NOTE 16 - COMMITMENTS AND CONTINGENT LIABILITIES

Litigation

Asbestos-Related Matters of Union Carbide Corporation

Introduction

Union Carbide Corporation is and has been involved in a large number of asbestos-related suits filed primarily in state courts during the past four decades. These suits principally allege personal injury resulting from exposure to asbestos-containing products and frequently seek both actual and punitive damages. The alleged claims primarily relate to products that Union Carbide sold in the past, alleged exposure to asbestos-containing products located on Union Carbide's premises, and Union Carbide's responsibility for asbestos suits filed against a former Union Carbide subsidiary, Amchem Products, Inc. ("Amchem"). In many cases, plaintiffs are unable to demonstrate that they have suffered any compensable loss as a result of such exposure, or that injuries incurred in fact resulted from exposure to Union Carbide's products.

Union Carbide expects more asbestos-related suits to be filed against Union Carbide and Amchem in the future, and will aggressively defend or reasonably resolve, as appropriate, both pending and future claims.

Estimating the Asbestos-Related Liability

Based on a study completed in January of 2003 by Ankura Consulting Group, LLC ("Ankura"), Union Carbide increased its December 31, 2002 asbestos-related liability for pending and future claims for a 15 -year period ending in 2017 to \$2.2 billion , excluding future defense and processing costs. Since then, Union Carbide has compared current asbestos claim and resolution activity with the results of the most recent Ankura study at each balance sheet date to determine whether the accrual continues to be appropriate. In addition, Union Carbide has requested Ankura to review Union Carbide's historical asbestos claim and resolution activity each year since 2004 to determine the appropriateness of updating the most recent Ankura study.

In October 2016, Union Carbide requested Ankura to review its historical asbestos claim and resolution activity and determine the appropriateness of updating its December 2014 study. In response to that request, Ankura reviewed and analyzed asbestos-related claim and resolution data through September 30, 2016. The resulting study, completed by Ankura in December 2016, provided estimates for the undiscounted cost of disposing of pending and future claims against Union Carbide and Amchem, excluding future defense and processing costs, for both a 15 -year period and through the terminal year of 2049.

Based on the study completed in December 2016 by Ankura, and Union Carbide's own review, it was determined that an adjustment to the accrual was necessary. Union Carbide determined that using the estimate through the terminal year of 2049 was more appropriate due to increasing knowledge and data about the costs to resolve claims and diminished volatility in filing rates. Using the range in the Ankura December 2016 study, which was estimated to be between \$502 million and \$565 million for the undiscounted cost of disposing of pending and future claims, Union Carbide increased its asbestos-related liability for pending and future claims through the terminal year of 2049 by \$104 million , included in "Asbestos-related charge" in the consolidated statements of income.

In September 2014, Union Carbide began to implement a strategy designed to reduce and to ultimately stabilize and forecast defense costs associated with asbestos-related matters. The strategy included a number of important changes including: invoicing protocols including capturing costs by plaintiff; review of existing counsel roles, work processes and workflow; and the utilization of enterprise legal management software, which enabled claim-specific tracking of asbestos-related defense and processing costs. Union Carbide reviewed the information generated from this new strategy and determined that it now had the ability to reasonably estimate asbestos-related defense and processing costs for the same periods that it estimates its asbestos-related liability for pending and future claims. Union Carbide believes that including estimates of the liability for asbestos-related defense and processing costs provides a more complete assessment and measure of the liability associated with resolving asbestos-related matters, which Union Carbide and Historical Dow believe is preferable in these circumstances.

In October 2016, in addition to the study for asbestos claim and resolution activity, Union Carbide requested Ankura to review asbestos-related defense and processing costs and provide an estimate of defense and processing costs associated with resolving pending and future asbestos-related claims facing Union Carbide and Amchem for the same periods of time that Union Carbide uses for estimating resolution costs. In December 2016, Ankura conducted the study and provided Union Carbide with an estimate of future defense and processing costs for both a 15 -year period and through the terminal year of 2049. The resulting study estimated asbestos-related defense and processing costs for pending and future asbestos claims to be between \$1,009 million and \$1,081 million through the terminal year of 2049.

In the fourth quarter of 2016, Union Carbide and Historical Dow elected to change their method of accounting for asbestos-related defense and processing costs from expensing as incurred to estimating and accruing a liability. This change is believed to be preferable as asbestos-related defense and processing costs represent expenditures related to legacy activities that do not contribute

to current or future revenue generating activities of Union Carbide or Historical Dow. The change is also reflective of the manner in which Union Carbide manages its asbestos-related exposure, including careful monitoring of the correlation between defense spending and resolution costs. Together, these two sources of cost more accurately represent the "total cost" of resolving asbestos-related claims now and in the future.

This accounting policy change was reflected as a change in accounting estimate effected by a change in accounting principle. As a result of this accounting policy change and based on the December 2016 Ankura study of asbestos-related defense and processing costs and Union Carbide's own review of the data, Union Carbide recorded a pretax charge for asbestos-related defense and processing costs of \$1,009 million in the fourth quarter of 2016, included in "Asbestos-related charge" in the consolidated statements of income.

In October 2017, Union Carbide requested Ankura to review its historical asbestos claim and resolution activity (including asbestos-related defense and processing costs) and determine the appropriateness of updating its December 2016 study. In response to that request, Ankura reviewed and analyzed data through September 30, 2017. In December 2017, Ankura stated that an update of its December 2016 study would not provide a more likely estimate of future events than the estimate reflected in the study and, therefore, the estimate in that study remained applicable. Based on Union Carbide's own review of the asbestos claim and resolution activity (including asbestos-related defense and processing costs) and Ankura's response, Union Carbide determined that no change to the accrual was required. At December 31, 2017, the asbestos-related liability for pending and future claims against Union Carbide and Amchem, including future asbestos-related defense and processing costs, was \$1,369 million, and approximately 16 percent of the recorded liability related to pending claims and approximately 84 percent related to future claims.

In October 2018, Union Carbide requested Ankura to review its historical asbestos claim and resolution activity (including asbestos-related defense and processing costs) and determine the appropriateness of updating its December 2016 study. In response to that request, Ankura reviewed and analyzed data through September 30, 2018. The resulting study, completed by Ankura in December 2018, provided estimates for the undiscounted cost of disposing of pending and future claims against Union Carbide and Amchem, including future defense and processing costs, through the terminal year of 2049. Based on the study completed in December 2018 by Ankura, and Union Carbide's own review, it was determined that no adjustment to the accrual was required. At December 31, 2018, Union Carbide's asbestos-related liability for pending and future claims and defense and processing costs was \$1,260 million, and approximately 16 percent of the recorded liability related to pending claims and approximately 84 percent related to future claims.

Summary

The Company's management believes the amounts recorded by Union Carbide for the asbestos-related liability (including defense and processing costs) reflect reasonable and probable estimates of the liability based upon current, known facts. However, future events, such as the number of new claims to be filed and/or received each year, the average cost of defending and disposing of each such claim, as well as the numerous uncertainties surrounding asbestos litigation in the United States over a significant period of time, could cause the actual costs for Union Carbide to be higher or lower than those projected or those recorded. Any such events could result in an increase or decrease in the recorded liability.

Because of the uncertainties described above, Union Carbide cannot estimate the full range of the cost of resolving pending and future asbestos-related claims facing Union Carbide and Amchem. As a result, it is reasonably possible that an additional cost of disposing of Union Carbide's asbestos-related claims, including future defense and processing costs, could have a material impact on the Company's results of operations and cash flows for a particular period and on the consolidated financial position.

Urethane Matters

Class Action Lawsuit

On February 16, 2006, Historical Dow, among others, received a subpoena from the DOJ as part of a previously announced antitrust investigation of manufacturers of polyurethane chemicals, including methylene diphenyl diisocyanate, toluene diisocyanate, polyether polyols and system house products. Historical Dow cooperated with the DOJ and, following an extensive investigation, on December 10, 2007, Historical Dow received notice from the DOJ that it had closed its investigation of potential antitrust violations involving these products without indictments or pleas.

In 2005, Historical Dow, among others, was named as a defendant in multiple civil class action lawsuits alleging a conspiracy to fix the price of various urethane chemical products, namely the products that were the subject of the above described DOJ antitrust investigation. On July 29, 2008, a Kansas City federal district court (the "district court") certified a class of purchasers of the products for the six -year period from 1999 through 2004 ("plaintiff class"). In January 2013, the class action lawsuit went to trial with Historical Dow as the sole remaining defendant, the other defendants having previously settled. On February 20, 2013, the federal jury returned a damages verdict of approximately \$400 million against Historical Dow, which ultimately was trebled under applicable antitrust laws, less offsets from other settling defendants, resulting in a judgment entered in July 2013 in the amount

of \$1.06 billion. Historical Dow appealed this judgment to the U.S. Tenth Circuit Court of Appeals ("Court of Appeals"), and on September 29, 2014, the Court of Appeals issued an opinion affirming the district court judgment.

On March 9, 2015, Historical Dow filed a petition for *writ of certiorari* ("Writ Petition") with the United States Supreme Court, seeking judicial review and requesting that it correct fundamental errors in the Court of Appeals decision. In the first quarter of 2016, Historical Dow changed its risk assessment on this matter as a result of growing political uncertainties due to events within the Supreme Court, including Justice Scalia's death, and the increased likelihood for unfavorable outcomes for businesses involved in class action lawsuits. On February 26, 2016, Historical Dow announced a proposed settlement under which it would pay the plaintiff class \$835 million, which included damages, class attorney fees and post-judgment interest. On July 29, 2016, the U.S. District Court for the District of Kansas granted final approval of the settlement. The settlement resolved the \$1.06 billion judgment and any subsequent claim for attorneys' fees, costs and post-judgment interest against Historical Dow. As a result, in the first quarter of 2016, Historical Dow recorded a loss of \$835 million, included in "Sundry income (expense) - net" in the consolidated statements of income and related to the Industrial Intermediates & Infrastructure segment. Historical Dow continues to believe that it was not part of any conspiracy and the judgment was fundamentally flawed as a matter of class action law. The case is now concluded.

Opt-Out Cases

Shortly after the July 2008 class certification ruling, a series of "opt-out" cases were filed by a number of large volume purchasers who elected not to be class members in the district court case. These opt-out cases were substantively identical to the class action lawsuit, but expanded the period of time to include 1994 through 1998. A consolidated jury trial of the opt-out cases began on March 8, 2016. Prior to a jury verdict, on April 5, 2016, Historical Dow entered into a binding settlement for the opt-out cases under which Historical Dow would pay the named plaintiffs \$400 million, inclusive of damages and attorney fees. Payment of this settlement occurred on May 4, 2016. Historical Dow changed its risk assessment on this matter as a result of the class settlement and the uncertainty of a jury trial outcome along with the automatic trebling of an adverse verdict. As a result, Historical Dow recorded a loss of \$400 million in the first quarter of 2016, included in "Sundry income (expense) - net" in the consolidated statements of income and related to the Industrial Intermediates & Infrastructure segment. As with the class action case, Historical Dow continues to deny allegations of price fixing and maintains that it was not part of any conspiracy. The case is now concluded.

Bayer CropScience v. Dow AgroSciences ICC Arbitration

On August 13, 2012, Bayer CropScience AG and Bayer CropScience NV (together, "Bayer") filed a request for arbitration with the International Chamber of Commerce ("ICC") International Court of Arbitration against Dow AgroSciences LLC, a wholly owned subsidiary of Historical Dow, and other subsidiaries of Historical Dow (collectively, "DAS") under a 1992 license agreement executed by predecessors of the parties (the "License Agreement"). In its request for arbitration, Bayer alleged that (i) DAS breached the License Agreement, (ii) the License Agreement was properly terminated with no ongoing rights to DAS, (iii) DAS infringed its patent rights related to the use of the pat gene in certain soybean and cotton seed products, and (iv) Bayer was entitled to monetary damages and injunctive relief. DAS denied that it breached the License Agreement and asserted that the License Agreement remained in effect because it was not properly terminated. DAS also asserted that all of Bayer's patents at issue are invalid and/or not infringed, and, therefore, for these reasons (and others), a license was not required. During the pendency of the arbitration proceeding, DAS filed six re-examination petitions with the United States Patent & Trademark Office ("USPTO") against the Bayer patents, asserting that each patent is invalid based on the doctrine against double-patenting and/or prior art. The USPTO granted all six petitions, and, on February 26, 2015, the USPTO issued an office action rejecting the patentability of the sole Bayer patent claim in the only asserted Bayer patent that has not expired and that forms the basis for the vast majority of the damages in the arbitral award discussed below.

A three-member arbitration tribunal presided over the arbitration proceeding (the "tribunal"). In a decision dated October 9, 2015, the tribunal determined that (i) DAS breached the License Agreement, (ii) Bayer properly terminated the License Agreement, (iii) all of the patents remaining in the proceeding are valid and infringed, and (iv) that Bayer is entitled to monetary damages in the amount of \$455 million inclusive of pre-judgment interest and costs (the "arbitral award"). One of the arbitrators, however, issued a partial dissent finding that all of the patents are invalid based on the double-patenting doctrine. The tribunal also denied Bayer's request for injunctive relief.

On October 16, 2015, Bayer filed a motion in U.S. District Court for the Eastern District of Virginia ("Federal District Court") seeking to confirm the arbitral award. DAS opposed the motion and filed separate motions to vacate the award, or in the alternative, to stay enforcement of the award until the USPTO issues final office actions with respect to the re-examination proceedings. On January 15, 2016, the Federal District Court denied DAS's motions and confirmed the award. DAS appealed the Federal District Court's decision. On March 1, 2017, the U.S. Court of Appeals for the Federal Circuit ("Federal Circuit") affirmed the arbitral award. As a result of this action, in the first quarter of 2017, DAS recorded a loss of \$469 million, inclusive of the arbitral award and post-judgment interest, which was included in "Sundry income (expense) - net" in the consolidated statements of income and related to the Agriculture segment. On May 19, 2017, the Federal Circuit issued a mandate denying DAS's request to stay the

arbitral award pending judicial review by the United States Supreme Court. On May 26, 2017, DAS paid the \$469 million arbitral award to Bayer as a result of that decision. On September 11, 2017, DAS filed a petition for *writ of certiorari* with the United States Supreme Court to review the case, but the Court denied DAS's petition.

The litigation is now concluded with no risk of further liability. Historical Dow continues to believe that the arbitral award is fundamentally flawed because, among other things, it allowed for the enforcement of invalid patents. The arbitral award and subsequent related judicial decisions will not impact DAS's commercialization of its soybean and cotton seed products, including those containing the ENLIST™ technologies.

Rocky Flats Matter

Historical Dow and Rockwell International Corporation ("Rockwell") (collectively, the "defendants") were defendants in a class action lawsuit filed in 1990 on behalf of property owners ("plaintiffs") in Rocky Flats, Colorado, who asserted claims for nuisance and trespass based on alleged property damage caused by plutonium releases from a nuclear weapons facility owned by the U.S. Department of Energy ("DOE") (the "facility"). Historical Dow and Rockwell were both DOE contractors that operated the facility - Historical Dow from 1952 to 1975 and Rockwell from 1975 to 1989. The facility was permanently shut down in 1989.

In 1993, the United States District Court for the District of Colorado ("District Court") certified the class of property owners. The plaintiffs tried their case as a public liability action under the Price Anderson Act ("PAA"). In 2005, the jury returned a damages verdict of \$926 million. Historical Dow and Rockwell appealed the jury award to the U.S. Tenth Circuit Court of Appeals ("Court of Appeals") which concluded the PAA had its own injury requirements, on which the jury had not been instructed, and also vacated the District Court's class certification ruling, reversed and remanded the case, and vacated the District Court's judgment. The plaintiffs argued on remand to the District Court that they were entitled to reinstate the judgment as a state law nuisance claim, independent of the PAA. The District Court rejected that argument and entered judgment in favor of the defendants. The plaintiffs appealed to the Court of Appeals, which reversed the District Court's ruling, holding that the PAA did not preempt the plaintiffs' nuisance claim under Colorado law and that the plaintiffs could seek reinstatement of the prior nuisance verdict under Colorado law.

Historical Dow and Rockwell continued to litigate this matter in the District Court and in the United States Supreme Court following the appellate court decision. On May 18, 2016, Historical Dow, Rockwell and the plaintiffs entered into a settlement agreement for \$375 million, of which \$131 million was paid by Historical Dow. The DOE authorized the settlement pursuant to the PAA and the nuclear hazards indemnity provisions contained in Historical Dow's and Rockwell's contracts. The District Court granted preliminary approval to the class settlement on August 5, 2016. On April 28, 2017, the District Court conducted a fairness hearing and granted final judgment approving the class settlement and dismissed class claims against the defendants ("final judgment order").

On December 13, 2016, the United States Civil Board of Contract Appeals unanimously ordered the United States government to pay the amounts stipulated in the Settlement Agreement. On January 17, 2017, Historical Dow received a full indemnity payment of \$131 million from the United States government for Historical Dow's share of the class settlement. On January 26, 2017, Historical Dow placed \$130 million in an escrow account for the settlement payment owed to the plaintiffs. The funds were subsequently released from escrow as a result of the final judgment order. The litigation is now concluded.

Dow Silicones Chapter 11 Related Matters

Introduction

In 1995, Dow Silicones, then a 50 :50 joint venture between Historical Dow and Corning, voluntarily filed for protection under Chapter 11 of the U.S. Bankruptcy Code in order to resolve Dow Silicones' breast implant liabilities and related matters (the "Chapter 11 Proceeding"). Dow Silicones emerged from the Chapter 11 Proceeding on June 1, 2004 (the "Effective Date") and is implementing the Joint Plan of Reorganization (the "Plan"). The Plan provides funding for the resolution of breast implant and other product liability litigation covered by the Chapter 11 Proceeding and provides a process for the satisfaction of commercial creditor claims in the Chapter 11 Proceeding. As of June 1, 2016, Dow Silicones is a wholly owned subsidiary of Historical Dow.

Breast Implant and Other Product Liability Claims

Under the Plan, a product liability settlement program administered by an independent claims office (the "Settlement Facility") was created to resolve breast implant and other product liability claims. Product liability claimants rejecting the settlement program in favor of pursuing litigation must bring suit against a litigation facility (the "Litigation Facility"). Under the Plan, total payments committed by Dow Silicones to resolving product liability claims are capped at a maximum \$2,350 million net present value ("NPV") determined as of the Effective Date using a discount rate of seven percent (approximately \$3,876 million undiscounted at December 31, 2018). Of this amount, no more than \$400 million NPV determined as of the Effective Date can be used to fund the Litigation Facility.

Dow Silicones has an obligation to fund the Settlement Facility and the Litigation Facility over a 16 -year period, commencing at the Effective Date. At December 31, 2018 , Dow Silicones and its insurers have made life-to-date payments of \$1,762 million to the Settlement Facility and the Settlement Facility reported an unexpended balance of \$118 million .

On June 1, 2016, as part of the ownership restructure of Dow Silicones and in accordance with ASC 450 "Accounting for Contingencies," Historical Dow recorded a liability of \$290 million for breast implant and other product liability claims ("Implant Liability"), which reflected the estimated impact of the settlement of future claims primarily based on reported claim filing levels in the Revised Settlement Program (the "RSP") and on the resolution of almost all cases pending against the Litigation Facility. The RSP was a program sponsored by certain other breast implant manufacturers in the context of multi-district, coordinated federal breast implant cases and was open from 1995 through 2010. The RSP was also a revised successor to an earlier settlement plan involving Dow Silicones (prior to its bankruptcy filing). While Dow Silicones withdrew from the RSP, many of the benefit categories and payment levels in Dow Silicones' settlement program were drawn from the RSP. Based on the comparability in design and actual claim experience of both plans, management concluded that claim information from the RSP provides a reasonable basis to estimate future claim filing levels for the Settlement Facility.

In the fourth quarter of 2016, with the assistance of a third party consultant ("consultant"), Dow Silicones updated its estimate of its Implant Liability to \$263 million , primarily reflecting a decrease in Class 7 costs (claimants who have breast implants made by certain other manufacturers using primarily Dow Silicones silicone gel), a decrease resulting from the passage of time, decreased claim filing activity and administrative costs compared with the previous estimate, and an increase in investment income resulting from insurance proceeds. Based on the consultant's updated estimate and Dow Silicones' own review of claim filing activity, Dow Silicones determined that an adjustment to the Implant Liability was required. Accordingly, Dow Silicones decreased its Implant Liability in the fourth quarter of 2016 by \$27 million , which was included in "Sundry income (expense) - net" in the consolidated statements of income. At December 31, 2018 , the Implant Liability was \$263 million , of which \$111 million was included in "Accrued and other current liabilities" and \$152 million was included in "Other noncurrent obligations" in the consolidated balance sheets. At December 31, 2017 , the Implant Liability was \$263 million , which was included in "Other noncurrent obligations" in the consolidated balance sheets.

Dow Silicones is not aware of circumstances that would change the factors used in estimating the Implant Liability and believes the recorded liability reflects the best estimate of the remaining funding obligations under the Plan; however, the estimate relies upon a number of significant assumptions, including: future claim filing levels in the Settlement Facility will be similar to those in a revised settlement program, which management uses to estimate future claim filing levels for the Settlement Facility; future acceptance rates, disease mix, and payment values will be materially consistent with historical experience; no material negative outcomes in future controversies or disputes over Plan interpretation will occur; and the Plan will not be modified. If actual outcomes related to any of these assumptions prove to be materially different, the future liability to fund the Plan may be materially different than the amount estimated. If Dow Silicones was ultimately required to fund the full liability up to the maximum capped value, the liability would be \$2,114 million at December 31, 2018 .

Commercial Creditor Issues

The Plan provides that each of Dow Silicones commercial creditors (the "Commercial Creditors") would receive in cash the sum of (a) an amount equal to the principal amount of their claims and (b) interest on such claims. The actual amount of interest that will ultimately be paid to these Commercial Creditors is uncertain due to pending litigation between Dow Silicones and the Commercial Creditors regarding the appropriate interest rates to be applied to outstanding obligations from the 1995 bankruptcy filing date through the Effective Date, as well as the presence of any recoverable fees, costs, and expenses. Upon the Plan becoming effective, Dow Silicones paid approximately \$1,500 million to the Commercial Creditors, representing principal and an amount of interest that Dow Silicones considers undisputed.

In 2006, the U.S. Court of Appeals for the Sixth Circuit concluded that there is a general presumption that contractually specified default interest should be paid by a solvent debtor to unsecured creditors (the "Interest Rate Presumption") and permitting the Commercial Creditors to recover fees, costs, and expenses where allowed by relevant loan agreements. The matter was remanded to the U.S. District Court for the Eastern District of Michigan ("District Court") for further proceedings, including rulings on the facts surrounding specific claims and consideration of any equitable factors that would preclude the application of the Interest Rate Presumption. On May 10, 2017, the District Court entered a stipulated order resolving pending discovery motions and established a discovery schedule for the Commercial Creditors matter. As a result, Dow Silicones and its third party consultants conducted further analysis of the Commercial Creditors claims and defenses. This analysis indicated the estimated remaining liability to the Commercial Creditors to be within a range of \$77 million to \$260 million . No single amount within the range appears to be a better estimate than any other amount within the range. Therefore, Dow Silicones recorded the minimum liability within the range, which resulted in a decrease to the Commercial Creditor liability of \$33 million in the second quarter of 2017, which was included in "Sundry income (expense) - net" in the consolidated statements of income. At December 31, 2018 , the liability related to Dow Silicones' potential obligation to pay additional interest to the Commercial Creditors in the Chapter 11

Proceeding was \$82 million (\$78 million at December 31, 2017) and included in "Accrued and other current liabilities" in the consolidated balance sheets. The actual amount of interest that will be paid to these creditors is uncertain and will ultimately be resolved through continued proceedings in the District Court.

Indemnifications

In connection with the June 1, 2016 ownership restructure of Dow Silicones, Historical Dow is indemnified by Corning for 50 percent of future losses associated with certain pre-closing liabilities, including the Implant Liability and Commercial Creditors matters described above, subject to certain conditions and limits. The maximum amount of indemnified losses which may be recovered are subject to a cap that declines over time. Indemnified losses are capped at (1) \$1 billion between May 31, 2018 and May 31, 2023, and (2) no recoveries are permitted after May 31, 2023. No indemnification assets were recorded at December 31, 2018 or 2017 .

Summary

The amounts recorded by Dow Silicones for the Chapter 11 related matters described above were based upon current, known facts, which management believes reflect reasonable and probable estimates of the liability. However, future events could cause the actual costs for Dow Silicones to be higher or lower than those projected or those recorded. Any such events could result in an increase or decrease in the recorded liability.

Separation of Historical DuPont's Performance Chemicals Segment

On July 1, 2015, Historical DuPont completed the separation of its Performance Chemicals segment through the spin-off of all of the issued and outstanding stock of The Chemours Company (the "Chemours Separation"). In connection with the Chemours Separation, Historical DuPont and The Chemours Company ("Chemours") entered into a Separation agreement (as amended, the "Chemours Separation Agreement"). Pursuant to the Chemours Separation Agreement, Chemours indemnifies Historical DuPont against certain litigation, environmental, workers' compensation and other liabilities that arose prior to the Chemours Separation. The term of this indemnification is generally indefinite and includes defense costs and expenses, as well as monetary and non-monetary settlements and judgments. In connection with the recognition of liabilities related to these matters, Historical DuPont records an indemnification asset when recovery is deemed probable. At December 31, 2018 , the indemnified assets were \$80 million included in "Accounts and notes receivable - Other" and \$298 million included in "Noncurrent receivables" along with the corresponding liabilities of \$80 million recorded in "Accrued and other current liabilities" and \$298 million included in "Other noncurrent obligations" in the consolidated balance sheets.

PFOA Liabilities

Historical DuPont is a party to legal proceedings relating to the use of PFOA (collectively, perfluorooctanoic acids and its salts, including the ammonium salt) by its former Performance Chemicals segment. While it is reasonably possible that Historical DuPont could incur liabilities related to PFOA, any such liabilities are not expected to be material. Pursuant to the Chemours Separation Agreement discussed above, Historical DuPont is indemnified by Chemours for the PFOA matters discussed below and has recorded a total liability of \$20 million and a total indemnification asset of \$20 million at December 31, 2018 , primarily related to testing drinking water in and around certain Historical DuPont sites and offering treatment or an alternative supply of drinking water if tests indicate the presence of PFOA in drinking water at or greater than the national health advisory level established from time to time by the EPA.

Leach Settlement and MDL Settlement

Historical DuPont has residual liabilities under its 2004 settlement of a West Virginia state court class action, Leach v. DuPont, which alleged that PFOA from Historical DuPont's former Washington Works facility had contaminated area drinking water supplies and affected the health of area residents. The settlement class has about 80,000 members. In addition to relief that was provided to class members years ago, the settlement requires Historical DuPont to continue providing PFOA water treatment to six area water districts and private well users and to fund, through an escrow account, up to \$235 million for a medical monitoring program for eligible class members. As of December 31, 2018 , approximately \$2 million had been contributed to the account since its establishment in 2012 and \$1 million disbursed.

The Leach settlement permits class members to pursue personal injury claims for six health conditions (and no others) that an expert panel appointed under the settlement reported in 2012 had a "probable link" (as defined in the settlement) with PFOA: pregnancy-induced hypertension, including preeclampsia; kidney cancer; testicular cancer; thyroid disease; ulcerative colitis; and diagnosed high cholesterol. After the expert panel reported its findings, approximately 3,550 personal injury lawsuits were filed in federal and state courts in Ohio and West Virginia and consolidated in multi-district litigation in the U.S. District Court for the Southern District of Ohio ("MDL"). The MDL was settled in early 2017 for \$671 million in cash, with Chemours and Historical DuPont (without indemnification from Chemours) each paying half.

Post-MDL Settlement PFOA Personal Injury Claims

The MDL settlement did not resolve claims of plaintiffs who did not have claims in the MDL or whose claims are based on diseases first diagnosed after February 11, 2017. At December 31, 2018, approximately 43 lawsuits were pending alleging personal injury, including kidney and testicular cancer, thyroid disease and ulcerative colitis, from exposure to PFOA through air or water, only three of which are not part of the MDL or were not otherwise filed on behalf of Leach class members.

Other PFOA Actions

Historical DuPont is a party to other PFOA lawsuits that do not involve claims for personal injury. Chemours, pursuant to the Chemours Separation Agreement, is defending all of these lawsuits.

New York. Historical DuPont is a defendant in about 25 lawsuits, including a putative class action, brought by persons who live in and around Hoosick Falls, New York. These lawsuits assert claims for medical monitoring and property damage based on alleged PFOA releases from manufacturing facilities owned and operated by co-defendants in Hoosick Falls and allege that Historical DuPont and 3M supplied some of the materials used at these facilities. Historical DuPont is also one of more than ten defendants in a lawsuit brought by the Town of East Hampton, New York alleging PFOA and perfluorooctanesulfonic acid ("PFOS") contamination of the town's well water.

New Jersey. Historical DuPont is a defendant in two lawsuits alleging that PFOA from Historical DuPont's former Chambers Works facility contaminated drinking water sources. One lawsuit is by a local water utility and the other is a putative class action on behalf of persons who live within two to three miles of the Chambers Works facility.

Alabama. Historical DuPont is one of more than thirty defendants in a lawsuit by a local water utility alleging contamination from perfluorinated chemicals and compounds ("PFCs"), including PFOA, used by co-defendant carpet manufacturers to make their products more stain and grease resistant.

Ohio. Historical DuPont is a defendant in two lawsuits, one brought by the State of Ohio based on alleged damage to natural resources, and the other a putative nationwide class action brought on behalf of anyone who has detectable levels of perfluorinated chemicals, including PFOA, in their blood.

Chemours Separation Agreement Amendment

Concurrent with the MDL Settlement, Historical DuPont and Chemours amended the Chemours Separation Agreement to provide for a limited sharing of potential future PFOA liabilities for a five -year period that began on July 6, 2017. During that five -year period, Chemours will annually pay the first \$25 million of future PFOA liabilities and, if that amount is exceeded, Historical DuPont will pay any excess amount up to the next \$25 million, with Chemours annually bearing any excess liabilities above that amount. At the end of the five -year period, this limited sharing agreement will expire, and Chemours' indemnification obligations under the Chemours Separation Agreement will continue unchanged. As part of this amendment, Chemours also agreed that it would not contest its liability for PFOA liabilities on the basis of certain ostensible defenses it had previously raised, including defenses relating to punitive damages, and would waive any such defenses with respect to PFOA liabilities. Chemours has, however, retained defenses as to whether any particular PFOA claim is within the scope of the indemnification provisions of the Chemours Separation Agreement.

There have been no charges incurred by Historical DuPont under this arrangement through December 31, 2018.

Fayetteville Works Facility, North Carolina

Prior to the separation of Chemours, Historical DuPont introduced GenX as a polymerization processing aid and a replacement for PFOA at the Fayetteville Works facility in Bladen County, North Carolina. The facility is now owned and operated by Chemours, which continues to manufacture and use GenX. In 2017, the facility became and continues to be the subject of inquiries and government investigations relating to the alleged discharge of GenX and certain similar compounds into the air and Cape Fear River.

In August 2017, the U.S. Attorney's Office for the Eastern District of North Carolina served Historical DuPont with a grand jury subpoena for testimony and documents related to these discharges. Historical DuPont was served with additional subpoenas relating to the same issue and in the second quarter of 2018, received a subpoena expanding the scope to any PFCs discharged from the Fayetteville Works facility into the Cape Fear River. It is possible that these ongoing inquiries and investigations, including the grand jury subpoena, could result in penalties or sanctions, or that additional litigation will be instituted against Chemours, Historical DuPont, or both.

At December 31, 2018, several actions are pending in federal court against Chemours and Historical DuPont. One of these actions is a consolidated putative class action that asserts claims for medical monitoring and property damage on behalf of putative classes of property owners and residents in areas near or who draw drinking water from the Cape Fear River. Another action is a consolidated action brought by various North Carolina water authorities, including the Cape Fear Public Utility Authority and Brunswick County, that seek actual and punitive damages as well as injunctive relief. In addition, an action is pending in North Carolina state court on behalf of about 100 plaintiffs who own wells and property near the Fayetteville Works facility. The plaintiffs seek damages for nuisance allegedly caused by releases of certain PFCs from the site.

While it is reasonably possible that Historical DuPont could incur liabilities related to the actions described above, any such liabilities are not expected to be material.

Historical DuPont has an indemnification claim against Chemours with respect to current and future inquiries and claims, including lawsuits, related to the foregoing. At December 31, 2018, Chemours, with reservations, is defending and indemnifying Historical DuPont in the pending civil actions.

Other Litigation Matters

In addition to the specific matters described above, Historical Dow and Historical DuPont are parties to a number of other claims and lawsuits arising out of the normal course of business with respect to product liability, patent infringement, governmental regulation, contract and commercial litigation, and other actions. Certain of these actions purport to be class actions and seek damages in very large amounts. All such claims are being contested. Historical Dow and Historical DuPont have active risk management programs consisting of numerous insurance policies secured from many carriers at various times. These policies may provide coverage that could be utilized to minimize the financial impact, if any, of certain contingencies described above. It is the opinion of the Company's management that the possibility is remote that the aggregate of all such other claims and lawsuits will have a material adverse impact on the results of operations, financial condition and cash flows of the Company.

Gain Contingency - Historical Dow v. Nova Chemicals Corporation Patent Infringement Matter

On December 9, 2010, Historical Dow filed suit in the Federal Court in Ontario, Canada ("Federal Court") alleging that Nova Chemicals Corporation ("Nova") was infringing Historical Dow's Canadian polyethylene patent 2,106,705 (the "'705 Patent"). Nova counterclaimed on the grounds of invalidity and non-infringement. In accordance with Canadian practice, the suit was bifurcated into a merits phase, followed by a damages phase. Following trial in the merits phase, in May 2014 the Federal Court ruled that Historical Dow's '705 Patent was valid and infringed by Nova. Nova appealed to the Canadian Federal Court of Appeal, which affirmed the Federal Court decision in August 2016. Nova then sought leave to appeal its loss to the Supreme Court of Canada, which dismissed Nova's petition in April 2017. As a result, Nova has exhausted all appeal rights on the merits, and it is undisputed that Nova owes Historical Dow the profits it earned from its infringing sales as determined in the trial for the damages phase.

On April 19, 2017, the Federal Court issued a Public Judgment in the damages phase, which detailed its conclusions on how to calculate the profits to be awarded to Historical Dow. Historical Dow and Nova submitted their respective calculations of the damages to the Federal Court in May 2017. On June 29, 2017, the Federal Court issued a Confidential Supplemental Judgment, concluding that Nova must pay \$645 million Canadian dollars (equivalent to \$495 million U.S. dollars) to Historical Dow, plus pre- and post-judgment interest, for which Historical Dow received payment of \$501 million from Nova on July 6, 2017. Although Nova is appealing portions of the damages judgment, certain portions of it are indisputable and will be owed to Historical Dow regardless of the outcome of any further appeals by Nova. As a result of these actions and in accordance with ASC 450-30 "Gain Contingencies," Historical Dow recorded a \$160 million pretax gain in the second quarter of 2017, related to the Packaging & Specialty Plastics segment, of which \$137 million is included in "Sundry income (expense) - net" and \$23 million is included in "Selling, general and administrative expenses" in the consolidated statements of income. At December 31, 2018, Historical Dow had \$341 million (\$341 million at December 31, 2017) included in "Other noncurrent obligations" related to the disputed portion of the damages judgment. Historical Dow is confident of its chances of defending the entire judgment on appeal, particularly the trial court's determinations on important factual issues, which will be accorded deferential review on appeal.

Guarantees

The following table provides a summary of the final expiration, maximum future payments and recorded liability reflected in the consolidated balance sheets for each type of guarantee:

Guarantees	Dec 31, 2018			Dec 31, 2017		
	<i>Final Expiration</i>	<i>Maximum Future Payments</i>	<i>Recorded Liability</i>	<i>Final Expiration</i>	<i>Maximum Future Payments</i>	<i>Recorded Liability</i>
In millions						
Historical Dow guarantees	2023	\$ 4,523	\$ 25	2023	\$ 4,774	\$ 49
Historical Dow residual value guarantees	2028	885	130	2027	889	135
Total Historical Dow guarantees		\$ 5,408	\$ 155		\$ 5,663	\$ 184
Historical DuPont guarantees	2022	\$ 255	\$ —	2022	\$ 260	\$ —
Historical DuPont residual value guarantees	2025	4	—	2029	37	—
Total Historical DuPont guarantees		\$ 259	\$ —		\$ 297	\$ —
Total guarantees		\$ 5,667	\$ 155		\$ 5,960	\$ 184

Guarantees

The Subsidiaries have entered into guarantee agreements arising during the ordinary course of business from relationships with customers and nonconsolidated affiliates when the Subsidiaries undertake an obligation to guarantee the performance of others (via delivery of cash or other assets) if specified triggering events occur. With guarantees, such as commercial or financial contracts, non-performance by the guaranteed party triggers the obligation of the Subsidiaries to make payments to the beneficiary of the guarantee. The majority of these guarantees relate to debt of nonconsolidated affiliates, which have expiration dates ranging from less than one year to less than five years, and trade financing transactions in Latin America, which typically expire within one year of inception. The Subsidiaries' current expectation is that future payment or performance related to the non-performance of others is considered remote.

Historical Dow entered into guarantee agreements ("Guarantees") related to project financing for Sadara. The total of an Islamic bond and additional project financing (collectively "Total Project Financing") obtained by Sadara is approximately \$12.5 billion. Sadara had \$11.7 billion of Total Project Financing outstanding at December 31, 2018 (\$12.4 billion at December 31, 2017). Historical Dow's guarantee of the Total Project Financing is in proportion to Historical Dow's 35 percent ownership interest in Sadara, or up to approximately \$4.2 billion when the project financing is fully drawn. Sadara successfully completed an extensive operational testing program in December 2018, however, the Guarantees will be released upon the satisfactory fulfillment of certain project completion conditions, which is expected by the middle of 2019, and must occur no later than December 2020.

Residual Value Guarantees

The Subsidiaries provide guarantees related to leased assets specifying the residual value that will be available to the lessor at lease termination through sale of the assets to the lessee or third parties.

Operating Leases

Historical Dow and Historical DuPont routinely lease premises for use as sales and administrative offices, warehouses and tanks for product storage, motor vehicles, railcars, computers, office machines and equipment. In addition, Historical Dow and Historical DuPont lease aircraft in the United States. The terms for these leased assets vary depending on the lease agreement. Some leases contain renewal provisions, purchase options and escalation clauses.

Rental expense under operating leases, net of sublease rental income, was \$1,042 million in 2018 , \$862 million in 2017 and \$661 million in 2016 . Future minimum payments under leases with remaining non-cancelable terms in excess of one year are as follows:

Minimum Lease Commitments	Dec 31, 2018		
	Historical Dow	Historical DuPont	Total
In millions			
2019	\$ 412	\$ 242	\$ 654
2020	369	128	497
2021	328	90	418
2022	297	66	363
2023	253	44	297
2024 and thereafter	978	85	1,063
Total	\$ 2,637	\$ 655	\$ 3,292

Environmental Matters

Accruals for environmental matters are recorded when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated based on current law and existing technologies. See Note 1 for further information regarding the Company's accounting policy for environmental matters. At December 31, 2018 , the Company had accrued obligations of \$1,201 million for probable environmental remediation and restoration costs, including \$210 million for the remediation of Superfund sites. These obligations are included in "Accrued and other current liabilities" and "Other noncurrent obligations" in the consolidated balance sheets. This is management's best estimate of the costs for remediation and restoration with respect to environmental matters for which the Company has accrued liabilities, although it is reasonably possible that the ultimate cost with respect to these particular matters could range up to approximately two and a half times that amount. Consequently, it is reasonably possible that environmental remediation and restoration costs in excess of amounts accrued could have a material impact on the Company's results of operations, financial condition and cash flows. Inherent uncertainties exist in these estimates primarily due to unknown conditions, changing governmental regulations and legal standards regarding liability, and emerging remediation technologies for handling site remediation and restoration. At December 31, 2017 , the Company had accrued obligations of \$1,311 million for probable environmental remediation and restoration costs, including \$219 million for the remediation of Superfund sites.

In the fourth quarter of 2016, Historical Dow recorded a pretax charge of \$295 million for environmental remediation at a number of historical locations, including the Midland manufacturing site/off-site matters and the Wood-Ridge sites, primarily resulting from the culmination of negotiations with regulators and/or final agency approval. These charges were included in "Cost of sales" in the consolidated statements of income.

Pursuant to the Historical DuPont and Chemours Separation Agreement, Historical DuPont is indemnified by Chemours for certain environmental matters that have an estimated liability of \$193 million as of December 31, 2018 , which is included in the Company's liability of \$1,201 million , and a potential exposure that ranges up to approximately \$310 million above the current accrual. As such, Historical DuPont has recorded an indemnification asset of \$193 million corresponding to its accrual balance related to these matters at December 31, 2018 , including \$35 million related to the Superfund sites.

Midland Off-Site Environmental Matters

On June 12, 2003, the Michigan Department of Environmental Quality ("MDEQ") issued a Hazardous Waste Operating License (the "License") to Historical Dow's Midland, Michigan, manufacturing site (the "Midland site"), which was renewed and replaced by the MDEQ on September 25, 2015, and included provisions requiring Historical Dow to conduct an investigation to determine the nature and extent of off-site contamination in the City of Midland soils, the Tittabawassee River and Saginaw River sediment and floodplain soils, and the Saginaw Bay, and, if necessary, undertake remedial action. In 2016, final regulatory approval was received from the MDEQ for the City of Midland and Historical Dow is continuing the long term monitoring requirements of the Remedial Action Plan.

Tittabawassee and Saginaw Rivers, Saginaw Bay

Historical Dow, the EPA and the State of Michigan ("State") entered into an administrative order on consent ("AOC"), effective January 21, 2010, that requires Historical Dow to conduct a remedial investigation, a feasibility study and a remedial design for the Tittabawassee River, the Saginaw River and the Saginaw Bay, and pay the oversight costs of the EPA and the State under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act. These actions, to be

conducted under the lead oversight of the EPA, will build upon the investigative work completed under the State Resource Conservation Recovery Act program from 2005 through 2009.

The Tittabawassee River, beginning at the Midland Site and extending down to the first six miles of the Saginaw River, are designated as the first Operable Unit for purposes of conducting the remedial investigation, feasibility study and remedial design work. This work will be performed in a largely upriver to downriver sequence for eight geographic segments of the Tittabawassee and upper Saginaw Rivers. In the first quarter of 2012, the EPA requested Historical Dow address the Tittabawassee River floodplain ("Floodplain") as an additional segment. In January 2015, Historical Dow and the EPA entered into an order to address remediation of the Floodplain. The remedial work is expected to take place over the next three years. The remainder of the Saginaw River and the Saginaw Bay are designated as a second Operable Unit and the work associated with that unit may also be geographically segmented. The AOC does not obligate Historical Dow to perform removal or remedial action; that action can only be required by a separate order. Historical Dow and the EPA have been negotiating orders separate from the AOC that obligate Historical Dow to perform remedial actions under the scope of work of the AOC. Historical Dow and the EPA have entered into four separate orders to perform limited remedial actions in five of the eight geographic segments in the first Operable Unit, and the order to address the Floodplain.

Alternative Dispute Resolution Process

Historical Dow, the EPA, the U.S. Department of Justice, and the natural resource damage trustees (which include the Michigan Office of the Attorney General, the MDEQ, the U.S. Fish and Wildlife Service, the U.S. Bureau of Indian Affairs and the Saginaw-Chippewa tribe) have been engaged in negotiations to seek to resolve potential governmental claims against Historical Dow related to historical off-site contamination associated with the City of Midland, the Tittabawassee and Saginaw Rivers and the Saginaw Bay. Historical Dow and the governmental parties started meeting in the fall of 2005 and entered into a Confidentiality Agreement in December 2005. Historical Dow continues to conduct negotiations under the Federal Alternative Dispute Resolution Act with all of the governmental parties, except the EPA which withdrew from the alternative dispute resolution process on September 12, 2007.

On September 28, 2007, Historical Dow and the natural resource damage trustees entered into a Funding and Participation Agreement that addressed Historical Dow's payment of past costs incurred by the natural resource damage trustees, payment of the costs of a trustee coordinator and a process to review additional cooperative studies that Historical Dow might agree to fund or conduct with the natural resource damage trustees. On March 18, 2008, Historical Dow and the natural resource damage trustees entered into a Memorandum of Understanding ("MOU") to provide a mechanism for Historical Dow to fund cooperative studies related to the assessment of natural resource damages. This MOU was amended and funding of cooperative studies was extended until March 2014. All cooperative studies have been completed. On April 7, 2008, the natural resource damage trustees released their "Natural Resource Damage Assessment Plan for the Tittabawassee River System Assessment Area."

At December 31, 2018, the accrual for these off-site matters was \$95 million (included in the total accrued obligation of \$1,201 million). At December 31, 2017, Historical Dow had an accrual for these off-site matters of \$83 million (included in the total accrued obligation of \$1,311 million).

Purchase Commitments

Historical Dow and Historical DuPont have outstanding purchase commitments and various commitments for take-or-pay or throughput agreements. The Company was not aware of any purchase commitments that were negotiated as part of a financing arrangement for the facilities that will provide the contracted goods or services or for the costs related to those goods or services at December 31, 2018 and 2017.

NOTE 17 - STOCKHOLDERS' EQUITY

Merger of Equals of Historical Dow and Historical DuPont

In the third quarter of 2017, the conversion of Historical Dow Common Stock and Historical DuPont Common Stock into shares of DowDuPont Common Stock resulted in a \$3,084 million decrease to "Common stock" with a corresponding increase to "Additional paid-in capital" in stockholders' equity. Each share of Historical Dow Common Stock held in treasury immediately prior to the Merger was canceled, as set forth in the Merger Agreement. The elimination of Historical Dow's treasury stock at cost resulted in a \$935 million decrease in "Treasury stock" and "Additional paid-in capital" in stockholders' equity. The total fair value of consideration transferred for the Merger was \$74,680 million, resulting in an increase to "Additional paid-in capital" in stockholders' equity (see Note 3 for additional information).

Cumulative Convertible Perpetual Preferred Stock, Series A

Equity securities in the form of Cumulative Convertible Perpetual Preferred Stock, Series A ("Historical Dow Series A") were issued by Historical Dow on April 1, 2009 to Berkshire Hathaway Inc. in the amount of \$3 billion (3 million shares) and the Kuwait Investment Authority in the amount of \$1 billion (1 million shares). Shareholders of Historical Dow Series A could convert all or any portion of their shares, at their option, at any time, into shares of Historical Dow Common Stock at an initial conversion ratio of 24.2010 shares of Historical Dow Common Stock for each share of Historical Dow Series A. On or after the fifth anniversary of the issuance date, if the Historical Dow Common Stock price exceeded \$53.72 per share for any 20 trading days in a consecutive 30 -day window, Historical Dow had the option, at any time, in whole or in part, to convert the Historical Dow Series A into Historical Dow Common Stock at the then applicable conversion rate.

On December 15, 2016, the trading price of Historical Dow's common stock closed at \$58.35, marking the 20th trading day in the previous 30 trading days that the common stock closed above \$53.72, triggering the right of Historical Dow to exercise its conversion right. On December 16, 2016, Historical Dow sent a Notice of Conversion at the Option of the Company (the "Notice") to all holders of its Historical Dow Series A. Pursuant to the Notice, on December 30, 2016 (the "Conversion Date") all 4 million outstanding shares of Historical Dow Series A (with a carrying value of \$4,000 million) were converted into shares of Historical Dow Common Stock at a conversion ratio of 24.2010 shares of Historical Dow Common Stock for each share of Historical Dow Series A, resulting in the issuance of 96.8 million shares of Historical Dow Common Stock from treasury stock. The treasury stock issued was carried at an aggregate historical cost of \$4,695 million, resulting in a reduction to "Additional paid-in capital" in stockholders' equity of \$695 million. From and after the Conversion Date, no shares of the Historical Dow Series A are issued or outstanding and all rights of the holders of the Historical Dow Series A have terminated. On January 6, 2017, Historical Dow filed an amendment to its Restated Certificate of Incorporation by way of a certificate of elimination (the "Certificate of Elimination") with the Secretary of State of the State of Delaware which had the effect of: (a) eliminating the previously designated 4 million shares of Historical Dow Series A, none of which were outstanding at the time of the filing; (b) upon such elimination, causing such Historical Dow Series A to resume the status of authorized and unissued shares of preferred stock, par value \$1.00 per share, of Historical Dow, without designation as to series; and (c) eliminating from Historical Dow's Restated Certificate of Incorporation all references to, and all matters set forth in, the certificates of designations for the Historical Dow Series A.

Historical Dow paid cumulative dividends on Historical Dow Series A shares at a rate of 8.5 percent per annum, or \$85 million per quarter. The final dividend for the Historical Dow Series A was declared on December 15, 2016 and payable on the earlier of the Conversion Date (if applicable) or January 3, 2017, to shareholders of record at December 15, 2016. The dividend was paid in full on the Conversion Date.

Common Stock

In connection with the Merger, Historical Dow Common Stock and Historical DuPont Common Stock were converted into shares of DowDuPont Common Stock. At the effective time of the Merger, Historical Dow Common Stock and Historical DuPont Common Stock were voluntarily delisted from the NYSE, and their respective common stock were deregistered under the Securities Exchange Act of 1934, as amended. The shares of DowDuPont common stock commenced trading on the NYSE on September 1, 2017.

The following table provides a summary of the common stock activity resulting from the Merger:

Merger Impact on Historical Dow, Historical DuPont and DowDuPont Common Stock		
In thousands, except per share values	<i>Prior to Merger</i> ¹	<i>Effect of Merger</i> ²
Historical Dow		
Common Stock, par value per share	\$ 2.50	N/A
Common Stock, shares authorized	1,500,000	—
Common Stock, shares issued and outstanding	1,225,328	—
Historical DuPont		
Common Stock, par value per share	\$ 0.30	N/A
Common Stock, shares authorized	1,800,000	—
Common Stock, shares issued and outstanding	868,338	—
DowDuPont		
Common Stock, par value per share	\$ —	\$ 0.01
Common Stock, shares authorized	—	5,000,000
Common Stock, shares issued for Dow shares converted	—	1,225,328
Common Stock, shares issued for DuPont shares converted (Ratio of 1.2820 to 1)	—	1,113,209

1. Immediately prior to the effective time of the Merger.

2. At the effective time of the Merger.

Prior to the Merger, Historical Dow could issue common stock shares out of treasury stock or as new common stock shares for purchases under the Historical Dow 2012 Employee Stock Purchase Plan, for options exercised and for the release of deferred, performance deferred and restricted stock. The number of new common stock shares issued to employees and non-employee directors prior to the Merger was zero in 2017 (zero in 2016).

DowDuPont may issue new common stock shares for options exercised and for the release of restricted stock, restricted stock units ("RSUs") and performance-based restricted stock units ("PSUs"). The number of new common stock shares issued by DowDuPont to employees and non-employee directors was approximately 10,974,000 in 2018 (approximately 2,919,000 in 2017).

Retained Earnings

There are no significant restrictions limiting the Company's ability to pay dividends. Dividends declared and paid to common stockholders during the years ended December 31, 2018 , 2017 and 2016 are summarized in the following table:

Dividends Declared and Paid			
In millions	2018	2017 ¹	2016
Dividends declared to common stockholders	\$ 3,491	\$ 2,558	\$ 2,037
Dividends paid to common stockholders	\$ 3,491	\$ 3,394	\$ 2,037

1. Dividends declared consists of \$1,673 million declared to Historical Dow common stockholders prior to the Merger and \$885 million declared to DowDuPont common stockholders after the Merger. Dividends paid consists of \$2,179 million paid to Historical Dow common stockholders and \$330 million paid to Historical DuPont common stockholders for dividends declared prior to the Merger, and \$885 million paid to DowDuPont common stockholders for dividends declared after the Merger.

Undistributed earnings of nonconsolidated affiliates included in retained earnings were \$1,760 million at December 31, 2018 and \$1,731 million at December 31, 2017 .

Employee Stock Ownership Plan

The Historical Dow Employee Stock Ownership Plan (the "ESOP") is an integral part of The Dow Chemical Company Employees' Savings Plan (the "Plan"). A significant majority of full-time employees in the United States are eligible to participate in the Plan. Historical Dow uses the ESOP to provide Historical Dow's matching contribution in the form of stock to Plan participants. Prior to the Merger, contributions were in the form of Historical Dow Common Stock. Effective with the Merger, shares of Historical Dow stock held by the ESOP were converted into shares of DowDuPont Common Stock at a ratio of 1 :1.

In connection with the acquisition of Rohm and Haas on April 1, 2009, the Rohm and Haas Employee Stock Ownership Plan (the "Rohm and Haas ESOP") was merged into the Plan, and Historical Dow assumed the \$78 million balance of debt at 9.8 percent interest with final maturity in 2020 that was used to finance share purchases by the Rohm and Haas ESOP in 1990. The outstanding balance of the debt was \$10 million at December 31, 2018 and \$17 million at December 31, 2017 .

Dividends on unallocated shares held by the ESOP are used by the ESOP to make debt service payments and to purchase additional shares if dividends exceed the debt service payments. Dividends on allocated shares are used by the ESOP to make debt service payments to the extent needed; otherwise, they are paid to the Plan participants. Shares are released for allocation to participants based on the ratio of the current year's debt service to the sum of the principal and interest payments over the life of the loan. The shares are allocated to Plan participants in accordance with the terms of the Plan.

Compensation expense for allocated shares is recorded at the fair value of the shares on the date of allocation. ESOP shares that have not been released or committed to be released are not considered outstanding for purposes of computing basic and diluted earnings per share. Compensation expense for ESOP shares was \$175 million in 2018, \$248 million in 2017 and \$192 million in 2016. At December 31, 2018, 15.3 million shares out of a total 21.8 million shares held by the ESOP had been allocated to participants' accounts; 1.5 million shares were released but unallocated; and 5.0 million shares, at a fair value of \$267 million, were considered unearned.

Treasury Stock

On November 1, 2018, the Company announced a new \$3.0 billion share buyback program, which expires on March 31, 2019 - commensurate with the expected timing of the materials science spin-off. At December 31, 2018, the Company had repurchased \$1.4 billion of shares under this program. The Company intends to complete the program before March 31, 2019.

On November 2, 2017, the Company announced the Board authorized an initial \$4.0 billion share repurchase program, which had no expiration date. The Company spent \$1.0 billion on repurchases of DowDuPont common stock under the program in the fourth quarter of 2017. In the first nine months of 2018, the Company spent \$3.0 billion on repurchases of DowDuPont common stock under the program, thereby completing this share repurchase program.

In 2013, Historical Dow's Board of Directors approved a share buy-back program. As a result of subsequent authorizations approved by Historical Dow's Board of Directors, the total authorized amount of the Historical Dow share repurchase program was \$9.5 billion. Effective with the Merger, the share repurchase program was canceled. Over the duration of the program, a total of \$8.1 billion was spent on the repurchase of Historical Dow Common Stock.

Historical Dow previously issued shares for purchases under the Employee Stock Purchase Plan, for options exercised as well as for the release of deferred, performance deferred and restricted stock out of treasury stock or as new common stock shares. The number of treasury shares issued to employees and non-employee directors under Historical Dow's stock-based compensation programs are summarized in the following table.

Historical Dow Treasury Shares Issued Under Historical Dow Stock-Based Compensation Programs			
In thousands	2018	2017	2016
To employees and non-employee directors	N/A	14,195	14,494

The following table provides a reconciliation of Historical Dow Common Stock activity for the years ended December 31, 2017 and 2016:

Shares of Historical Dow Common Stock		
In thousands	Issued	Held in Treasury
Balance at Jan 1, 2016	1,242,795	125,853
Issued ¹	—	(14,494)
Repurchased	—	17,107
Preferred stock converted to common stock	—	(96,804)
Balance at Dec 31, 2016	1,242,795	31,662
Issued ¹	—	(14,195)
Converted to DowDuPont shares or canceled on Aug 31, 2017 ²	(1,242,795)	(17,467)
Balance at Aug 31, 2017	—	—

1. Shares issued to employees and non-employee directors under Historical Dow's equity compensation plans.

2. Each share of Historical Dow Common Stock issued and outstanding immediately prior to the Merger was converted into one share of DowDuPont Common Stock; Treasury shares were canceled as a result of the Merger.

The following table provides a reconciliation of DowDuPont Common Stock activity for the year ended December 31, 2018 and 2017 :

Shares of DowDuPont Common Stock		
In thousands		
Balance at Sep 1, 2017	2,338,537	—
Issued	2,919	—
Repurchased	—	14,123
Balance at Dec 31, 2017	2,341,456	14,123
Issued	10,974	—
Repurchased	—	69,330
Balance at Dec 31, 2018	2,352,430	83,453

Accumulated Other Comprehensive Loss

The following table summarizes the changes and after-tax balances of each component of AOCL for the years ended December 31, 2018 , 2017 , and 2016 :

Accumulated Other Comprehensive Loss	<i>Unrealized Gains (Losses) on Investments</i>	<i>Cumulative Translation Adj</i>	<i>Pension and Other Postretire Benefits</i>	<i>Derivative Instruments</i>	<i>Total Accum Other Comp Loss</i>
In millions					
2016					
Balance at Jan 1, 2016	\$ 47	\$ (1,737)	\$ (6,769)	\$ (208)	\$ (8,667)
Other comprehensive income (loss) before reclassifications	32	(644)	(1,354)	84	(1,882)
Amounts reclassified from accumulated other comprehensive income (loss)	(36)	—	734	29	727
Net other comprehensive income (loss)	\$ (4)	\$ (644)	\$ (620)	\$ 113	\$ (1,155)
Balance at Dec 31, 2016	\$ 43	\$ (2,381)	\$ (7,389)	\$ (95)	\$ (9,822)
2017					
Other comprehensive income (loss) before reclassifications	25	454	52	(1)	530
Amounts reclassified from accumulated other comprehensive income (loss)	(71)	(8)	414	(15)	320
Net other comprehensive income (loss)	\$ (46)	\$ 446	\$ 466	\$ (16)	\$ 850
Balance at Dec 31, 2017	\$ (3)	\$ (1,935)	\$ (6,923)	\$ (111)	\$ (8,972)
2018					
Balance at Jan 1, 2018 ¹	\$ 17	\$ (1,935)	\$ (6,923)	\$ (111)	\$ (8,952)
Other comprehensive loss before reclassifications	(74)	(1,739)	(1,086)	(15)	(2,914)
Amounts reclassified from accumulated other comprehensive income (loss)	7	(4)	460	66	529
Net other comprehensive income (loss)	\$ (67)	\$ (1,743)	\$ (626)	\$ 51	\$ (2,385)
Reclassification of stranded tax effects ²	(1)	(107)	(927)	(22)	(1,057)
Balance at Dec 31, 2018	\$ (51)	\$ (3,785)	\$ (8,476)	\$ (82)	\$ (12,394)

1. The beginning balance of "Unrealized gains (losses) on investments" was increased by \$20 million to reflect the impact of adoption of ASU 2016-01. See Notes 1 and 2 for additional information.

2. Amounts reclassified to retained earnings as a result of the adoption of ASU 2018-02. See Notes 1 and 2 for additional information.

The tax effects on the net activity related to each component of other comprehensive income (loss) for the years ended December 31, 2018 , 2017 , and 2016 were as follows:

Tax Benefit (Expense) ¹			
In millions	2018	2017	2016
Unrealized gains (losses) on investments	\$ 17	\$ 26	\$ (2)
Cumulative translation adjustments	(6)	(98)	(171)
Pension and other postretirement benefit plans	152	(235)	438
Derivative instruments	(14)	(2)	(32)
Tax benefit (expense) from income taxes related to other comprehensive income (loss) items	\$ 149	\$ (309)	\$ 233

1. Prior year amounts have been updated to conform with the current year presentation.

A summary of the reclassifications out of AOCL for the years ended December 31, 2018 , 2017 , and 2016 is provided as follows:

Reclassifications Out of Accumulated Other Comprehensive Loss				
In millions	2018	2017	2016	Consolidated Statements of Income Classification
Unrealized (gains) losses on investments	\$ 9	\$ (110)	\$ (56)	See (1) below
Tax (benefit) expense	(2)	39	20	See (2) below
After tax	\$ 7	\$ (71)	\$ (36)	
Cumulative translation adjustments	\$ (4)	\$ (8)	\$ —	See (3) below
Pension and other postretirement benefit plans	\$ 599	\$ 607	\$ 913	See (4) below
Tax benefit	(139)	(193)	(179)	See (2) below
After tax	\$ 460	\$ 414	\$ 734	
Derivative instruments	\$ 83	\$ (13)	\$ 34	See (5) below
Tax benefit	(17)	(2)	(5)	See (2) below
After tax	\$ 66	\$ (15)	\$ 29	
Total reclassifications for the period, after tax	\$ 529	\$ 320	\$ 727	

1. "Net sales" and "Sundry income (expense) - net."

2. "Provision (Credit) for income taxes on continuing operations."

3. "Sundry income (expense) - net."

4. These AOCL components are included in the computation of net periodic benefit cost of the Company's defined benefit pension and other postretirement benefit plans. See Note 19 for additional information. In the year ended December 31, 2016, \$360 million was included in "Sundry income (expense) - net" (zero impact to "Provision (Credit) for income taxes on continuing operations") related to the Dow Silicones ownership restructure. See Note 3 for additional information.

5. "Cost of sales," "Sundry income (expense) - net" and "Interest expense and amortization of debt discount."

NOTE 18 - NONCONTROLLING INTERESTS

Ownership interests in the Company's subsidiaries held by parties other than the Company are presented separately from the Company's equity in the consolidated balance sheets as "Noncontrolling interests." The amount of consolidated net income attributable to the Company and the noncontrolling interests are both presented on the face of the consolidated statements of income.

The following table summarizes the activity for equity attributable to noncontrolling interests in the years ended December 31, 2018, 2017 and 2016 :

Noncontrolling Interests			
In millions	2018	2017	2016
Balance at Jan 1	\$ 1,597	\$ 1,242	\$ 809
Net income attributable to noncontrolling interests	155	132	86
Distributions to noncontrolling interests ¹	(168)	(116)	(123)
Acquisition of noncontrolling interests ²	—	3	473
Noncontrolling interests from Merger ³	61	417	—
Deconsolidation of noncontrolling interests ⁴	—	(123)	—
Cumulative translation adjustments	(39)	41	(4)
Other	2	1	1
Balance at Dec 31	\$ 1,608	\$ 1,597	\$ 1,242

1. Distributions to noncontrolling interests is net of \$27 million in 2018 (\$20 million in 2017 and \$53 million in 2016) in dividends paid to a joint venture, which were reclassified to "Equity in earnings of nonconsolidated affiliates" in the consolidated statements of income.

2. The 2016 value reflects the amount assumed in the ownership restructure of Dow Silicones. See Note 3 for additional information.

3. Relates to Merger and subsequent measurement period adjustments. See Note 3 for additional information.

4. On June 30, 2017, Historical Dow sold its ownership interest in the SKC Haas Display Films group of companies. See Note 13 for additional information.

Historical DuPont Preferred Stock

Each share of Historical DuPont Preferred Stock - \$4.50 Series and Historical DuPont Preferred Stock - \$3.50 Series issued and outstanding at the effective date of the Merger remains issued and outstanding as to Historical DuPont and was unaffected by the Merger.

Below is a summary of the Historical DuPont Preferred Stock at December 31, 2018 and December 31, 2017, which was classified as "Noncontrolling Interests" in the consolidated balance sheets:

Historical DuPont Preferred Stock	<i>Number of Shares</i>
Shares in thousands	
Authorized	23,000
\$4.50 Series, callable at \$120	1,673
\$3.50 Series, callable at \$102	700

NOTE 19 - PENSION PLANS AND OTHER POSTRETIREMENT BENEFITS

Historical Dow and Historical DuPont did not merge their defined benefit pension and OPEB plans as a result of the Merger. See Note 3 for additional information on the Merger. The significant defined benefit pension and OPEB plans of Historical Dow and Historical DuPont are summarized below. Information provided for Historical DuPont represents activity subsequent to the effective date of the Merger.

Defined Benefit Pension Plans

Historical Dow

Historical Dow has both funded and unfunded defined benefit pension plans that cover employees in the United States and a number of other countries. The U.S. qualified plan covering the parent company is the largest plan. Benefits for employees hired before January 1, 2008, are based on length of service and the employee's three highest consecutive years of compensation. Employees hired after January 1, 2008, earn benefits that are based on a set percentage of annual pay, plus interest.

Historical Dow's funding policy is to contribute to the plans when pension laws and/or economics either require or encourage funding. In 2018, Historical Dow contributed \$1,656 million to its pension plans, which included a \$1,100 million discretionary

contribution to its principal U.S. pension plan in the third quarter of 2018. Total contributions in 2018 also included contributions to fund benefit payments for Historical Dow's non-qualified pension plans. Historical Dow expects to contribute approximately \$240 million to its pension plans in 2019 .

The provisions of a U.S. non-qualified pension plan for Historical Dow require the payment of plan obligations to certain participants upon a change in control of Historical Dow, which occurred at the time of the Merger. Certain participants could elect to receive a lump-sum payment or direct Historical Dow to purchase an annuity on their behalf using the after-tax proceeds of the lump sum. In the fourth quarter of 2017, Historical Dow paid \$940 million to plan participants and \$230 million to an insurance company for the purchase of annuities, which were included in "Pension contributions" in the consolidated statements of cash flows. Historical Dow also paid \$205 million for income and payroll taxes for participants electing the annuity option, of which \$201 million was included in "Cost of sales" and \$4 million was included in "Selling, general and administrative expenses" in the consolidated statements of income and related to Corporate. Historical Dow recorded a settlement charge of \$687 million associated with the payout in the fourth quarter of 2017, which was included in "Sundry income (expense) - net" in the consolidated statements of income and related to Corporate.

Historical DuPont

Historical DuPont has both funded and unfunded noncontributory defined benefit pension plans covering a majority of the U.S. employees. The U.S. qualified plan is the largest pension plan held by Historical DuPont. Most employees hired on or after January 1, 2007, are not eligible to participate in the U.S. defined benefit pension plans. The benefits under these plans are based primarily on years of service and employees' pay near retirement. Historical DuPont froze the pay and service amounts used to calculate pension benefits for employees who participate in the U.S. pension plans as of November 30, 2018. Therefore, as of November 30, 2018, employees participating in the U.S. pension plans no longer accrue additional benefits for future service and eligible compensation received.

Historical DuPont's funding policy is consistent with the funding requirements of federal laws and regulations. Pension coverage for employees of Historical DuPont's non-U.S. consolidated subsidiaries is provided, to the extent deemed appropriate, through separate plans. Obligations under such plans are funded by depositing funds with trustees, covered by insurance contracts, or remain unfunded. In 2018 , Historical DuPont contributed \$1,308 million to its pension plans, which included a \$1,100 million discretionary contribution to its principal U.S. pension plan in the third quarter of 2018. Total 2018 contributions also includes contributions to fund benefit payments for Historical DuPont's pension plans where funding is not customary. Historical DuPont expects to contribute approximately \$190 million to its pension plans in 2019 .

In the fourth quarter of 2017, approximately \$140 million of lump-sum payments were made from the U.S. qualified pension plan trust fund to a group of separated, vested plan participants who were extended a limited-time opportunity and voluntarily elected to receive their pension benefits in a single lump-sum payment. Since Historical DuPont recognizes pension settlements only when the lump-sum payments exceed the sum of the plan's service and interest cost components of net periodic pension cost for the year, these lump-sum payments did not result in the recognition of a pension settlement charge.

The weighted-average assumptions used to determine pension plan obligations and net periodic benefit costs for all plans are summarized in the table below:

Weighted-Average Assumptions for All Pension Plans	<i>Benefit Obligations at Dec 31</i>		<i>Net Periodic Costs for the Year Ended</i>		
	<i>2018</i>	<i>2017</i>	<i>2018</i>	<i>2017 ¹</i>	<i>2016</i>
Discount rate	3.80%	3.26%	3.26%	3.50%	3.85%
Interest crediting rate for applicable benefits	3.72%	3.61%	3.61%	3.45%	4.81%
Rate of compensation increase ²	3.42%	3.95%	3.95%	3.88%	4.04%
Expected return on plan assets	—	—	6.68%	6.94%	7.22%

1. Includes Historical DuPont plans subsequent to the Merger date.

2. The December 31, 2018 rate does not include Historical DuPont's U.S. pension plans as employees of these plans no longer accrue additional benefits for future service and eligible compensation.

The weighted-average assumptions used to determine pension plan obligations and net periodic benefit costs for U.S. plans are summarized in the table below:

Weighted-Average Assumptions for U.S. Pension Plans	Benefit Obligations at Dec 31		Net Periodic Costs for the Year Ended		
	2018	2017	2018	2017 ¹	2016
Discount rate	4.36%	3.66%	3.66%	4.02%	4.40%
Interest crediting rate for applicable benefits	4.50%	4.50%	4.50%	4.50%	4.50%
Rate of compensation increase ²	4.25%	4.25%	4.25%	4.18%	4.50%
Expected return on plan assets	—	—	7.08%	7.46%	7.77%

1. Includes Historical DuPont plans subsequent to the Merger date.

2. The December 31, 2018 rate does not include Historical DuPont's U.S. pension plans as active employees of these plans no longer accrue additional benefits for future service and eligible compensation.

Other Postretirement Benefit Plans

Historical Dow

Historical Dow provides certain health care and life insurance benefits to retired employees and survivors. Historical Dow's plans outside of the United States are not significant; therefore, this discussion relates to the U.S. plans only. The plans provide health care benefits, including hospital, physicians' services, drug and major medical expense coverage, and life insurance benefits. In general, for employees hired before January 1, 1993, the plans provide benefits supplemental to Medicare when retirees are eligible for these benefits. Historical Dow and the retiree share the cost of these benefits, with the Historical Dow portion increasing as the retiree has increased years of credited service, although there is a cap on the Historical Dow portion. Historical Dow has the ability to change these benefits at any time. Employees hired after January 1, 2008, are not covered under the plans.

Historical Dow funds most of the cost of these health care and life insurance benefits as incurred. In 2018, Historical Dow did not make any contributions to its other postretirement benefit plan trusts. The trusts did not hold assets at December 31, 2018. Historical Dow does not expect to contribute assets to its other postretirement benefit plan trusts in 2019.

Historical DuPont

Historical DuPont provides medical, dental and life insurance benefits to pensioners and survivors. The associated plans for retiree benefits are unfunded and the cost of the approved claims is paid from Historical DuPont company funds. Essentially all of the cost and liabilities for these retiree benefit plans are attributable to the U.S. benefit plans. The non-Medicare eligible retiree medical plan is contributory with pensioners and survivors' contributions adjusted annually to achieve a 50/50 target for sharing of cost increases between Historical DuPont and pensioners and survivors. In addition, limits are applied to Historical DuPont's portion of the retiree medical cost coverage. For Medicare eligible pensioners and survivors, Historical DuPont provides a Historical DuPont-funded Health Reimbursement Arrangement ("HRA"). In November 2016, Historical DuPont announced that OPEB eligible employees who will be under the age of 50 as of November 30, 2018, as defined above, will not receive postretirement medical, dental and life insurance benefits. Beginning January 1, 2015, eligible employees who retire on and after that date will receive the same life insurance benefit payment, regardless of the employee's age or pay. The majority of U.S. employees hired on or after January 1, 2007, are not eligible to participate in the postretirement medical, dental and life insurance plans.

The weighted-average assumptions used to determine other postretirement benefit obligations and net periodic benefit costs for the U.S. plans are provided below:

Weighted-Average Assumptions for U.S. Other Postretirement Benefits Plans	Benefit Obligations at Dec 31		Net Periodic Costs for the Year Ended		
	2018	2017	2018	2017 ¹	2016
Discount rate	4.23%	3.54%	3.54%	3.76%	3.96%
Health care cost trend rate assumed for next year	7.15%	6.52%	6.52%	7.00%	7.25%
Rate to which the cost trend rate is assumed to decline (the ultimate health care cost trend rate)	5.00%	5.00%	5.00%	5.00%	5.00%
Year that the rate reaches the ultimate health care cost trend rate:					
Historical Dow plans	2025	2025	2025	2025	2025
Historical DuPont plans	2028	2023	2023	2023	

1. Includes Historical DuPont plans subsequent to the Merger date.

Assumptions

Historical Dow and Historical DuPont determine the expected long-term rate of return on plan assets by performing a detailed analysis of key economic and market factors driving historical returns for each asset class and formulating a projected return based on factors in the current environment. Factors considered include, but are not limited to, inflation, real economic growth, interest rate yield, interest rate spreads, and other valuation measures and market metrics. The expected long-term rate of return for each asset class is then weighted based on the strategic asset allocation approved by the governing body for each plan. Historical Dow and Historical DuPont experience with the pension fund asset performance is also considered.

Historical Dow uses the spot rate approach to determine the discount rate utilized to measure the service cost and interest cost components of net periodic pension and other postretirement benefit costs for the U.S. and other selected countries. Historical DuPont also uses the spot rate approach for its U.S. plans. Under the spot rate approach, Historical Dow and Historical DuPont calculate service costs and interest costs by applying individual spot rates from a yield curve (based on high-quality corporate bond yields) for each selected country to the separate expected cash flow components of service cost and interest cost. Service cost and interest cost for all other plans are determined on the basis of the single equivalent discount rates derived in determining those plan obligations.

The discount rates utilized to measure the pension and other postretirement obligations of the U.S. plans are based on the yield on high-quality corporate fixed income investments at the measurement date. Future expected actuarially determined cash flows are individually discounted at spot rates under the Willis Towers Watson U.S. RATE:Link 60-90 corporate yield curve for Historical Dow's plans and under the Aon Hewitt AA_Above Median yield curve for Historical DuPont's plans to arrive at the plan's obligations as of the measurement date.

Historical Dow utilizes a modified version of the Society of Actuaries' ("SOA") mortality tables released in 2014 and a modified version of the generational mortality improvement scale released in 2018 for purposes of measuring the U.S. pension and other postretirement obligations, based on an evaluation of the mortality experience of its pension plans. Historical DuPont adopted the mortality tables released by SOA in 2014 and the most recent available SOA mortality improvement scale in measuring its U.S. pension and other postretirement obligations.

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

Change in Projected Benefit Obligations, Plan Assets and Funded Status of All Significant Plans	Defined Benefit Pension Plans		Other Postretirement Benefits	
	2018	2017 ¹	2018	2017 ¹
In millions				
<i>Change in projected benefit obligations:</i>				
Benefit obligations at beginning of year	\$ 57,401	\$ 30,280	\$ 4,377	\$ 1,835
Merger impact ²	—	26,036	—	2,772
Service cost	651	555	21	17
Interest cost	1,638	1,130	130	80
Plan participants' contributions	29	20	—	—
Actuarial changes in assumptions and experience	(2,832)	1,781	(185)	(130)
Benefits paid ³	(3,223)	(2,170)	(339)	(210)
Plan amendments	34	14	—	—
Acquisitions/divestitures/other ⁴	(57)	72	—	—
Effect of foreign exchange rates	(627)	875	(12)	13
Termination benefits/curtailment cost/settlements ⁵	—	(1,192)	—	—
Benefit obligations at end of year	\$ 53,014	\$ 57,401	\$ 3,992	\$ 4,377

<i>Change in plan assets:</i>				
Fair value of plan assets at beginning of year	\$ 43,685	\$ 21,208	\$ —	\$ —
Merger impact ²	—	20,395	—	—
Actual return on plan assets	(1,524)	3,049	—	—
Employer contributions	2,964	1,744	—	—
Plan participants' contributions	29	20	—	—
Benefits paid ³	(3,223)	(2,170)	—	—
Acquisitions/divestitures/other ⁶	(7)	14	—	—
Effect of foreign exchange rates	(462)	613	—	—
Settlements ⁷	—	(1,188)	—	—
Fair value of plan assets at end of year	\$ 41,462	\$ 43,685	\$ —	\$ —

<i>Funded status:</i>				
U.S. plans with plan assets	\$ (6,956)	\$ (8,991)	\$ —	\$ —
Non-U.S. plans with plan assets	(2,751)	(2,780)	—	—
All other plans ⁸	(1,845)	(1,945)	(3,992)	(4,377)
Funded status at end of year	\$ (11,552)	\$ (13,716)	\$ (3,992)	\$ (4,377)

1. Includes Historical DuPont activity subsequent to the Merger Date.

2. Plan assets and liabilities assumed in the Merger. Represents remeasurement of the projected benefit obligation and fair value of plan assets for Historical DuPont's plans as of the Merger date.

3. In the fourth quarter of 2017, approximately \$140 million of lump-sum payments were made from Historical DuPont's U.S. qualified pension plan trust fund to a group of separated, vested plan participants who were extended a limited-time opportunity and voluntarily elected to receive their pension benefits in a single lump-sum payment.

4. The 2018 impact includes the divestiture of a business with pension benefit obligations of \$37 million. The 2017 impact includes the reclassification of a China pension liability of \$69 million from "Other noncurrent obligations" to "Pension and other postretirement benefits - noncurrent" and the divestiture of a South Korean company with pension benefit obligations of \$25 million.

5. The 2017 impact includes the settlement of certain plan obligations for a Historical Dow U.S. non-qualified pension plan of \$1,170 million required due to a change in control provision. The 2017 impact also includes the conversion of a South Korean pension plan of \$22 million to a defined contribution plan.

6. The 2017 impact relates to the divestiture of a South Korean company.

7. The 2017 impact includes payments made of \$1,170 million to settle certain plan obligations of a Historical Dow U.S. non-qualified pension plan required due to a change in control provision. The 2017 impact also includes payments made of \$18 million to convert a South Korean pension plan to a defined contribution plan.

8. As of December 31, 2018 and December 31, 2017, \$349 million and \$389 million, respectively, of the benefit obligations are supported by funding under the Trust agreement, defined in the "Trust Assets" section.

The following tables summarize the amounts recognized in the consolidated balance sheets for all significant plans:

Amounts Recognized in the Consolidated Balance Sheets for All Significant Plans In millions	<i>Defined Benefit Pension Plans</i>		<i>Other Postretirement Benefits</i>	
	2018	2017 ¹	2018	2017 ¹
<i>Amounts recognized in the consolidated balance sheets at Dec 31:</i>				
Deferred charges and other assets	\$ 502	\$ 595	\$ —	\$ —
Accrued and other current liabilities	(147)	(134)	(374)	(375)
Pension and other postretirement benefits - noncurrent	(11,907)	(14,177)	(3,618)	(4,002)
Net amount recognized	\$ (11,552)	\$ (13,716)	\$ (3,992)	\$ (4,377)

<i>Pretax amounts recognized in accumulated other comprehensive loss at Dec 31:</i>				
Net loss (gain)	\$ 11,578	\$ 10,734	\$ (419)	\$ (258)
Prior service credit	(207)	(265)	—	—
Pretax balance in accumulated other comprehensive loss at end of year	\$ 11,371	\$ 10,469	\$ (419)	\$ (258)

1. Includes Historical DuPont activity subsequent to the Merger Date.

A significant component of the overall decrease in the Company's benefit obligation for the year ended December 31, 2018 was due to the weighted-average change in discount rates, which increased from 3.26 percent at December 31, 2017 to 3.80 percent at December 31, 2018. The overall increase in the Company's benefit obligations for the year ended December 31, 2017 was primarily due to the Historical DuPont plan liabilities assumed as of the Merger date, and due to the change in weighted-average discount rates, which decreased from 3.52 percent at December 31, 2016 to 3.26 percent at December 31, 2017, which was partially offset by the settlement of certain plan obligations for a Historical Dow U.S. non-qualified pension plan.

The accumulated benefit obligation for all pension plans was \$51.4 billion and \$55.5 billion at December 31, 2018 and 2017, respectively.

Pension Plans with Accumulated Benefit Obligations in Excess of Plan Assets at Dec 31 In millions	2018	2017
Accumulated benefit obligations	\$ 47,577	\$ 51,563
Fair value of plan assets	\$ 36,803	\$ 38,850

Pension Plans with Projected Benefit Obligations in Excess of Plan Assets at Dec 31 In millions	2018	2017
Projected benefit obligations	\$ 49,742	\$ 53,830
Fair value of plan assets	\$ 37,687	\$ 39,519

Net Periodic Benefit Costs for All Significant Plans for the Year Ended Dec 31	Defined Benefit Pension Plans			Other Postretirement Benefits		
	2018	2017	2016	2018	2017	2016
In millions						
<i>Net Periodic Benefit Costs:</i>						
Service cost	\$ 651	\$ 555	\$ 463	\$ 21	\$ 17	\$ 13
Interest cost	1,638	1,130	846	130	80	52
Expected return on plan assets	(2,846)	(1,955)	(1,447)	—	—	—
Amortization of prior service credit	(24)	(25)	(24)	—	—	(3)
Amortization of unrecognized (gain) loss	649	638	587	(24)	(6)	(7)
Curtailment/settlement/other ¹	(10)	683	(36)	—	—	—
Net periodic benefit costs - Total	\$ 58	\$ 1,026	\$ 389	\$ 127	\$ 91	\$ 55
Less: Discontinued operations	—	1	—	—	—	—
Net periodic benefit costs - Continuing operations	\$ 58	\$ 1,025	\$ 389	\$ 127	\$ 91	\$ 55
<i>Changes in plan assets and benefit obligations recognized in other comprehensive (income) loss:</i>						
Net (gain) loss	\$ 1,490	\$ 680	\$ 1,954	\$ (185)	\$ (131)	\$ 14
Prior service cost	34	14	—	—	—	—
Amortization of prior service credit	24	25	24	—	—	3
Amortization of unrecognized gain (loss)	(649)	(638)	(587)	24	6	7
Settlement loss ²	2	(687)	—	—	—	—
Effect of foreign exchange rates	1	—	—	—	—	—
Total recognized in other comprehensive (income) loss	\$ 902	\$ (606)	\$ 1,391	\$ (161)	\$ (125)	\$ 24
Total recognized in net periodic benefit cost and other comprehensive (income) loss	\$ 960	\$ 420	\$ 1,780	\$ (34)	\$ (34)	\$ 79

1. The 2017 impact relates to the settlement of a Historical Dow U.S. non-qualified plan triggered by a change in control provision. The 2016 impact relates to the curtailment of benefits for certain participants of a Dow Silicones plan in the U.S.

2. The 2017 impact relates to the settlement of a Historical Dow U.S. non-qualified plan triggered by a change in control provision.

Estimated Future Benefit Payments

The estimated future benefit payments, reflecting expected future service, as appropriate, are presented in the following table:

Estimated Future Benefit Payments at Dec 31, 2018	Defined Benefit Pension Plans	Other Postretirement Benefits
In millions		
2019	\$ 3,197	\$ 373
2020	3,172	364
2021	3,182	355
2022	3,198	344
2023	3,219	330
2024-2028	16,078	1,380
Total	\$ 32,046	\$ 3,146

Plan Assets

Historical Dow

Plan assets consist primarily of equity and fixed income securities of U.S. and foreign issuers, and include alternative investments such as real estate, private market securities and absolute return strategies. At December 31, 2018, plan assets totaled \$22.5 billion and included no directly held common stock of DowDuPont. At December 31, 2017, plan assets totaled \$23.4 billion and included no directly held common stock of DowDuPont.

Historical Dow's investment strategy for the plan assets is to manage the assets in relation to the liability in order to pay retirement benefits to plan participants over the life of the plans. This is accomplished by identifying and managing the exposure to various market risks, diversifying investments across various asset classes and earning an acceptable long-term rate of return consistent with an acceptable amount of risk, while considering the liquidity needs of the plans.

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The plans are permitted to use derivative instruments for investment purposes, as well as for hedging the underlying asset and liability exposure and rebalancing the asset allocation. The plans use value-at-risk, stress testing, scenario analysis and Monte Carlo simulations to monitor and manage both the risk within the portfolios and the surplus risk of the plans.

Equity securities primarily include investments in large- and small-cap companies located in both developed and emerging markets around the world. Fixed income securities include investment and non-investment grade corporate bonds of companies diversified across industries, U.S. treasuries, non-U.S. developed market securities, U.S. agency mortgage-backed securities, emerging market securities and fixed income related funds. Alternative investments primarily include investments in real estate, private equity limited partnerships and absolute return strategies. Other significant investment types include various insurance contracts and interest rate, equity, commodity and foreign exchange derivative investments and hedges.

Historical Dow mitigates the credit risk of investments by establishing guidelines with investment managers that limit investment in any single issue or issuer to an amount that is not material to the portfolio being managed. These guidelines are monitored for compliance both by Historical Dow and external managers. Credit risk related to derivative activity is mitigated by utilizing multiple counterparties, collateral support agreements and centralized clearing, where appropriate.

The Northern Trust Collective Government Short Term Investment money market fund is utilized as the sweep vehicle for the U.S. plans, which from time to time can represent a significant investment. For one U.S. plan, approximately 35 percent of the liability is covered by a participating group annuity issued by Prudential Insurance Company.

Historical DuPont

Plan assets consist primarily of equity and fixed income securities of U.S. and foreign issuers, and include alternative investments such as real estate and private market securities. At December 31, 2018, plan assets totaled \$18.9 billion and included directly held common stock of DowDuPont of \$684 million. At December 31, 2017, plan assets totaled \$20.3 billion and included directly held common stock of DowDuPont of \$910 million.

All pension plan assets in the U.S. are invested through a single master trust fund. The strategic asset allocation for this trust fund is approved by management. The general principles guiding U.S. pension asset investment policies are those embodied in the Employee Retirement Income Security Act of 1974 ("ERISA"). These principles include discharging Historical DuPont's investment responsibilities for the exclusive benefit of plan participants and in accordance with the "prudent expert" standard and other ERISA rules and regulations. Historical DuPont establishes strategic asset allocation percentage targets and appropriate benchmarks for significant asset classes with the aim of achieving a prudent balance between return and risk. Strategic asset allocations in other countries are selected in accordance with the laws and practices of those countries. Where appropriate, asset liability studies are utilized in this process. U.S. plan assets and a portion of non-U.S. plan assets are managed by investment professionals employed by Historical DuPont. The remaining assets are managed by professional investment firms unrelated to Historical DuPont. Historical DuPont's pension investment professionals have discretion to manage the assets within established asset allocation ranges approved by management. Additionally, pension trust funds are permitted to enter into certain contractual arrangements generally described as derivative instruments. Derivatives are primarily used to reduce specific market risks, hedge currency and adjust portfolio duration and asset allocation in a cost-effective manner.

Global equity securities include varying market capitalization levels. U.S. equity investments are primarily large-cap companies. Global fixed income investments include corporate-issued, government-issued and asset-backed securities. Corporate debt investments include a range of credit risk and industry diversification. U.S. fixed income investments are weighted heavier than non-U.S. fixed income securities. Other investments include cash and cash equivalents, hedge funds, real estate and private market securities such as interests in private equity and venture capital partnerships.

DowDuPont

The weighted-average target allocation for plan assets of Historical Dow and Historical DuPont's pension plans is summarized as follows:

Target Allocation for Plan Assets at Dec 31, 2018		
<i>Asset Category</i>	<i>Historical Dow</i>	<i>Historical DuPont</i>
Equity securities	36%	35%
Fixed income securities	35	50
Alternative investments	28	13
Other investments	1	2
Total	100%	100%

Fair value calculations may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the Company believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

For pension plan assets classified as Level 1 measurements (measured using quoted prices in active markets), total fair value is either the price of the most recent trade at the time of the market close or the official close price, as defined by the exchange on which the asset is most actively traded on the last trading day of the period, multiplied by the number of units held without consideration of transaction costs.

For pension plan assets classified as Level 2 measurements, where the security is frequently traded in less active markets, fair value is based on the closing price at the end of the period; where the security is less frequently traded, fair value is based on the price a dealer would pay for the security or similar securities, adjusted for any terms specific to that asset or liability. Market inputs are obtained from well-established and recognized vendors of market data and subjected to tolerance and quality checks. For derivative assets and liabilities, standard industry models are used to calculate the fair value of the various financial instruments based on significant observable market inputs, such as foreign exchange rates, commodity prices, swap rates, interest rates and implied volatilities obtained from various market sources. For other pension plan assets for which observable inputs are used, fair value is derived through the use of fair value models, such as a discounted cash flow model or other standard pricing models.

For pension plan assets classified as Level 3 measurements, total fair value is based on significant unobservable inputs including assumptions where there is little, if any, market activity for the investment. Investment managers, fund managers or investment contract issuers provide valuations of the investment on a monthly or quarterly basis. These valuations are reviewed for reasonableness based on applicable sector, benchmark and company performance. Adjustments to valuations are made where appropriate. Where available, audited financial statements are obtained and reviewed for the investments as support for the manager's investment valuation.

Certain pension plan assets are held in funds where fair value is based on an estimated net asset value per share (or its equivalent) as of the most recently available fund financial statements which are received on a monthly or quarterly basis. These valuations are reviewed for reasonableness based on applicable sector, benchmark and company performance. Adjustments to valuations are made where appropriate to arrive at an estimated net asset value per share at the measurement date. These funds are not classified within the fair value hierarchy.

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The following table summarizes the bases used to measure the Company's pension plan assets at fair value for the years ended December 31, 2018 and 2017 :

Basis of Fair Value Measurements In millions	Dec 31, 2018				Dec 31, 2017			
	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3
Cash and cash equivalents	\$ 2,701	\$ 2,642	\$ 59	\$ —	\$ 3,829	\$ 3,728	\$ 101	\$ —
Equity securities:								
U.S. equity securities ¹	\$ 7,030	\$ 6,772	\$ 243	\$ 15	\$ 7,798	\$ 7,428	\$ 353	\$ 17
Non - U.S. equity securities	6,824	6,062	722	40	8,615	7,399	1,173	43
Total equity securities	\$ 13,854	\$ 12,834	\$ 965	\$ 55	\$ 16,413	\$ 14,827	\$ 1,526	\$ 60
Fixed income securities:								
Debt - government-issued	\$ 8,410	\$ 496	\$ 7,914	\$ —	\$ 7,859	\$ 655	\$ 7,203	\$ 1
Debt - corporate-issued	5,966	664	5,288	14	6,481	621	5,819	41
Debt - asset-backed	811	39	771	1	807	17	787	3
Total fixed income securities	\$ 15,187	\$ 1,199	\$ 13,973	\$ 15	\$ 15,147	\$ 1,293	\$ 13,809	\$ 45
Alternative investments: ²								
Hedge funds	\$ 162	\$ 162	\$ —	\$ —	\$ 85	\$ —	\$ 83	\$ 2
Private market securities	2	—	—	2	14	—	—	14
Real estate	355	262	—	93	363	260	7	96
Derivatives - asset position	461	18	443	—	285	5	280	—
Derivatives - liability position	(524)	(19)	(505)	—	(321)	(2)	(319)	—
Total alternative investments	\$ 456	\$ 423	\$ (62)	\$ 95	\$ 426	\$ 263	\$ 51	\$ 112
Other investments ²	\$ 586	\$ 47	\$ 333	\$ 206	\$ 275	\$ 37	\$ 238	\$ —
Subtotal	\$ 32,784	\$ 17,145	\$ 15,268	\$ 371	\$ 36,090	\$ 20,148	\$ 15,725	\$ 217
Investments measured at net asset value: ²								
Debt - government-issued	\$ 208				\$ —			
Hedge funds	2,315				2,342			
Private market securities	4,057				2,773			
Real estate	2,192				2,637			
Total investments measured at net asset value	\$ 8,772				\$ 7,752			
Items to reconcile to fair value of plan assets:								
Pension trust receivables ³	\$ 239				\$ 154			
Pension trust payables ⁴	(333)				(311)			
Total	\$ 41,462				\$ 43,685			

1. Historical DuPont's pension plans directly held \$684 million (2 percent of total plan assets) of DowDuPont common stock at December 31, 2018 and \$910 million (2 percent of total plan assets) at December 31, 2017.

2. Historical Dow reviewed its fair value technique and elected to present assets valued at net asset value per share as a practical expedient outside of the fair value hierarchy. The assets are presented as "Investments measured at net asset value." Prior period amounts were updated to conform with the current year presentation.

3. Primarily receivables for investment securities sold.

4. Primarily payables for investment securities purchased.

The following table summarizes the changes in the fair value of Level 3 pension plan assets for the years ended December 31, 2018 and 2017 :

Fair Value Measurement of Level 3 Pension Plan Assets					
In millions	<i>Equity Securities</i>	<i>Fixed Income Securities</i>	<i>Alternative Investments</i>	<i>Other Investments</i>	<i>Total</i>
Balance at Jan 1, 2017, as previously reported	\$ 33	\$ 17	\$ 4,117	\$ 95	\$ 4,262
Reclassification of investments measured at net asset value ¹	—	—	(4,061)	(95)	(4,156)
Balance at Jan 1, 2017, as restated	\$ 33	\$ 17	\$ 56	\$ —	\$ 106
Assumed in Merger	18	48	115	—	181
Actual return on assets:					
Relating to assets sold during 2017	(1)	(3)	5	—	1
Relating to assets held at Dec 31, 2017	5	6	—	—	11
Purchases, sales and settlements, net	5	(23)	(64)	—	(82)
Balance at Dec 31, 2017	\$ 60	\$ 45	\$ 112	\$ —	\$ 217
Actual return on assets:					
Relating to assets sold during 2018	(5)	(76)	1	1	(79)
Relating to assets held at Dec 31, 2018	(4)	83	(3)	(11)	65
Purchases, sales and settlements, net	5	(30)	(1)	216	190
Transfers out of Level 3, net	(1)	(7)	(14)	—	(22)
Balance at Dec 31, 2018	\$ 55	\$ 15	\$ 95	\$ 206	\$ 371

1. Historical Dow reviewed its fair value technique and elected to present assets valued at net asset value per share as a practical expedient outside of the fair value hierarchy, including those classified as Level 3 pension plan assets. The assets are presented as "Investments measured at net asset value."

Trust Assets

Historical DuPont entered into a trust agreement in 2013 (as amended and restated in 2017) that established and requires Historical DuPont to fund a trust (the "Trust") for cash obligations under certain non-qualified benefit and deferred compensation plans upon a change in control event as defined in the Trust agreement. Under the Trust agreement, the consummation of the Merger was a change in control event. As a result, in November 2017, Historical DuPont contributed \$571 million to the Trust. In the fourth quarter of 2017, \$13 million was distributed to Historical DuPont according to the Trust agreement and at December 31, 2017, the balance in the Trust was \$558 million . During the year ended December 31, 2018, \$68 million was distributed to Historical DuPont according to the Trust agreement and at December 31, 2018, the balance in the Trust was \$500 million .

Defined Contribution Plans

Historical Dow

U.S. employees may participate in defined contribution plans (Employee Savings Plans or 401(k) plans) by contributing a portion of their compensation, which is partially matched by Historical Dow. Defined contribution plans also cover employees in some subsidiaries in other countries, including Australia, Brazil, Canada, Italy, Spain and the United Kingdom. Expense recognized for all defined contribution plans was \$242 million in 2018 , \$367 million in 2017 and \$283 million in 2016 .

Historical DuPont

Historical DuPont provides defined contribution benefits to its employees. The most significant is the U.S. Retirement Savings Plan ("the Plan"), which covers all U.S. full-service employees. This Plan includes a non-leveraged Employee Stock Ownership Plan ("ESOP"). Employees are not required to participate in the ESOP and those who do are free to diversify out of the ESOP. The purpose of the Plan is to provide retirement savings benefits for employees and to provide employees an opportunity to become stockholders of the Company. The Plan is a tax qualified contributory profit sharing plan, with cash or deferred arrangement and any eligible employee of Historical DuPont may participate. Currently, Historical DuPont contributes 100 percent of the first 6 percent of the employee's contribution election and also contributes 3 percent of each eligible employee's eligible compensation regardless of the employee's contribution.

Historical DuPont's contributions to the Plan were \$183 million in 2018 and post-Merger contributions were \$53 million in 2017. Historical DuPont's matching contributions vest immediately upon contribution. The 3 percent nonmatching employer contribution vests after employees complete 3 years of service. In addition, Historical DuPont made contributions to other defined contribution plans of \$51 million in 2018 and post-Merger contributions to other defined contribution plans of \$17 million in 2017. Included in Historical DuPont's contributions are amounts related to discontinued operations of \$1 million in 2017.

NOTE 20 - STOCK-BASED COMPENSATION

Through the Historical Dow and Historical DuPont equity incentive plans, the Company grants stock-based compensation to employees and non-employee directors. Effective with the Merger, on August 31, 2017, DowDuPont assumed all Historical Dow and Historical DuPont equity incentive compensation awards outstanding immediately prior to the Merger. The previous Historical DuPont equity awards were converted into the right to receive 1.2820 shares of DowDuPont Common Stock and had a fair value of approximately \$629 million at the Merger closing date and included \$485 million as consideration exchanged and \$144 million which is being amortized to stock compensation expense over the remaining vesting period of the awards. The fair values of the converted awards were based on valuation assumptions developed by management and other information including, but not limited to, historical volatility and exercise trends of Historical Dow and Historical DuPont. All outstanding Historical Dow stock options and restricted stock unit ("RSU") (formerly termed deferred stock) awards were converted into stock options and RSU awards with respect to DowDuPont Common Stock. All outstanding and nonvested Historical Dow performance stock unit ("PSU") (formerly termed performance deferred stock) awards were converted into RSU awards with respect to DowDuPont Common Stock at the greater of the applicable performance target or the actual performance as of the effective time of the Merger.

In addition, the Company also assumed sponsorship of each equity incentive compensation plan of Historical Dow and Historical DuPont. Historical Dow and Historical DuPont did not merge their equity incentive plans as a result of the Merger. The plans continue in place with the ability to grant and issue DowDuPont common stock. A description of Historical Dow and Historical DuPont stock-based compensation is discussed below.

The total stock-based compensation expense included in continuing operations in the consolidated statements of income was \$380 million, \$392 million and \$261 million in 2018, 2017 and 2016, respectively. The income tax benefits related to stock-based compensation arrangements were \$83 million, \$145 million and \$97 million in 2018, 2017 and 2016, respectively.

Accounting for Stock-Based Compensation

The Company grants stock-based compensation awards that vest over a specified period or upon employees meeting certain performance and/or retirement eligibility criteria. The fair value of equity instruments issued to employees is measured on the grant date. The fair value of liability instruments issued to employees is measured at the end of each quarter. The fair value of equity and liability instruments is expensed over the vesting period or, in the case of retirement, from the grant date to the date on which retirement eligibility provisions have been met and additional service is no longer required. The Company estimates expected forfeitures.

Historical Dow Plans

Historical Dow grants stock-based compensation to employees and non-employee directors in the form of stock incentive plans, which include stock options, RSUs and restricted stock. Historical Dow also provides stock-based compensation in the form of PSUs and the Employee Stock Purchase Plan ("ESPP"), which grants eligible employees the right to purchase shares of Historical Dow Common Stock at a discounted price.

Historical Dow Valuation Methods and Assumptions

Historical Dow previously used a lattice-based option valuation model to estimate the fair value of stock options and used a Monte Carlo simulation for the market portion of PSU awards. Effective with the first quarter of 2018 grant, Historical Dow began using the Black-Scholes option valuation model to estimate the fair value of stock options. This valuation methodology was adopted as a result of the Merger to align valuation methodologies with Historical DuPont and better align with industry practice. Historical Dow used the Black-Scholes option valuation model for subscriptions to purchase shares under the ESPP. The weighted-average assumptions used to calculate total stock-based compensation are included in the following table:

Historical Dow Weighted-Average Assumptions	2018	2017	2016
Dividend yield	2.13%	3.01%	4.13%
Expected volatility	23.34%	23.71%	31.60%
Risk-free interest rate	2.83%	1.28%	1.12%
Expected life of stock options granted during period (years)	6.2	7.5	7.8
Life of Employee Stock Purchase Plan (months)	—	3	4

The dividend yield assumption was equal to the dividend yield on the grant date, which reflected the most recent DowDuPont quarterly dividend payment of \$0.38 per share in 2018 (\$0.46 per share in 2017 and 2016 on Historical Dow Common Stock). The expected volatility assumptions for the 2016 and 2017 stock options and ESPP were based on an equal weighting of the historical daily volatility for the contractual term of the awards and current implied volatility from exchange-traded options. The expected volatility assumptions for the 2018 stock options were based on an equal weighting of the historical daily volatility for

the expected term of the awards and current implied volatility from exchange-traded options. The expected volatility assumption for the market portion of the 2016 and 2017 PSU awards were based on historical daily volatility for the term of the award. The risk-free interest rate was based on the weighted-average of U.S. Treasury strip rates over the contractual term of the 2016 and 2017 options. The risk-free interest rate was based on the U.S. Treasury strip rates over the expected life of the 2018 options. The expected life of stock options granted was based on an analysis of historical exercise patterns.

Historical Dow Stock Incentive Plan

Historical Dow previously granted equity awards under various plans (the "Prior Plans"). On February 9, 2012, Historical Dow's Board of Directors authorized The Dow Chemical Company 2012 Stock Incentive Plan (the "2012 Plan"), which was approved by stockholders at Historical Dow's annual meeting on May 10, 2012 ("Original Effective Date") and became effective on that date. On February 13, 2014, Historical Dow's Board of Directors adopted The Dow Chemical Company Amended and Restated 2012 Stock Incentive Plan (the "2012 Restated Plan"). The 2012 Restated Plan was approved by stockholders at Historical Dow's annual meeting on May 15, 2014, and became effective on that date. The Prior Plans were superseded by the 2012 Plan and the 2012 Restated Plan (collectively, the "2012 Plan"). Under the 2012 Plan, Historical Dow may grant options, RSUs, PSUs, restricted stock, stock appreciation rights and stock units to employees and non-employee directors until the tenth anniversary of the Original Effective Date, subject to an aggregate limit and annual individual limits. The terms of the grants are fixed at the grant date. Historical Dow's stock-based compensation programs were assumed by DowDuPont and continue in place with the ability to grant and issue DowDuPont common stock. At December 31, 2018, there were 19 million shares of DowDuPont common stock available for grant under the 2012 Plan.

In connection with the Merger, on August 31, 2017 ("Conversion Date") all outstanding Historical Dow stock options and RSU awards were converted into stock options and RSU awards with respect to DowDuPont Common Stock. The stock options and RSU awards have the same terms and conditions under the applicable plans and award agreements prior to the Merger. All outstanding and nonvested PSU awards were converted into RSU awards with respect to DowDuPont Common Stock at the greater of the applicable performance target or the actual performance as of the effective time of the Merger. Changes in the fair value of liability instruments are recognized as compensation expense each quarter.

Historical Dow Stock Options

Historical Dow grants stock options to certain employees, subject to certain annual and individual limits, with terms of the grants fixed at the grant date. The exercise price of each stock option equals the market price of Historical Dow's stock on the grant date. Options vest from one to three years, and have a maximum term of 10 years.

The following table summarizes stock option activity for 2018 :

Historical Dow Stock Options	2018	
	Shares	Exercise Price ¹
Shares in thousands		
Outstanding at Jan 1, 2018	26,628	\$ 38.30
Granted	6,571	\$ 71.43
Exercised	(4,074)	\$ 30.65
Forfeited/Expired	(279)	\$ 61.47
Outstanding at Dec 31, 2018	28,846	\$ 46.70
Remaining contractual life in years		5.46
Aggregate intrinsic value in millions	\$ 327	
Exercisable at Dec 31, 2018	21,813	\$ 39.99
Remaining contractual life in years		4.40
Aggregate intrinsic value in millions	\$ 322	

1. Weighted-average per share.

Additional Information about Historical Dow Stock Options			
In millions, except per share amounts	2018	2017	2016
Weighted-average fair value per share of options granted	\$ 15.38	\$ 14.44	\$ 10.95
Total compensation expense for stock options plans	\$ 68	\$ 37	\$ 32
Related tax benefit	\$ 15	\$ 14	\$ 12
Total amount of cash received from the exercise of options	\$ 112	\$ 310	\$ 312
Total intrinsic value of options exercised ¹	\$ 160	\$ 286	\$ 153
Related tax benefit	\$ 36	\$ 106	\$ 57

1. Difference between the market price at exercise and the price paid by the employee to exercise the options.

Total unrecognized pretax compensation cost related to nonvested stock option awards of \$36 million at December 31, 2018 , is expected to be recognized over a weighted-average period of 1.91 years .

Historical Dow Restricted Stock Units

Historical Dow grants restricted stock units to certain employees. The grants vest after a designated period of time, generally one to five years. The following table shows changes in nonvested RSUs:

Historical Dow RSU Awards	2018	
	Shares	Grant Date Fair Value ¹
Shares in thousands		
Nonvested at Jan 1, 2018	13,346	\$ 50.71
Granted	2,022	\$ 71.46
Vested	(5,409)	\$ 46.04
Canceled	(224)	\$ 59.40
Nonvested at Dec 31, 2018	9,735	\$ 57.41

1. Weighted-average per share.

Additional Information about Historical Dow RSUs			
In millions, except per share amounts	2018	2017	2016
Weighted-average fair value per share of RSUs granted	\$ 71.46	\$ 61.29	\$ 46.25
Total fair value of RSUs vested	\$ 382	\$ 179	\$ 166
Related tax benefit	\$ 86	\$ 66	\$ 61
Total compensation expense for RSU awards	\$ 144	\$ 178	\$ 97
Related tax benefit	\$ 32	\$ 66	\$ 36

In 2018 , Historical Dow paid \$45 million in cash, equal to the value of the stock award on the date of delivery, to certain executive employees to settle approximately 625,000 RSUs (there were no RSUs settled in cash in 2017 and 2016). Total unrecognized pretax compensation cost related to RSU awards of \$126 million at December 31, 2018 , is expected to be recognized over a weighted-average period of 1.68 years. At December 31, 2018 , approximately 18,000 RSUs with a grant date weighted-average fair value per share of \$35.12 had previously vested, but were not issued. These shares are scheduled to be issued to employees within six months to three years or upon retirement.

Total incremental pretax compensation expense resulting from the conversion of PSU awards into RSU awards was \$25 million (\$20 million was recognized in the second half of 2017 and \$5 million to be recognized over the remaining service period). Approximately 5,000 employees were impacted by the conversion.

Historical Dow Performance Stock Units

Historical Dow grants performance stock units to certain employees. The grants vest when specified performance targets are attained, such as return on capital and relative total shareholder return, over a predetermined period, generally one to three years. In November 2017, DowDuPont granted PSUs to senior leadership measured on the realization of cost savings in connection with cost synergy commitments, as well as the Company's ability to complete the Intended Business Separations. Performance and payouts are determined independently for each metric. Compensation expense related to PSU awards is recognized over the lesser of the service or performance period. Changes in the fair value of liability instruments are recognized as compensation expense each quarter.

The following table shows the PSU awards granted:

Historical Dow PSU Awards		Target Shares Granted ¹	Grant Date Fair Value ²
Shares in thousands			
Year	Performance Period		
2017	Sep 1, 2017 - Aug 31, 2019	232	\$ 71.16
2017 ³	Jan 1, 2017 - Dec 31, 2019	1,728	\$ 81.99
2016 ³	Jan 1, 2016 - Dec 31, 2018	2,283	\$ 52.68

1. At the end of the performance period, the actual number of shares issued can range from zero to 200 percent of the target shares granted.

2. Weighted-average per share.

3. Converted to RSU awards at Conversion Date.

There was no activity in nonvested PSUs in 2018. At January 1, 2018 and December 31, 2018, there were 232,000 target shares of nonvested PSUs outstanding with a grant date fair value of \$71.16 .

Additional Information about Historical Dow PSUs	2018	2017	2016
In millions, except share amounts			
Total fair value of PSUs vested and delivered ¹	\$ —	\$ 202	\$ 103
Related tax benefit	\$ —	\$ 75	\$ 38
Total compensation expense for PSU awards	\$ 12	\$ 106	\$ 125
Related tax benefit	\$ 3	\$ 39	\$ 46
Shares of PSUs settled in cash (in thousands) ²	—	616	861
Total cash paid to settle PSU awards ³	\$ —	\$ 38	\$ 40

1. Includes the fair value of shares vested in prior years and delivered in the reporting year.

2. PSU awards vested in prior years and delivered in the reporting year.

3. Cash paid to certain executive employees for PSU awards vested in prior periods and delivered in the reporting year, equal to the value of the stock award on the date of delivery.

Total unrecognized compensation cost related to PSU awards of \$8 million at December 31, 2018 , is expected to be recognized over a weighted-average period of 0.67 years .

Historical Dow Restricted Stock

Under the 2012 Plan, Historical Dow may grant shares (including options, stock appreciation rights, stock units and restricted stock) to non-employee directors over the 10 -year duration of the program, subject to the plan's aggregate limit as well as annual individual limits. The restricted stock issued under this plan cannot be sold, assigned, pledged or otherwise transferred by the non-employee director, until retirement or termination of service to Historical Dow. The following table shows the restricted stock issued under this plan:

Historical Dow Restricted Stock	Shares Issued (in thousands)	Weighted- Average Fair Value
Year		
2018	36	\$ 62.82
2017	33	\$ 62.04
2016	32	\$ 50.55

Historical Dow Employee Stock Purchase Plan

On February 9, 2012, Historical Dow's Board of Directors authorized The Dow Chemical Company 2012 Employee Stock Purchase Plan (the "2012 ESPP") which was approved by stockholders at Historical Dow's annual meeting on May 10, 2012. When offered, most employees are eligible to purchase shares of common stock of Historical Dow valued at up to 10 percent of their annual base salary. The value is determined using the plan price multiplied by the number of shares subscribed to by the employee. The plan price of the stock is set at an amount equal to at least 85 percent of the fair market value (closing price) of the common stock on a date during the fourth quarter of the year prior to the offering, or the average fair market value (closing price) of the common stock over a period during the fourth quarter of the year prior to the offering, in each case, specified by Historical Dow's Executive Vice President of Human Resources. The most recent offering of Historical Dow's 2012 ESPP closed on July 15, 2017. The ESPP was not offered in 2018 and no current offerings remain outstanding.

Additional Information about Historical Dow Employee Stock Purchase Plan			
In millions, except per share amounts		2018	2017
Weighted-average fair value per share of purchase rights granted	\$	—	\$ 10.70
Total compensation expense for ESPP	\$	—	\$ 38
Related tax benefit	\$	—	\$ 14
Total amount of cash received from the exercise of purchase rights	\$	—	\$ 179
Total intrinsic value of purchase rights exercised ¹	\$	—	\$ 48
Related tax benefit	\$	—	\$ 18

1. Difference between the market price at exercise and the price paid by the employee to exercise the purchase rights.

Historical DuPont Plans

Prior to the Merger, Historical DuPont provided share-based compensation to its employees through grants of stock options, RSUs and PSUs. Most of these awards have been granted annually in the first quarter of each calendar year. Subsequent to the Merger, DowDuPont assumed sponsorship of the equity incentive compensation plan of Historical DuPont.

Historical DuPont Equity Incentive Plan

Historical DuPont's Equity Incentive Plan ("Historical DuPont EIP"), as amended and restated effective August 31, 2017, provides for equity-based and cash incentive awards to certain employees, directors and consultants. Under the Historical DuPont EIP, the maximum number of shares reserved for the grant or settlement of awards is 110 million shares, provided that each share in excess of 30 million that is issued with respect to any award that is not an option or stock appreciation right will be counted against the 110 million share limit as four and one-half shares. Historical DuPont will satisfy stock option exercises and vesting of RSUs and PSUs with newly issued shares of DowDuPont Common Stock. At December 31, 2018, approximately 30 million shares were authorized for future grants under the Historical DuPont EIP.

Historical DuPont Stock Options

The exercise price of shares subject to option is equal to the market price of Historical DuPont's stock on the date of grant. When converted into the right to receive 1.2820 shares of DowDuPont Common Stock, the exercise price was also adjusted by the 1.2820 conversion factor. All options vest serially over a three-year period. Stock option awards granted between 2010 and 2015 expire seven years after the grant date and options granted between 2016 and 2018 expire ten years after the grant date. The plan allows retirement-eligible employees of Historical DuPont to retain any granted awards upon retirement provided the employee has rendered at least six months of service following the grant date. The awards have the same terms and conditions as were applicable to such equity awards immediately prior to the Merger closing date.

Historical DuPont uses the Black-Scholes option pricing model to determine the fair value of stock option awards and the assumptions set forth in the table below. The weighted-average grant-date fair value of options granted for the year ended December 31, 2018 and the period September 1, 2017 through December 31, 2017 was \$15.46 and \$28.56, respectively. The weighted-average assumptions used to calculate total stock-based compensation are included in the following table:

Historical DuPont Weighted-Average Assumptions	2018	2017
Dividend yield	2.1%	2.2%
Expected volatility	23.3%	23.59%
Risk-free interest rate	2.8%	2.1%
Expected life of stock options granted during period (years)	6.2	7.2

Historical DuPont determines the dividend yield by dividing the annualized dividend on DowDuPont's Common Stock by the option exercise price. A historical daily measurement of volatility (using DowDuPont stock information after the Merger date and a weighted average of Historical Dow and Historical DuPont prior to Merger date) is determined based on the expected life of the option granted. The risk-free interest rate is determined by reference to the yield on an outstanding U.S. Treasury note with a term equal to the expected life of the option granted. Expected life is determined by reference to Historical DuPont's historical experience, adjusted for expected exercise patterns of in-the-money options.

The following table summarizes stock option activity for 2018 under Historical DuPont's EIP:

Historical DuPont Stock Options	2018	
	Shares	Exercise Price ¹
Shares in thousands		
Outstanding at Jan 1, 2018	15,889	\$ 48.43
Granted	3,251	\$ 71.85
Exercised	(1,920)	\$ 44.49
Forfeited/Expired	(141)	\$ 56.63
Outstanding at Dec 31, 2018	17,079	\$ 53.26
Remaining contractual life in years		4.77
Aggregate intrinsic value in millions	\$ 910	
Exercisable at Dec 31, 2018	12,103	\$ 48.14
Remaining contractual life in years		3.17
Aggregate intrinsic value in millions	\$ 583	

1. Weighted-average per share.

The aggregate intrinsic values in the table above represent the total pretax intrinsic value (the difference between the closing stock price on the last trading day of 2018 and the exercise price, multiplied by the number of in-the-money options) that would have been received by the option holders had all option holders exercised their in-the-money options at year end.

At December 31, 2018, \$32 million of total unrecognized pretax compensation cost related to stock options is expected to be recognized over a weighted average period of 1.82 years. Total intrinsic value of options exercised for the year ended December 31, 2018 and the period September 1 through December 31, 2017, was \$50 million and \$19 million, respectively. For the year ended December 31, 2018, DuPont realized tax benefits from options exercised of \$10 million.

Historical DuPont RSUs and PSUs

Historical DuPont issues non-vested RSUs that serially vest over a three-year period and, upon vesting, convert one-for-one to DowDuPont Common Stock. A retirement eligible employee retains any granted awards upon retirement provided the employee has rendered at least six months of service following the grant date. Additional RSUs are also granted periodically to key senior management employees. These RSUs generally vest over periods ranging from three to five years. The fair value of all stock-settled RSUs is based upon the market price of the underlying common stock as of the grant date. The awards have the same terms and conditions as were applicable to such equity awards immediately prior to the Merger closing date.

Historical DuPont grants PSUs to senior leadership. Upon a change in control, Historical DuPont's EIP provisions required PSUs to be converted into RSUs based on the number of PSUs that would vest by assuming that target levels of performance are achieved. Service requirements for vesting in the RSUs replicate those inherent in the exchanged PSUs.

Vesting for PSUs granted in 2016 and for the period January 1 through August 31, 2017 is based upon total shareholder return ("TSR") relative to peer companies. Vesting for PSUs granted in 2015 is equally based upon change in operating net income relative to target and TSR relative to peer companies. Operating net income is net income attributable to Historical DuPont excluding income from discontinued operations after taxes, significant after-tax benefits (charges), and non-operating pension and other postretirement benefit costs. Performance and payouts are determined independently for each metric. The actual award, delivered as DowDuPont Common Stock, can range from zero percent to 200 percent of the original grant. The weighted-average grant-date fair value of the PSUs granted for the period January 1 through August 31, 2017, subject to the TSR metric, was \$91.56, and estimated using a Monte Carlo simulation. The weighted-average grant-date fair value of the PSUs, subject to the revenue metric, was based upon the market price of the underlying common stock as of the grant date.

In accordance with the Merger Agreement, PSUs converted to RSU awards based on an assessment of the underlying market conditions in the PSUs at the greater of target or actual performance levels as of the closing date. As the actual performance levels were not in excess of target as of the closing date, all PSUs converted to RSUs based on target and there was no incremental benefit from the Merger Agreement when compared with Historical DuPont's EIP.

In November 2017, DowDuPont granted PSUs to senior leadership that vest partially based on the realization of cost savings in connection with cost synergy commitments, as well as DowDuPont's ability to complete the Intended Business Separations. Performance and payouts are determined independently for each metric. The actual award, delivered in DowDuPont Common Stock, can range from zero percent to 200 percent of the original grant. The weighted-average grant date fair value of the PSUs granted in November 2017 of \$71.16 was based upon the market price of the underlying common stock as of the grant date. There were no PSUs granted in the year ended December 31, 2018.

At December 31, 2018, \$71 million of total unrecognized pretax compensation cost related to RSUs and PSUs is expected to be recognized over a weighted average period of 1.45 years.

Nonvested awards of RSUs and PSUs are shown below.

Historical DuPont RSUs and PSUs	<i>2018</i>	
	<i>Shares</i>	<i>Weighted Average Grant Date Fair Value</i>
Shares in thousands		
Nonvested at Jan 1, 2018	4,198	\$ 68.28
Granted	965	\$ 70.37
Vested	(1,904)	\$ 67.49
Canceled	(112)	\$ 66.86
Nonvested at Dec 31, 2018	3,147	\$ 68.18

The total fair value of RSUs and PSUs vested in the year ended December 31, 2018 and for the period September 1, 2017 through December 31, 2017 was \$128 million and \$9 million, respectively. The weighted average grant-date fair value of stock units granted during 2018 and the period September 1, 2017 through December 31, 2017 was \$70.37 and \$70.02, respectively.

NOTE 21 - FINANCIAL INSTRUMENTS

The following table summarizes the fair value of financial instruments at December 31, 2018 and 2017 :

Fair Value of Financial Instruments at Dec 31 In millions	2018				2017			
	Cost	Gain	Loss	Fair Value	Cost	Gain	Loss	Fair Value
Cash equivalents ¹	\$ 9,951	\$ 12	\$ —	\$ 9,963	\$ 6,927	\$ —	\$ —	\$ 6,927
Restricted cash equivalents ^{1, 2}	\$ 500	\$ —	\$ —	\$ 500	\$ 558	\$ —	\$ —	\$ 558
Marketable securities								
Available-for-sale ³	\$ 100	\$ —	\$ —	\$ 100	\$ 4	\$ —	\$ —	\$ 4
Held-to-maturity ^{1, 4}	34	—	—	34	952	—	—	952
Total marketable securities	\$ 134	\$ —	\$ —	\$ 134	\$ 956	\$ —	\$ —	\$ 956
Other investments:								
Debt securities:								
Government debt ⁵	\$ 714	\$ 9	\$ (23)	\$ 700	\$ 637	\$ 13	\$ (11)	\$ 639
Corporate bonds	1,026	20	(63)	983	704	32	(3)	733
Total debt securities	\$ 1,740	\$ 29	\$ (86)	\$ 1,683	\$ 1,341	\$ 45	\$ (14)	\$ 1,372
Equity securities ⁶	\$ 17	\$ 1	\$ (2)	\$ 16	\$ 164	\$ 2	\$ (26)	\$ 140
Total other investments	\$ 1,757	\$ 30	\$ (88)	\$ 1,699	\$ 1,505	\$ 47	\$ (40)	\$ 1,512
Total cash and restricted cash equivalents, marketable securities and other investments	\$ 12,342	\$ 42	\$ (88)	\$ 12,296	\$ 9,946	\$ 47	\$ (40)	\$ 9,953
Long-term debt including debt due within one year ⁷	\$ (38,299)	\$ 390	\$ (1,457)	\$ (39,366)	\$ (32,123)	\$ 69	\$ (2,121)	\$ (34,175)
Derivatives relating to:								
Interest rates	\$ —	\$ —	\$ (64)	\$ (64)	\$ —	\$ —	\$ (4)	\$ (4)
Foreign currency ⁸	—	157	(49)	108	—	31	(159)	(128)
Commodities ⁸	—	91	(178)	(87)	—	130	(256)	(126)
Total derivatives	\$ —	\$ 248	\$ (291)	\$ (43)	\$ —	\$ 161	\$ (419)	\$ (258)

1. Prior period amounts were updated to conform with the current year presentation.

2. Classified as "Other current assets" in the consolidated balance sheets.

3. Available-for-sale securities with maturities of less than one year at the time of purchase.

4. Held-to-maturity securities with maturities of more than three months to less than one year at the time of purchase.

5. U.S. Treasury obligations, U.S. agency obligations, agency mortgage-backed securities and other municipalities' obligations.

6. Equity securities with a readily determinable fair value. Presented in accordance with ASU 2016-01. See Notes 1 and 2 for additional information.

7. Cost includes fair value adjustments of \$78 million at December 31, 2018 and \$492 million at December 31, 2017, related to the accounting for the Merger. Cost also includes fair value hedge adjustments of \$18 million at December 31, 2018 and \$19 million at December 31, 2017 on \$2,290 million of debt at December 31, 2018 and \$2,390 million of debt at December 31, 2017.

8. Presented net of cash collateral where master netting arrangements allow.

Cost approximates fair value for all other financial instruments.

Cash Equivalents and Restricted Cash Equivalents

At December 31, 2018, the Company had \$3,461 million (\$6,418 million at December 31, 2017) of held-to-maturity securities (primarily treasury bills and time deposits) classified as cash equivalents, as these securities had maturities of three months or less at the time of purchase. The Company's investments in held-to-maturity securities are held at amortized cost, which approximates fair value. At December 31, 2018, the Company had investments in money market funds of \$6,502 million classified as cash equivalents (\$509 million at December 31, 2017) and \$500 million classified as "Other current assets" in the consolidated balance sheets (\$558 million at December 31, 2017) due to the restricted nature of its use.

Marketable Securities

At December 31, 2018, the Company had \$34 million (\$952 million at December 31, 2017) of held-to-maturity securities (primarily time deposits) classified as "Marketable securities" in the consolidated balance sheets as these securities had maturities of more than three months to less than one year at the time of purchase. At December 31, 2018, the Company had \$100 million (\$4 million at December 31, 2017) of debt securities with maturities of less than one year at the time of purchase. In 2018, \$2,186 million of these marketable securities matured.

Debt Securities

The following table provides the investing results from available-for-sale securities for the years ended December 31, 2018 , 2017 and 2016 .

Investing Results ¹			
In millions		<i>2018</i>	<i>2017</i>
Proceeds from sales of available-for-sale securities	\$	1,053	\$ 245
Gross realized gains	\$	21	\$ 5
Gross realized losses	\$	30	\$ —

1. Prior period amounts were updated to conform with the current year presentation as a result of the adoption of ASU 2016-01.

The following table summarizes the contractual maturities of the Company's investments in debt securities:

Contractual Maturities of Debt Securities at Dec 31, 2018 ¹		
In millions	<i>Amortized Cost</i>	<i>Fair Value</i>
Within one year	\$ 124	\$ 124
One to five years	455	444
Six to ten years	717	683
After ten years	444	432
Total	\$ 1,740	\$ 1,683

1. Includes marketable securities with maturities of less than one year.

Portfolio managers regularly review the Company's holdings to determine if any investments in debt securities are other-than-temporarily impaired. The analysis includes reviewing the amount of the impairment, as well as the length of time it has been impaired.

The credit rating of the issuer, current credit rating trends, the trends of the issuer's overall sector, the ability of the issuer to pay expected cash flows and the length of time the security has been in a loss position are considered in determining whether unrealized losses represent an other-than-temporary impairment. The Company did not have any credit-related losses in 2018 , 2017 or 2016 .

The following tables provide the fair value and gross unrealized losses of the Company's investments in debt securities that were deemed to be temporarily impaired at December 31, 2018 and 2017 , aggregated by investment category:

Temporarily Impaired Debt Securities at Dec 31, 2018	<i>Less than 12 months</i>		<i>12 months or more</i>		<i>Total</i>	
	<i>Fair Value</i>	<i>Unrealized losses</i>	<i>Fair Value</i>	<i>Unrealized losses</i>	<i>Fair Value</i>	<i>Unrealized losses</i>
In millions						
Government debt ¹	\$ 287	\$ (17)	\$ 187	\$ (6)	\$ 474	\$ (23)
Corporate bonds	724	(58)	64	(5)	788	(63)
Total temporarily impaired debt securities	\$ 1,011	\$ (75)	\$ 251	\$ (11)	\$ 1,262	\$ (86)

1. U.S. Treasury obligations, U.S. agency obligations, agency mortgage-backed securities and other municipalities' obligations.

Temporarily Impaired Debt Securities at Dec 31, 2017	<i>Less than 12 months</i>		<i>12 months or more</i>		<i>Total</i>	
	<i>Fair Value</i>	<i>Unrealized losses</i>	<i>Fair Value</i>	<i>Unrealized losses</i>	<i>Fair Value</i>	<i>Unrealized losses</i>
In millions						
Government debt ¹	\$ 295	\$ (4)	\$ 151	\$ (7)	\$ 446	\$ (11)
Corporate bonds	163	(2)	19	(1)	182	(3)
Total temporarily impaired debt securities	\$ 458	\$ (6)	\$ 170	\$ (8)	\$ 628	\$ (14)

1. U.S. Treasury obligations, U.S. agency obligations, agency mortgage-backed securities and other municipalities' obligations.

Equity Securities

The Company's investments in equity securities with a readily determinable fair value totaled \$16 million at December 31, 2018 (\$140 million at December 31, 2017). The aggregate carrying value of the Company's investments in equity securities where fair value is not readily determinable totaled \$258 million at December 31, 2018 , reflecting the carrying value of the investments. There were no material adjustments to the carrying value of the not readily determinable investments for impairment or observable

price changes for the year ended December 31, 2018 . The net unrealized gain recognized in earnings on equity securities totaled \$6 million for the year ended December 31, 2018 .

Repurchase and Reverse Repurchase Agreement Transactions

Historical Dow enters into repurchase and reverse repurchase agreements. These transactions are accounted for as collateralized borrowings and lending transactions bearing a specified rate of interest and are short-term in nature with original maturities of 30 days or less. The underlying collateral is typically treasury bills with longer maturities than the repurchase agreement. The impact of these transactions is not material to Historical Dow's results. There were no repurchase or reverse repurchase agreements outstanding at December 31, 2018 and 2017 .

Risk Management

The Company's business operations give rise to market risk exposure due to changes in interest rates, foreign currency exchange rates, commodity prices and other market factors such as equity prices. To manage such risks effectively, Historical Dow and Historical DuPont enter into a variety of contractual arrangements, pursuant to established guidelines and policies, which enable it to mitigate the adverse effects of financial market risk. Derivatives used for this purpose are designated as cash flow, fair value or net foreign investment hedges where appropriate. Accounting guidance requires companies to recognize all derivative instruments as either assets or liabilities at fair value.

The Company's risk management program for interest rate, foreign currency and commodity risks is based on fundamental, mathematical and technical models that take into account the implicit cost of hedging. Risks created by derivative instruments and the mark-to-market valuations of positions are strictly monitored. Counterparty credit risk arising from these contracts is not significant because the Company minimizes counterparty concentration, deals primarily with major financial institutions of solid credit quality and the majority of its hedging transactions mature in less than three months. In addition, the Company minimizes concentrations of credit risk through its global orientation by transacting with large, internationally diversified financial counterparties.

The Company revises its strategies as market conditions dictate and management reviews its overall financial strategies and the impacts from using derivatives in its risk management program with the Company's senior leadership who also reviews those strategies with the DowDuPont Board and/or relevant committees thereof.

The notional amounts of the Company's derivative instruments presented on a net basis at December 31, 2018 and 2017 , were as follows:

Notional Amounts - Net		
In millions	<i>Dec 31, 2018</i>	<i>Dec 31, 2017 ¹</i>
<i>Derivatives designated as hedging instruments:</i>		
Interest rate swaps	\$ 2,049	\$ 185
Foreign currency contracts	\$ 4,457	\$ 4,343
<i>Derivatives not designated as hedging instruments:</i>		
Interest rate swaps	\$ 5	\$ —
Foreign currency contracts	\$ 21,342	\$ 15,963

1. Prior period amounts were previously presented on a gross basis and have been updated to conform with the current year net presentation.

The notional amounts of the Company's commodity derivatives at December 31, 2018 and 2017 , were as follows:

Commodity Notionals - Net	<i>Dec 31, 2018</i>	<i>Dec 31, 2017 ¹</i>	<i>Notional Volume Unit</i>
<i>Derivatives designated as hedging instruments:</i>			
Hydrocarbon derivatives	39.9	71.3	million barrels of oil equivalent
Seed derivatives	82.4	100.9	million bushels
<i>Derivatives not designated as hedging instruments:</i>			
Hydrocarbon derivatives	1.2	4.1	million barrels of oil equivalent
Seed derivatives	0.7	2.8	million bushels
Seed derivatives	9.0	8.2	kilotons
Power derivatives	73.9	—	thousands of megawatt hours

1. Prior period amounts were previously presented on a gross basis and have been updated to conform with the current year net presentation.

Interest Rate Risk Management

The main objective of interest rate risk management is to reduce the total funding cost to Historical Dow and Historical DuPont and to alter the interest rate exposure to the desired risk profile. To achieve this objective, Historical Dow and Historical DuPont hedge using interest rate swaps, “swaptions” and exchange-traded instruments. At December 31, 2018, the Company had open interest rate swaps with maturity dates that extend through 2022.

Foreign Currency Risk Management

Historical Dow

The global nature of Historical Dow's business requires active participation in the foreign exchange markets. Historical Dow has assets, liabilities and cash flows in currencies other than the U.S. dollar. The primary objective of Historical Dow's foreign currency risk management is to optimize the U.S. dollar value of net assets and cash flows. To achieve this objective, Historical Dow hedges on a net exposure basis using foreign currency forward contracts, over-the-counter option contracts, cross-currency swaps and nonderivative instruments in foreign currencies. Exposures primarily relate to assets, liabilities and bonds denominated in foreign currencies, as well as economic exposure, which is derived from the risk that currency fluctuations could affect the dollar value of future cash flows related to operating activities. At December 31, 2018, Historical Dow had foreign currency contracts with various expiration dates, through 2019.

Historical DuPont

Historical DuPont's objective in managing exposure to foreign currency fluctuations is to reduce earnings and cash flow volatility associated with foreign currency rate changes. Accordingly, Historical DuPont enters into various contracts that change in value as foreign exchange rates change to protect the value of its existing foreign currency-denominated assets, liabilities, commitments and cash flows.

Historical DuPont routinely uses foreign currency contracts to offset its net exposures, by currency, related to the foreign currency-denominated monetary assets and liabilities of its operations. The primary business objective of this hedging program is to maintain an approximately balanced position in foreign currencies so that exchange gains and losses resulting from exchange rate changes, net of related tax effects, are minimized. Historical DuPont also uses foreign currency exchange contracts to offset a portion of Historical DuPont's exposure to certain foreign currency-denominated revenues so that gains and losses on these contracts offset changes in the USD value of the related foreign currency-denominated revenues. The objective of the hedge program is to reduce earnings and cash flow volatility related to changes in foreign currency exchange rates. At December 31, 2018, Historical DuPont had foreign currency contracts with various expiration dates, through the third quarter of 2019.

Commodity Risk Management

Historical Dow and Historical DuPont have exposure to the prices of commodities in its procurement of certain raw materials. The primary purpose of commodity hedging activities is to manage the price volatility associated with these forecasted inventory purchases. Historical Dow and Historical DuPont enter into over-the-counter and exchange-traded derivative commodity instruments to hedge the commodity price risk. At December 31, 2018, Historical Dow and Historical DuPont had futures contracts, options and swaps to buy, sell or exchange commodities. These agreements have various expiration dates through 2022.

Derivatives Not Designated in Hedging Relationships

Foreign Currency Contracts

Historical Dow

Historical Dow also uses foreign exchange forward contracts, options and cross-currency swaps that are not designated as hedging instruments primarily to manage foreign currency exposure.

Historical DuPont

Historical DuPont routinely uses foreign currency contracts to reduce its net exposure, by currency, related to foreign currency-denominated monetary assets and liabilities of its operations so that exchange gains and losses resulting from exchange rate changes are minimized. The netting of such exposures precludes the use of hedge accounting; however, the required revaluation of the forward contracts and the associated foreign currency-denominated monetary assets and liabilities intends to achieve a minimal earnings impact, after taxes. Historical DuPont also uses foreign currency exchange contracts to offset a portion of the exposure to certain foreign currency-denominated revenues so gains and losses on the contracts offset changes in the USD value of the related foreign currency-denominated revenues.

Commodity Contracts

Historical Dow and Historical DuPont utilize futures, options and swap instruments that are effective as economic hedges of commodity price exposures, but do not meet hedge accounting criteria for derivatives and hedging, to reduce exposure to commodity price fluctuations on purchases of raw materials and inventory.

Interest Rate Contracts

Historical Dow

Historical Dow uses swap instruments that are not designated as hedging instruments to manage the interest rate exposures, and uses interest rate swaps, "swaptions," and exchange-traded instruments to accomplish this objective.

Accounting for Derivative Instruments and Hedging Activities

Cash Flow Hedges

Historical Dow

For derivatives that are designated and qualify as cash flow hedging instruments, the gain or loss on the derivative is recorded in AOCL; it is reclassified to income in the same period or periods that the hedged transaction affects income. The unrealized amounts in AOCL fluctuate based on changes in the fair value of open contracts at the end of each reporting period. Historical Dow anticipates volatility in AOCL and net income from its cash flow hedges. The amount of volatility varies with the level of derivative activities and market conditions during any period.

The net gain from interest rate hedges included in AOCL at December 31, 2018 was \$23 million after tax (net loss of \$3 million after tax at December 31, 2017). These contracts have maturity dates that extend through 2022.

Historical Dow had open foreign currency contracts designated as cash flow hedges of the currency risk associated with forecasted transactions not extending beyond 2019. The portion of the mark-to-market effects of the foreign currency contracts is recorded in AOCL; it is reclassified to income in the same period or periods that the underlying item affects income. The net gain from the foreign currency hedges included in AOCL at December 31, 2018 , was \$15 million after tax (net loss of \$19 million after tax at December 31, 2017).

Commodity swaps, futures and option contracts with maturities of not more than 60 months are utilized and designated as cash flow hedges of forecasted commodity purchases. Current open contracts hedge forecasted transactions until December 2022. The designated portion of the mark-to-market effect of the cash flow hedge instrument is recorded in AOCL; it is reclassified to income in the same period or periods that the underlying commodity purchase affects income. The net loss from commodity hedges included in AOCL at December 31, 2018 was \$87 million after tax (net loss of \$73 million after tax at December 31, 2017).

Fair Value Hedges

Historical Dow

For interest rate swap instruments that are designated and qualify as fair value hedges, the gain or loss on the derivative as well as the offsetting loss or gain on the hedged item attributable to the hedged risk are recognized in current period income and reflected as "Interest expense and amortization of debt discount" in the consolidated statements of income. The short-cut method is used when the criteria are met. At December 31, 2018 and 2017 , Historical Dow had no open interest rate swaps designated as fair value hedges of underlying fixed rate debt obligations.

Net Foreign Investment Hedges

Historical Dow

For derivative instruments that are designated and qualify as net foreign investment hedges, the designated portion of the gain or loss on the derivative is included in "Cumulative translation adjustments" in AOCL. Historical Dow had outstanding foreign currency denominated debt designated as a hedge of net foreign investment of \$182 million at December 31, 2018 (\$177 million at December 31, 2017). The results of hedges of Dow's net investment in foreign operations included in "Cumulative translation adjustments" in AOCL was a net gain of \$113 million after tax for the year ended December 31, 2018 (net loss of \$76 million after tax for the year ended December 31, 2017).

Amounts to be Reclassified within the Next Twelve Months

The net after-tax amounts to be reclassified from AOCL to income within the next 12 months are a \$54 million loss for commodity contracts, a \$13 million gain for foreign currency contracts and a \$1 million gain for interest rate contracts.

The following tables provide the fair value and gross balance sheet classification of derivative instruments at December 31, 2018 and 2017 :

Fair Value of Derivative Instruments		Dec 31, 2018		
In millions	Balance Sheet Classification	Gross	Counterparty and Cash Collateral Netting ¹	Net Amounts Included in the Consolidated Balance Sheet
Asset derivatives:				
Derivatives designated as hedging instruments:				
Foreign currency contracts	Other current assets	\$ 98	\$ (42)	\$ 56
Commodity contracts	Other current assets	47	(13)	34
Commodity contracts	Deferred charges and other assets	18	(3)	15
Total		\$ 163	\$ (58)	\$ 105
Derivatives not designated as hedging instruments:				
Foreign currency contracts	Other current assets	\$ 200	\$ (99)	\$ 101
Commodity contracts	Other current assets	41	(1)	40
Commodity contracts	Deferred charges and other assets	4	(2)	2
Total		\$ 245	\$ (102)	\$ 143
Total asset derivatives		\$ 408	\$ (160)	\$ 248
Liability derivatives:				
Derivatives designated as hedging instruments:				
Interest rate swaps	Other noncurrent obligations	\$ 64	\$ —	\$ 64
Foreign currency contracts	Accrued and other current liabilities	46	(42)	4
Commodity contracts	Accrued and other current liabilities	111	(18)	93
Commodity contracts	Other noncurrent obligations	86	(9)	77
Total		\$ 307	\$ (69)	\$ 238
Derivatives not designated as hedging instruments:				
Foreign currency contracts	Accrued and other current liabilities	\$ 124	\$ (79)	\$ 45
Commodity contracts	Accrued and other current liabilities	7	(4)	3
Commodity contracts	Other noncurrent obligations	8	(3)	5
Total		\$ 139	\$ (86)	\$ 53
Total liability derivatives		\$ 446	\$ (155)	\$ 291

1. Counterparty and cash collateral amounts represent the estimated net settlement amount when applying netting and set-off rights included in master netting arrangements between Historical Dow and Historical DuPont and its counterparties and the payable or receivable for cash collateral held or placed with the same counterparty.

Fair Value of Derivative Instruments		Dec 31, 2017		
In millions	Balance Sheet Classification	Gross	Counterparty and Cash Collateral Netting ¹	Net Amounts Included in the Consolidated Balance Sheet
Asset derivatives:				
Derivatives designated as hedging instruments:				
Foreign currency contracts	Other current assets	\$ 51	\$ (46)	\$ 5
Commodity contracts	Other current assets	20	(4)	16
Commodity contracts	Deferred charges and other assets	70	(5)	65
Total		\$ 141	\$ (55)	\$ 86
Derivatives not designated as hedging instruments:				
Foreign currency contracts	Other current assets	\$ 121	\$ (95)	\$ 26
Commodity contracts	Other current assets	50	(5)	45
Commodity contracts	Deferred charges and other assets	7	(3)	4
Total		\$ 178	\$ (103)	\$ 75
Total asset derivatives		\$ 319	\$ (158)	\$ 161
Liability derivatives:				
Derivatives designated as hedging instruments:				
Interest rate swaps	Other noncurrent obligations	\$ 4	\$ —	\$ 4
Foreign currency contracts	Accrued and other current liabilities	109	(46)	63
Commodity contracts	Accrued and other current liabilities	96	(15)	81
Commodity contracts	Other noncurrent obligations	143	(12)	131
Total		\$ 352	\$ (73)	\$ 279
Derivatives not designated as hedging instruments:				
Foreign currency contracts	Accrued and other current liabilities	\$ 186	\$ (90)	\$ 96
Commodity contracts	Accrued and other current liabilities	45	(6)	39
Commodity contracts	Other noncurrent obligations	8	(3)	5
Total		\$ 239	\$ (99)	\$ 140
Total liability derivatives		\$ 591	\$ (172)	\$ 419

1. Counterparty and cash collateral amounts represent the estimated net settlement amount when applying netting and set-off rights included in master netting arrangements between Historical Dow and its counterparties and the payable or receivable for cash collateral held or placed with the same counterparty.

Assets and liabilities related to forward contracts, interest rate swaps, currency swaps, options and other conditional or exchange contracts executed with the same counterparty under a master netting arrangement are netted. Collateral accounts are netted with corresponding liabilities. The Company posted cash collateral of \$26 million at December 31, 2018 (\$26 million of cash collateral at December 31, 2017). Counterparties posted cash collateral of \$54 million with the Company at December 31, 2018 (zero at December 31, 2017).

Effect of Derivative Instruments	Amount of gain (loss) recognized in OCI ¹			Amount of gain (loss) recognized in income ²			Income Statement Classification
	2018	2017	2016	2018	2017	2016	
In millions							
Derivatives designated as hedging instruments:							
Fair value hedges:							
Interest rate swaps	\$ —	\$ —	\$ —	\$ —	\$ (2)	\$ —	Interest expense and amortization of debt discount ³
Cash flow hedges:							
Interest rate swaps	26	2	2	(3)	4	6	Interest expense and amortization of debt discount
Foreign currency contracts	19	(30)	8	(18)	7	(5)	Cost of sales
Foreign currency contracts	(3)	(5)	25	—	(17)	(13)	Sundry income (expense) - net
Commodity contracts	(69)	38	55	(63)	7	(28)	Cost of sales
Net investment hedges:							
Foreign currency contracts	116	(73)	5	—	—	—	
Total derivatives designated as hedging instruments	\$ 89	\$ (68)	\$ 95	\$ (84)	\$ (1)	\$ (40)	
Derivatives not designated as hedging instruments:							
Foreign currency contracts	\$ —	\$ —	\$ —	\$ 195	\$ (198)	\$ (180)	Sundry income (expense) - net
Commodity contracts	—	—	—	(7)	(9)	6	Cost of sales
Total derivatives not designated as hedging instruments	\$ —	\$ —	\$ —	\$ 188	\$ (207)	\$ (174)	
Total derivatives	\$ 89	\$ (68)	\$ 95	\$ 104	\$ (208)	\$ (214)	

1. OCI is defined as "Other comprehensive income (loss)."

2. Pretax amounts.

3. Gain (loss) recognized in income of derivatives is offset by gain (loss) recognized in income of the hedged item.

NOTE 22 - FAIR VALUE MEASUREMENTS
Fair Value Measurements on a Recurring Basis

The following table summarizes the bases used to measure certain assets and liabilities at fair value on a recurring basis:

Basis of Fair Value Measurements on a Recurring Basis In millions	Dec 31, 2018				Dec 31, 2017			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets at fair value:								
Cash equivalents ¹	\$ —	\$ 9,963	\$ —	\$ 9,963	\$ —	\$ 6,927	\$ —	\$ 6,927
Restricted cash equivalents ^{1, 2}	—	500	—	500	—	558	—	558
Marketable securities ³	—	134	—	134	—	956	—	956
Interests in trade accounts receivable conduits ⁴	—	—	—	—	—	—	677	677
Equity securities ⁵	16	—	—	16	88	52	—	140
Debt securities: ⁵								
Government debt ⁶	—	700	—	700	—	639	—	639
Corporate bonds	—	983	—	983	—	733	—	733
Derivatives relating to: ⁷								
Foreign currency	—	298	—	298	—	172	—	172
Commodities	17	93	—	110	47	100	—	147
Total assets at fair value	\$ 33	\$ 12,671	\$ —	\$ 12,704	\$ 135	\$ 10,137	\$ 677	\$ 10,949
Liabilities at fair value:								
Long-term debt including debt due within one year ⁸	\$ —	\$ 39,366	\$ —	\$ 39,366	\$ —	\$ 34,175	\$ —	\$ 34,175
Derivatives relating to: ⁷								
Interest rates	—	64	—	64	—	4	—	4
Foreign currency	—	170	—	170	—	295	—	295
Commodities	23	189	—	212	31	261	—	292
Total liabilities at fair value	\$ 23	\$ 39,789	\$ —	\$ 39,812	\$ 31	\$ 34,735	\$ —	\$ 34,766

1. Treasury bills, time deposits, and money market funds included in "Cash and cash equivalents" and money market funds included in "Other current assets" in the consolidated balance sheets are held at amortized cost, which approximates fair value.

2. Prior period amounts were updated to conform with the current year presentation.

3. Primarily time deposits with maturities of greater than three months at time of acquisition.

4. Included in "Accounts and notes receivable - Other" in the consolidated balance sheets. See Note 14 for additional information on transfers of financial assets.

5. The Company's investments in debt securities, which are primarily available-for-sale, and equity securities are included in "Other investments" in the consolidated balance sheets.

6. U.S. Treasury obligations, U.S. agency obligations, agency mortgage-backed securities and other municipalities' obligations.

7. See Note 21 for the classification of derivatives in the consolidated balance sheets.

8. See Note 21 for information on fair value measurements of long-term debt.

For assets and liabilities classified as Level 1 measurements (measured using quoted prices in active markets), total fair value is either the price of the most recent trade at the time of the market close or the official close price, as defined by the exchange on which the asset is most actively traded on the last trading day of the period, multiplied by the number of units held without consideration of transaction costs.

For assets and liabilities classified as Level 2 measurements, where the security is frequently traded in less active markets, fair value is based on the closing price at the end of the period; where the security is less frequently traded, fair value is based on the price a dealer would pay for the security or similar securities, adjusted for any terms specific to that asset or liability, or by using observable market data points of similar, more liquid securities to imply the price. For time deposits classified as held-to-maturity investments and reported at amortized cost, fair value is based on an observable interest rate for similar securities. Market inputs are obtained from well-established and recognized vendors of market data and subjected to tolerance and quality checks.

For derivative assets and liabilities, standard industry models are used to calculate the fair value of the various financial instruments based on significant observable market inputs, such as foreign exchange rates, commodity prices, swap rates, interest rates and implied volatilities obtained from various market sources. Market inputs are obtained from well-established and recognized vendors of market data and subjected to tolerance/quality checks.

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For all other assets and liabilities for which observable inputs are used, fair value is derived through the use of fair value models, such as a discounted cash flow model or other standard pricing models. See Note 21 for further information on the types of instruments used by the Company for risk management.

There were no transfers between Levels 1 and 2 during the years ended December 31, 2018 and 2017.

For assets classified as Level 3 measurements, the fair value is based on significant unobservable inputs including assumptions where there is little, if any, market activity. The fair value of the Company's interests held in trade accounts receivable conduits is determined by calculating the expected amount of cash to be received using the key input of anticipated credit losses in the portfolio of receivables sold that have not yet been collected. Given the short-term nature of the underlying receivables, discount rate and prepayments are not factors in determining the fair value of the interests. See Note 14 for further information on assets classified as Level 3 measurements.

For equity securities calculated at net asset value per share (or its equivalent), the Company had \$120 million in private market securities and \$29 million in real estate at December 31, 2018. There are no redemption restrictions and the underfunded commitments on these investments were \$89 million at December 31, 2018.

The following table summarizes the changes in fair value measurements using Level 3 inputs for the years ended December 31, 2018 and 2017:

Fair Value Measurements Using Level 3 Inputs for Interests Held in Trade Accounts Receivable Conduits ¹		
In millions	2018	2017
Balance at Jan 1	\$ 677	\$ 1,237
Gain (loss) included in earnings ²	3	(8)
Purchases ³	—	8,910
Settlements ^{3, 4}	(680)	(9,462)
Balance at Dec 31	\$ —	\$ 677

1. Included in "Accounts and notes receivable - Other" in the consolidated balance sheets.

2. Included in "Selling, general and administrative expenses" in the consolidated statements of income.

3. Presented in accordance with ASU 2016-15. See Notes 1 and 2 for additional information. In connection with the review and implementation of ASU 2016-15, the Company also changed the prior year value of "Purchases" and "Settlements" due to additional interpretive guidance of the required method for calculating the cash received from beneficial interests in the conduits, including additional guidance from the SEC's Office of the Chief Accountant issued in the third quarter of 2018 that indicated an entity must evaluate daily transaction activity to calculate the value of cash received from beneficial interests in conduits.

4. Includes noncash transactions of \$23 million for the year ended December 31, 2018.

Fair Value Measurements on a Nonrecurring Basis

The following table summarizes the bases used to measure certain assets at fair value on a nonrecurring basis in the consolidated balance sheets in 2018, 2017 and 2016:

Basis of Fair Value Measurements on a Nonrecurring Basis at Dec 31			
In millions	(Level 1)	(Level 3)	Total Losses
2018			
Assets at fair value:			
Long-lived assets, intangible assets and equity method investments	\$ —	\$ 518	\$ (387)
2017			
Assets at fair value:			
Long-lived assets, intangible assets, other assets and equity method investments	\$ —	\$ 61	\$ (1,226)
Goodwill	\$ —	\$ —	\$ (1,491)
2016			
Assets at fair value:			
Long-lived assets, other assets and equity method investments	\$ 46	\$ —	\$ (296)

2018 Fair Value Measurements on a Nonrecurring Basis

As part of the Synergy Program, the Company has or will shut down a number of manufacturing, R&D and corporate facilities around the world. In 2018, the write-down of inventory, corporate facilities and all but one manufacturing facility and related assets, were written down to zero. The remaining manufacturing facility, which was classified as a Level 3 measurement, was written down to a fair value of \$17 million using unobservable inputs, including assumptions a market participant would use to measure the fair value of the group of assets, which included a third party appraisal. The impairment charges related to the Synergy Program, totaling \$227 million, were included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income. See Note 6 for additional information on the Company's restructuring activities.

In 2018, the Company recognized an additional pretax impairment charge of \$34 million related primarily to capital additions made to the biopolymers manufacturing facility in Santa Vitoria, Minas Gerais, Brazil, that was impaired in 2017. The assets were written down to zero in 2018. The impairment charge was included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income. See Note 6 for additional information on the Company's restructuring activities.

As discussed in Notes 6 and 13, the Company recorded impairments, classified as Level 3 measurements, on certain indefinite-lived intangible assets and equity method investments in joint ventures for the year ended December 31, 2018. The fair value of the indefinite-lived intangible assets that were tested for impairment was \$450 million, after an impairment loss of \$85 million. The fair value of the equity method investment in joint ventures was \$51 million, after an impairment loss of \$41 million. These impairment charges were recorded in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income.

2017 Fair Value Measurements on a Nonrecurring Basis

As part of the Synergy Program, the Company has or will shut down a number of manufacturing, R&D and corporate facilities around the world. The manufacturing facilities and related assets (including intangible assets), corporate facilities and data centers associated with this plan were written down to zero in the fourth quarter of 2017. The impairment charges related to the Synergy Program, totaling \$287 million, were included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income. See Note 6 for additional information on the Company's restructuring activities.

In the fourth quarter of 2017, the Company recognized a \$622 million pretax impairment charge related to a biopolymers manufacturing facility in Santa Vitoria, Minas Gerais, Brazil. The Company determined it would not pursue an expansion of the facility's ethanol mill into downstream derivative products, primarily as a result of cheaper ethane-based production as well as the Company's new assets coming online on the U.S. Gulf Coast which can be used to meet growing market demands in Brazil. As a result of this decision, cash flow analysis indicated the carrying amount of the impacted assets was not recoverable and the assets were written down to zero in the fourth quarter of 2017. The impairment charge was included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income. See Notes 6 and 23 for additional information.

The Company also recognized other pretax impairment charges of \$317 million in the fourth quarter of 2017, including charges related to manufacturing assets of \$230 million, an equity method investment of \$81 million and other assets of \$6 million. The assets, classified as Level 3 measurements, were valued at \$61 million using unobservable inputs, including assumptions a market participant would use to measure the fair value of the group of assets, which included projected cash flows. The impairment charges were included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income. See Notes 6 and 23 for additional information.

In the fourth quarter of 2017, the Company performed its annual goodwill impairment testing utilizing a discounted cash flow methodology as its valuation technique. As a result, the Company determined the fair value of the Coatings & Performance Monomers reporting unit was lower than its carrying amount and recorded an impairment charge of \$1,491 million, included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income and related to Performance Materials & Coatings. See Note 13 for additional information on the impairment charge.

2016 Fair Value Measurements on a Nonrecurring Basis

As part of the 2016 restructuring plan, Historical Dow has or will shut down a number of manufacturing and corporate facilities. The manufacturing facilities and related assets, corporate facilities and data centers associated with this plan were written down to zero in the second quarter of 2016. Historical Dow also rationalized its aircraft fleet in the second quarter of 2016. Certain aircraft, classified as a Level 3 measurement, were considered held for sale and written down to fair value, using unobservable inputs, including assumptions a market participant would use to measure the fair value of the aircraft. The aircraft were subsequently sold during the second half of 2016. The impairment charges related to the 2016 restructuring plan, totaling \$153 million, were included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income. See Note 6 for additional information on Dow's 2016 restructuring program.

Historical Dow recognized an impairment charge of \$143 million in the fourth quarter of 2016, related to its equity interest in AFSI. This investment, classified as a Level 1 measurement, was written down to \$46 million using quoted prices in an active market. The impairment charge was included in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income. See Notes 6 and 12 for additional information.

NOTE 23 - VARIABLE INTEREST ENTITIES

Historical DuPont did not hold a variable interest in any joint ventures at December 31, 2018 and 2017 for which it was the primary beneficiary. In addition, the maximum exposure to loss related to the nonconsolidated variable interest entities ("VIEs") for which Historical DuPont did hold a variable interest at December 31, 2018 and 2017 was not considered material to the consolidated financial statements. The following discussion addresses variable interests held by Historical Dow.

Historical Dow Consolidated VIEs

Historical Dow holds a variable interest in the following joint ventures or entities for which it is the primary beneficiary.

Asia Pacific joint ventures

Historical Dow has variable interests in three joint ventures that own and operate manufacturing and logistics facilities, which produce chemicals and provide services in Asia Pacific. Historical Dow's variable interests in these joint ventures relate to arrangements between the joint ventures and Historical Dow, involving the majority of the output on take-or-pay terms with pricing ensuring a guaranteed return to the joint ventures.

Polishing materials joint venture

Historical Dow has variable interests in a joint venture that manufactures products in Japan for the semiconductor industry. Each joint venture partner holds several equivalent variable interests, with the exception of a royalty agreement held exclusively between the joint venture and Historical Dow. In addition, the entire output of the joint venture is sold to Historical Dow for resale to third-party customers.

Ethylene storage joint venture

Historical Dow has variable interests in a joint venture that provides ethylene storage in Alberta, Canada. Historical Dow's variable interests relate to arrangements involving a majority of the joint venture's storage capacity on take-or-pay terms with pricing ensuring a guaranteed return to the joint venture; and favorably priced leases provided to the joint venture. Historical Dow provides the joint venture with operation and maintenance services and utilities.

Ethanol production and cogeneration in Brazil

Historical Dow held a variable interest in a joint venture located in Brazil that produces ethanol from sugarcane. In August 2015, the partner exercised an equity option which required Historical Dow to purchase their equity interest. On March 31, 2016, the partner's equity investment transferred to Historical Dow. On July 11, 2016, Historical Dow paid \$202 million to the former partner, which was classified as "Purchases of noncontrolling interests" in the consolidated statements of cash flows. This former joint venture is now 100 percent owned by Historical Dow. Historical Dow continues to hold variable interests in a related entity that owns a cogeneration facility. Historical Dow's variable interests are the result of a tolling arrangement where it provides fuel to the entity and purchases a majority of the cogeneration facility's output on terms that ensure a return to the entity's equity holders.

Assets and Liabilities of Consolidated VIEs

The Company's consolidated financial statements include the assets, liabilities and results of operations of VIEs for which the Company is the primary beneficiary. The other equity holders' interests are reflected in "Net income attributable to noncontrolling interests" in the consolidated statements of income and "Noncontrolling interests" in the consolidated balance sheets.

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The following table summarizes the carrying amounts of these entities' assets and liabilities included in the Company's consolidated balance sheets at December 31, 2018 and 2017 :

Assets and Liabilities of Consolidated VIEs at Dec 31		
In millions	2018	2017
Cash and cash equivalents	\$ 82	\$ 107
Other current assets	114	131
Net property	734	907
Other noncurrent assets	45	50
Total assets ¹	\$ 975	\$ 1,195
Current liabilities	\$ 334	\$ 303
Long-term debt	75	249
Other noncurrent obligations	31	41
Total liabilities ²	\$ 440	\$ 593

1. All assets were restricted at December 31, 2018 and 2017.

2. All liabilities were nonrecourse at December 31, 2018 and 2017.

In addition, Historical Dow holds a variable interest in an entity created to monetize accounts receivable of select European entities. Historical Dow is the primary beneficiary of this entity as a result of holding subordinated notes while maintaining servicing responsibilities for the accounts receivable. The carrying amounts of assets and liabilities included in the Company's consolidated balance sheets pertaining to this entity were current assets of zero (zero restricted) at December 31, 2018 (\$671 million , zero restricted, at December 31, 2017) and current liabilities of zero (zero nonrecourse) at December 31, 2018 (less than \$1 million , zero nonrecourse, at December 31, 2017).

Amounts presented in the consolidated balance sheets and the table above as restricted assets or nonrecourse obligations relating to consolidated VIEs at December 31, 2018 and 2017 are adjusted for intercompany eliminations and parental guarantees.

Historical Dow Nonconsolidated VIEs

Historical Dow holds a variable interest in the following entities for which Historical Dow is not the primary beneficiary.

Polysilicon joint venture

As a result of the Dow Silicones ownership restructure, Historical Dow holds variable interests in Hemlock Semiconductor L.L.C. The variable interests relate to an equity interest held by Historical Dow and arrangements between Historical Dow and the joint venture to provide services. Historical Dow is not the primary beneficiary, as it does not direct the activities that most significantly impact the economic performance of this entity; therefore, the entity is accounted for under the equity method of accounting. At December 31, 2018 , the Company had a negative investment basis of \$495 million in this joint venture (negative \$752 million at December 31, 2017), classified as "Other noncurrent obligations" in the consolidated balance sheets. The Company's maximum exposure to loss was zero at December 31, 2018 (zero at December 31, 2017). See Note 12 for additional information on this joint venture.

Silicon joint ventures

Also as a result of the Dow Silicones ownership restructure, Historical Dow holds minority voting interests in certain joint ventures that produce silicon inputs for Dow Silicones. These joint ventures operate under supply agreements that sell inventory to the equity owners using pricing mechanisms that guarantee a return, therefore shielding the joint ventures from the obligation to absorb expected losses. As a result of the pricing mechanisms of these agreements, these entities are determined to be VIEs. Historical Dow is not the primary beneficiary, as it does not hold the power to direct the activities that most significantly impact the economic performance of these entities; therefore, the entities are accounted for under the equity method of accounting. The Company's maximum exposure to loss as a result of its involvement with these variable interest entities is determined to be the carrying value of the investment in these entities. At December 31, 2018 , the Company's investment in these joint ventures was \$100 million (\$103 million at December 31, 2017), classified as "Investment in nonconsolidated affiliates" in the consolidated balance sheets, representing the Company's maximum exposure to loss.

AFSI

Historical Dow holds a variable interest in AFSI, a company that produces and sells proprietary technologies for the horticultural market. The variable interest in AFSI relates to a tax receivable agreement that entitles Historical Dow to additional consideration in the form of tax savings, which is contingent on the operations and earnings of AFSI. Historical Dow is not the primary beneficiary, as it is a minority shareholder in AFSI and AFSI is governed by a board of directors, the composition of which is mandated by AFSI's corporate governance requirements that a majority of the directors be independent.

On April 4, 2017, Historical Dow entered into a stock purchase agreement to purchase up to 5,070,358 shares of AFSI's common stock, which represented approximately 10 percent of AFSI's common stock outstanding at signing of the agreement, subject to certain terms and conditions. On November 19, 2018, the stock purchase agreement concluded. The Company's investment in AFSI was \$48 million at December 31, 2018 (\$51 million at December 31, 2017), classified as "Investment in nonconsolidated affiliates" in the consolidated balance sheets. In the fourth quarter of 2016, as a result of a decline in the market value of AFSI, Historical Dow recognized a \$143 million pretax impairment charge related to its equity interest in AFSI, recorded in "Restructuring, goodwill impairment and asset related charges - net" in the consolidated statements of income (see Notes 12 and 22 for further information).

At December 31, 2018, the Company's receivable with AFSI related to the tax receivable agreement was \$8 million (\$4 million at December 31, 2017), classified as "Accounts and notes receivable - Other" in the consolidated balance sheets. The Company's maximum exposure to loss was \$56 million at December 31, 2018 (\$55 million at December 31, 2017).

Crude acrylic acid joint venture

Historical Dow held a variable interest in a joint venture that manufactured crude acrylic acid in the United States and Germany on behalf of Historical Dow and the other joint venture partner. The variable interest related to a cost-plus arrangement between the joint venture and each joint venture partner. Historical Dow was not the primary beneficiary, as a majority of the joint venture's output was committed to the other joint venture partner; therefore, the entity was accounted for under the equity method of accounting.

In the fourth quarter of 2017, the joint venture was dissolved by mutual agreement with return of the originally contributed assets to the partners. The carrying value of Historical Dow's investment prior to the dissolution was \$168 million, which was also determined to be fair value, therefore, no gain or loss was recognized as a result of the transaction. The fair value of assets recognized included \$47 million of cash, \$67 million of other assets and \$48 million of goodwill (net of \$6 million settlement of an affiliate's pre-existing obligation).

NOTE 24 - SEGMENTS AND GEOGRAPHIC REGIONS

Effective August 31, 2017, Historical Dow and Historical DuPont completed the previously announced merger of equals transaction pursuant to the Merger Agreement, resulting in a newly formed corporation named DowDuPont. See Note 3 for additional information on the Merger. As a result of the Merger, new operating segments were created which are used by management to allocate Company resources and assess performance. The new segments are aligned with the market verticals they serve, while maintaining integration and innovation strengths within strategic value chains. DowDuPont is comprised of nine operating segments, which are aggregated into eight reportable segments: Agriculture; Performance Materials & Coatings; Industrial Intermediates & Infrastructure; Packaging & Specialty Plastics; Electronics & Imaging; Nutrition & Biosciences; Transportation & Advanced Polymers and Safety & Construction. Corporate contains the reconciliation between the totals for the reportable segments and the Company's totals. The Company's Nutrition & Biosciences reportable segment consists of two operating segments, Nutrition & Health and Industrial Biosciences, which individually did not meet the quantitative thresholds.

Beginning in the third quarter of 2018, DowDuPont realigned the following joint ventures, global businesses and product lines in preparation for the Intended Business Separations:

- Realignment of the HSC Group joint ventures (DC HSC Holdings LLC and Hemlock Semiconductor L.L.C.) from the Consumer Solutions global business in the Performance Materials & Coatings reportable segment to the Electronics & Imaging reportable segment.
- Realignment of certain cellulose product lines from the Nutrition & Health operating segment in the Nutrition & Biosciences reportable segment to the Consumer Solutions global business in the Performance Materials & Coatings reportable segment.
- Certain roofing products were realigned from the Building Solutions product line in the Safety & Construction reportable segment to Corporate.

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- Realignment of the previously divested Epoxy and Chlorinated Organics global businesses from the Industrial Intermediates & Infrastructure reportable segment to Corporate.
- In addition, the following realignments within the Industrial Intermediates & Infrastructure reportable segment were made, which had no effect on the segment results:
 - The Construction Chemicals global business was combined with the Polyurethanes & CAV global business.
 - Certain product lines associated with the oil and gas industry were realigned from the Industrial Solutions global business to the Polyurethanes & CAV global business.

DowDuPont reported geographic information for the following regions: U.S. & Canada, Asia Pacific, Latin America, and Europe, Middle East, and Africa ("EMEA"). As a result of the Merger, Historical Dow changed the geographic alignment for the country of India to be reflected in Asia Pacific (previously reported in EMEA) and aligned Puerto Rico to U.S. & Canada (previously reported in Latin America).

The segment and geographic region reporting changes were retrospectively applied to all periods presented.

The Company's measure of profit/loss for segment reporting purposes is Operating EBITDA (for the twelve months ended December 31, 2018) and pro forma Operating EBITDA (for the twelve months ended December 31, 2017 and 2016) as this is the manner in which the Company's chief operating decision maker ("CODM") assesses performance and allocates resources. The Company defines Operating EBITDA as earnings (i.e., "Income from continuing operations before income taxes") before interest, depreciation, amortization and foreign exchange gains (losses), excluding the impact of significant items. Pro forma Operating EBITDA is defined as pro forma earnings (i.e. pro forma "Income from continuing operations before income taxes") before interest, depreciation, amortization and foreign exchange gains (losses), excluding the impact of adjusted significant items. Reconciliations of these measures are provided at the end of this footnote. The Company also presents pro forma net sales for 2017 and 2016 in this footnote as it is included in management's measure of segment performance and is regularly reviewed by the CODM.

Pro forma adjustments used in the calculation of pro forma net sales and pro forma Operating EBITDA were determined in accordance with Article 11 of Regulation S-X. Pro forma financial information is based on the historical consolidated financial statements of Historical Dow and Historical DuPont, adjusted to give effect to the Merger as if it had been consummated on January 1, 2016. Pro forma adjustments have been made for (1) the purchase accounting impact, (2) accounting policy alignment, (3) the elimination of the effect of events that are directly attributable to the Merger Agreement (e.g., one-time transaction costs), (4) the elimination of the impact of transactions between Historical Dow and Historical DuPont, and (5) the elimination of the effect of consummated divestitures required as a condition of regulatory approval for the Merger. Events that are not expected to have a continuing impact on the combined results (e.g., inventory step-up costs) are excluded from the pro forma adjustments.

Corporate Profile

The Company conducts its worldwide operations through global businesses which are reflected in the following reportable segments:

AGRICULTURE

The Agriculture segment leverages the Company's technology, customer relationships and industry knowledge to improve the quantity, quality and safety of the global food supply and the global agriculture industry. Land available for worldwide agricultural production is increasingly limited so production growth will need to be achieved principally through improving crop yields and productivity. The segment's two global businesses, Seed and Crop Protection, deliver a broad portfolio of products and services that are specifically targeted to achieve gains in crop yields and productivity, including well-established brands of seed products, crop chemicals, seed treatment, agronomy and digital services. R&D focuses on leveraging germplasm and plant science technology to increase farmer productivity and to enhance the value of grains and oilseeds through improved seed traits, superior seed germplasm and effective use of crop protection solutions.

Seed

Seed is a global leader in developing and supplying advanced plant genetic products and technologies. The Seed business is a global leader in developing, producing and marketing hybrid corn seed and soybean seed varieties, primarily under the Pioneer[®] brand name, which improve the productivity and profitability of its customers. Additionally, the Seed business develops, produces and markets sunflowers, wheat, alfalfa, canola, cotton, rice and sorghum, as well as silage inoculants.

Crop Protection

Crop Protection serves the global agriculture industry with crop protection products for field crops such as wheat, corn, soybean, sunflower, canola/oilseed rape and rice, and specialty crops such as fruit, nut, vine, sugarcane, coffee and vegetables. Principle crop protection products are weed control, disease control and insect control offerings for foliar or soil application or as a seed treatment.

PERFORMANCE MATERIALS & COATINGS

Performance Materials & Coatings includes industry-leading franchises that deliver a wide array of solutions into consumer and infrastructure end-markets. The segment consists of two global businesses: Coatings & Performance Monomers and Consumer Solutions. These businesses primarily utilize the Company's acrylics-, cellulose- and silicone-based technology platforms to serve the needs of the architectural and industrial coatings, home care and personal care end-markets. Both businesses employ materials science capabilities, global reach and unique products and technology to combine chemistry platforms to deliver differentiated offerings to customers.

Coatings & Performance Monomers

Coatings & Performance Monomers consists of two businesses: Coating Materials and Performance Monomers. The Coating Materials business makes critical ingredients and additives that help advance the performance of paints and coatings. The business offers innovative and sustainable products to accelerate paint and coatings performance across diverse market segments, including architectural paints and coatings, as well as industrial coatings applications used in maintenance and protective industries, wood, metal packaging, traffic markings, thermal paper and leather. These products enhance coatings by improving hiding and coverage characteristics, enhancing durability against nature and the elements, reducing volatile organic compounds ("VOC") content, reducing maintenance and improving ease of application. The Performance Monomers business manufactures critical building blocks based on acrylics needed for the production of coatings, textiles, and home and personal care products.

Consumer Solutions

Consumer Solutions consists of three businesses: Performance Silicones; Silicone Feedstocks & Intermediates; and Home & Personal Care. Performance Silicones uses innovative, versatile silicone-based technology to provide ingredients and solutions to customers in high performance building, consumer goods, elastomeric applications and the pressure sensitive adhesives industry that help them meet modern consumer preferences in attributes such as texture, feel, scent, durability and consistency. The Company's wide array of silicone-based products and solutions enables customers to: increase the appeal of their products; extend shelf life; improve performance of products under a wider range of conditions; and provide a more sustainable offering. Silicone Feedstocks & Intermediates provides standalone silicone materials that are used as intermediates in a wide range of applications including adhesion promoters, coupling agents, crosslinking agents, dispersing agents and surface modifiers. The Home & Personal Care business collaborates closely with global and regional brand owners to deliver innovative solutions for creating new and unrivaled consumer benefits and experiences in cleaning, laundry and skin and hair care applications, among others.

INDUSTRIAL INTERMEDIATES & INFRASTRUCTURE

Industrial Intermediates & Infrastructure consists of two customer-centric global businesses - Industrial Solutions and Polyurethanes & CAV - that develop important intermediate chemicals that are essential to manufacturing processes, as well as downstream, customized materials and formulations that use advanced development technologies. These businesses primarily produce and market ethylene oxide, propylene oxide derivatives, cellulose ethers, redispersible latex powders and acrylic emulsions that are aligned to market segments as diverse as appliances, coatings, infrastructure, oil and gas, and building and construction. The global scale and reach of these businesses, world-class technology and R&D capabilities and materials science expertise enable the Company to be a premier solutions provider offering customers value-add sustainable solutions to enhance comfort, energy efficiency, product effectiveness and durability across a wide range of home comfort and appliances, building and construction, adhesives and lubricant applications, among others.

Industrial Solutions

Industrial Solutions is the world's largest producer of purified ethylene oxide. It provides a broad portfolio of solutions that address world needs by enabling and improving the manufacture of consumer and industrial goods and services. The business' solutions minimize friction and heat in mechanical processes, manage the oil and water interface, deliver ingredients for maximum effectiveness, facilitate dissolvability, enable product identification and provide the foundational building blocks for the development of chemical technologies. The business supports manufacturers associated with a large variety of end-markets, notably better crop protection offerings in agriculture, coatings, detergents and cleaners, solvents for electronics processing, inks and textiles.

Polyurethanes & CAV

Polyurethanes & CAV consists of three businesses: Polyurethanes, Chlor-Alkali & Vinyl ("CAV"), and Construction Chemicals ("DCC"). The Polyurethanes business is the world's largest producer of propylene oxide, propylene glycol and polyether polyols, and a leading producer of aromatic isocyanates and fully formulated polyurethane systems for rigid, semi-rigid and flexible foams, and coatings, adhesives, sealants, elastomers and composites that serve energy efficiency, consumer comfort, industrial and enhanced mobility market sectors. The CAV business provides cost advantaged chlorine and caustic soda supply and markets caustic soda, a valuable co-product of the chlor-alkali manufacturing process, and ethylene dichloride and vinyl chloride monomer. The DCC business provides cellulose ethers, redispersible latex powders, silicones and acrylic emulsions used as key building blocks for differentiated building and construction materials across many market segments and applications ranging from roofing and flooring to gypsum-, cement-, concrete- or dispersion-based building materials.

Joint Ventures

The Industrial Intermediates & Infrastructure segment includes a portion of the Company's share of the results of the following joint ventures:

- EQUATE Petrochemical Company K.S.C.C. ("EQUATE") - a Kuwait-based company that manufactures ethylene, polyethylene and ethylene glycol, and manufactures and markets monoethylene glycol, diethylene glycol and polyethylene terephthalate resins; owned 42.5 percent by the Company.
- The Kuwait Olefins Company K.S.C.C. ("TKOC") - a Kuwait-based company that manufactures ethylene and ethylene glycol; owned 42.5 percent by the Company.
- Map Ta Phut Olefins Company Limited ("Map Ta Phut") - a Thailand-based company that manufactures propylene and ethylene; the Company has an effective ownership of 32.77 percent (of which 20.27 percent is owned directly by the Company and aligned with the Industrial Intermediates & Infrastructure segment and 12.5 percent is owned indirectly through the Company's equity interest in Siam Polyethylene Company Limited, an entity that is part of The SCG-Dow Group and aligned with the Packaging & Specialty Plastics segment).
- Sadara Chemical Company ("Sadara") - a Saudi Arabian company that manufactures chlorine, ethylene, propylene and aromatics for internal consumption and manufactures and sells polyethylene, ethylene oxide and propylene oxide derivative products, and isocyanates; owned 35 percent by the Company.

PACKAGING & SPECIALTY PLASTICS

Packaging & Specialty Plastics is a world leader in plastics and consists of two highly integrated global businesses: Hydrocarbons & Energy and Packaging and Specialty Plastics. The segment employs the industry's broadest polyolefin product portfolio, supported by the Company's proprietary catalyst and manufacturing process technologies, to work at the customer's design table throughout the value chain to deliver more reliable and durable, higher performing, and more sustainable plastics to customers in food and specialty packaging; industrial and consumer packaging; health and hygiene; caps, closures and pipe applications; consumer durables; and infrastructure.

The Company's unique advantages compared with its competitors include: the Company's extensive low-cost feedstock positions around the world; unparalleled scale, footprint, and market reach, with world-class manufacturing sites in every geography; deep customer and brand owner understanding; and market-driven application development and technical support.

The segment remains agile and adaptive by participating in the entire ethylene-to-polyethylene chain integration, enabling the Company to manage market swings, and therefore optimize returns while reducing long-term earnings volatility. The Company's unrivaled value chain ownership, combined with its Pack Studio locations in every geography, which help customers and brand owners deliver faster and more efficient packaging product commercialization through a global network of laboratories, technical experts and testing equipment, together differentiate the Company from its competitors.

Hydrocarbons & Energy

Hydrocarbons & Energy is the largest global producer of ethylene, an internal feedstock that is consumed primarily within the Packaging & Specialty Plastics segment. In addition to ethylene, the business is a leading producer of propylene and aromatics products that are used to manufacture materials that consumers use every day. The business also produces and procures the power and feedstocks used by the company's manufacturing sites.

Packaging and Specialty Plastics

Packaging and Specialty Plastics serves growing, high-value sectors using world-class technology, broad existing product lines, and a rich product pipeline that creates competitive advantages for the entire packaging value chain. The business is also a leader in polyolefin elastomers and ethylene propylene diene monomer ("EPDM") rubber serving automotive, consumer, wire and cable and construction markets. Market growth is expected to be driven by major shifts in population demographics; improving socioeconomic status in emerging geographies; consumer and brand owner demand for increased functionality; global efforts to

reduce food waste; growth in telecommunications networks; global development of electrical transmission and distribution infrastructure; and renewable energy applications.

Joint Ventures

This segment also includes the results of the following joint ventures of the Company, as well as a portion of the results of EQUATE, TKOC, Map Ta Phut and Sadara:

- The Kuwait Styrene Company K.S.C.C. ("TKSC") - a Kuwait-based company that manufactures styrene monomer; owned 42.5 percent by the Company.
- The SCG-Dow Group - a group of Thailand-based companies (consisting of Siam Polyethylene Company Limited; Siam Polystyrene Company Limited; Siam Styrene Monomer Co., Ltd.; and Siam Synthetic Latex Company Limited) that manufacture polyethylene, polystyrene, styrene, latex and specialty elastomers; owned 50 percent by the Company.

ELECTRONICS & IMAGING

Electronics & Imaging is a leading global supplier of differentiated materials and systems for a broad range of consumer electronics including mobile devices, television monitors, personal computers and electronics used in a variety of industries. The segment is a leading supplier of key materials for the manufacturing of photovoltaics ("PV") and solar cells, and of materials and printing systems to the advanced printing industry, and of materials and solutions for the fabrication of semiconductors and integrated circuits addressing both front-end and back-end of the manufacturing process. By providing chemical mechanical planarization ("CMP") pads and slurries, photoresists and advanced coatings for lithography, removers and cleaners, dielectric and metallization solutions for back-end-of-line advanced chip packaging, along with silicones for light emitting diode ("LED") packaging and semiconductor applications, the segment offers the broadest portfolio of semiconductor and advanced packaging materials in the market. Electronics & Imaging also provides permanent and process chemistries for the fabrication of printed circuit boards to include laminates and substrates, electroless and electrolytic metallization solutions, as well as patterning solutions and materials and innovative metallization processes for metal finishing, decorative, and industrial applications. Electronics & Imaging is a leading global supplier of innovative metallization pastes and back sheet materials for the production of solar cells and solar modules for the PV industry (solar modules, which are made up of solar cells and other materials, are installed to generate power) and in the packaging graphics industry providing flexographic printing inks, photopolymer plates, and platemaking systems used in digital printing applications for textile, commercial and home-office use. In addition, the segment provides cutting-edge materials for the manufacturing of rigid and flexible displays for liquid crystal displays ("LCD"), advanced-matrix organic light emitting diode ("AMOLED"), and quantum dot ("QD") applications. Electronics & Imaging addresses all of these markets by leveraging a strong science and technology base to provide the critical materials and solutions for creating a more connected and digital world.

Joint Ventures

Electronics & Imaging includes the Company's share of the results of the HSC Group, a U.S.-based group of companies that manufacture and sell polycrystalline silicon products.

NUTRITION & BIOSCIENCES

Nutrition & Biosciences is an innovation-driven and customer-focused segment that provides solutions for the global food and beverage, dietary supplements, pharma, home and personal care, energy and animal nutrition markets. It consists of two operating segments: Nutrition & Health and Industrial Biosciences.

Nutrition & Health

The Nutrition & Health business is one of the world's largest producers of specialty ingredients, developing and manufacturing solutions for the global food and beverage, dietary supplements and pharmaceutical markets. Its innovative and broad portfolio of natural-based ingredients marketed under the DuPont DANISCO® brand serves to improve health and nutrition as well as taste and texture in a wide range of dairy, beverage, bakery and dietary supplement applications. Its probiotics portfolio, including the HOWARU® brand, is world famous for its extensively documented strains that deliver consumers benefits in digestive and immune health. In addition to serving the global food and beverage market, the Nutrition & Health business is one of the world's largest producers of cellulose- and alginates-based pharma excipients, used to improve the functionality and delivery of pharmaceuticals, and enabling the development of more effective pharma solutions.

Industrial Biosciences

The Industrial Biosciences business is an industry pioneer and innovator that works with customers to improve the performance, productivity and sustainability of their products and processes through biotechnology, chemistry and engineering solutions including enzymes, biomaterials, biocides and antimicrobial solutions and process technology. Industrial Biosciences offers better, cleaner and safer solutions to a wide range of industries including animal nutrition, biofuels, textiles, food and beverages, cleaning, personal care, fertilizers, and oil and gas.

TRANSPORTATION & ADVANCED POLYMERS

Transportation & Advanced Polymers provides high-performance engineering resins, adhesives, lubricants and parts to engineers and designers in the transportation, electronics, healthcare, industrial and consumer end-markets to enable systems solutions for demanding applications and environments.

The segment delivers a broad range of polymer-based high-performance materials in its product portfolio, including elastomers and thermoplastic and thermoset engineering polymers which are used by customers to fabricate components for mechanical, chemical and electrical systems. In addition, the segment produces innovative engineering polymer solutions, high performance parts, specialty silicones and differentiated adhesive technologies to meet customer specifications in automotive, aerospace, electronics, industrial, healthcare and consumer markets. Transportation & Advanced Polymers is a global leader of advanced materials that provides technologies that differentiate customers' products with improved performance characteristics.

SAFETY & CONSTRUCTION

Safety & Construction is the global leader in providing innovative engineered products and integrated systems for a number of industries including construction, worker safety, energy, oil and gas, transportation, medical devices and water purification and separation. Safety & Construction addresses the growing global needs of businesses, governments and consumers for solutions that make life safer, healthier and better.

Innovation is the business imperative. By uniting market-driven science with the strength of highly regarded brands including DUPONT™ KEVLAR® high-strength material, NOMEX® thermal-resistant material, CORIAN® solid surfaces, TYVEK® selective barriers, DOW FILMTEC™ reverse osmosis elements, DOW STYROFOAM™ insulation and DOW GREAT STUFF™ do-it-yourself products, the segment strives to bring new products and solutions to solve customers' needs faster, better and more cost effectively. Safety & Construction is investing in future growth initiatives such as the protection of perishable and temperature-sensitive foods and pharmaceutical products, new roofing products, flame resistant cargo containers, protective clothing with much higher levels of arc protection for utilities, more comfortable and higher particulate protection hoods for firefighters and high recovery reverse osmosis elements. Through the sustainable solutions services, the segment is a leader in safety consulting, selling training products as well as consulting services, to improve the safety, productivity and sustainability of organizations across a range of industries.

CORPORATE

Corporate includes certain enterprise and governance activities (including insurance operations, environmental operations, geographic management, etc.); business incubation platforms; non-business aligned joint ventures; gains and losses on the sales of financial assets; non-business aligned litigation expenses; discontinued or non-aligned businesses and pre-commercial activities.

Product transfers to Agriculture from other operating segments are generally valued at market-based prices. Other transfers of products between operating segments are generally valued at cost.

Sales are attributed to geographic regions based on customer location; long-lived assets are attributed to geographic regions based on asset location.

Geographic Region Information				
In millions	<i>United States</i>	<i>EMEA</i>	<i>Rest of World</i>	<i>Total</i>
2018				
Sales to external customers	\$ 29,736	\$ 24,371	\$ 31,870	\$ 85,977
Long-lived assets	\$ 23,264	\$ 6,495	\$ 6,089	\$ 35,848
2017				
Sales to external customers	\$ 21,210	\$ 18,069	\$ 23,205	\$ 62,484
Long-lived assets	\$ 23,274	\$ 6,252	\$ 6,721	\$ 36,247
2016				
Sales to external customers	\$ 16,681	\$ 13,633	\$ 17,844	\$ 48,158
Long-lived assets	\$ 14,812	\$ 2,708	\$ 5,966	\$ 23,486

Segment Information										
In millions	<i>Agri- culture</i>	<i>Perf. Materials & Coatings</i>	<i>Ind. Interm. & Infrastr.</i>	<i>Pack. & Spec. Plastics</i>	<i>Elect. & Imaging</i>	<i>Nutrition & Biosciences</i>	<i>Transp. & Adv. Polymers</i>	<i>Safety & Const.</i>	<i>Corp.</i>	<i>Total</i>
2018										
Net sales	\$ 14,301	\$ 9,575	\$ 15,116	\$ 24,096	\$ 4,720	\$ 6,801	\$ 5,620	\$ 5,453	\$ 295	\$ 85,977
Restructuring, goodwill impairment and asset related charges - net ¹	479	21	11	46	2	29	2	24	491	1,105
Equity in earnings (losses) of nonconsolidated affiliates	—	4	284	287	412	16	—	24	(26)	1,001
Operating EBITDA ²	2,705	2,170	2,543	4,926	1,902	1,632	1,702	1,427	(714)	18,293
Depreciation and amortization	941	855	653	1,239	452	681	442	542	113	5,918
Total assets	43,880	14,208	12,932	27,192	14,947	24,359	14,837	15,247	20,428	188,030
Investment in nonconsolidated affiliates	138	100	1,850	1,278	1,053	212	76	337	160	5,204
Capital expenditures	649	409	417	1,163	279	391	182	347	—	3,837
2017										
Net sales	\$ 7,516	\$ 8,809	\$ 12,647	\$ 21,456	\$ 3,356	\$ 2,786	\$ 2,521	\$ 3,006	\$ 387	\$ 62,484
Pro forma net sales	14,342	8,768	12,640	22,392	4,775	5,952	5,131	5,142	393	79,535
Restructuring, goodwill impairment and asset related charges - net ¹	134	1,578	17	716	125	1	2	53	654	3,280
Equity in earnings (losses) of nonconsolidated affiliates	3	41	172	189	356	13	(1)	2	(11)	764
Pro forma Operating EBITDA ³	2,611	1,774	2,282	4,698	1,840	1,296	1,319	1,194	(848)	16,166
Depreciation and amortization	427	854	604	911	329	248	200	266	130	3,969
Total assets	45,569	14,907	12,108	25,809	15,066	25,315	14,712	15,452	23,226	192,164
Investment in nonconsolidated affiliates	333	103	1,699	1,184	1,196	203	76	359	183	5,336
Capital expenditures	310	446	295	1,965	138	156	74	186	—	3,570
2016										
Net sales	\$ 6,173	\$ 6,439	\$ 10,832	\$ 18,404	\$ 2,307	\$ 948	\$ 897	\$ 1,877	\$ 281	\$ 48,158
Pro forma net sales	14,060	6,389	10,820	19,848	4,266	5,736	4,497	4,984	294	70,894
Restructuring, goodwill impairment and asset related charges - net ¹	5	42	83	10	—	1	—	(3)	457	595
Asbestos-related charge ⁴	—	—	—	—	—	—	—	—	1,113	1,113
Equity in earnings (losses) of nonconsolidated affiliates	5	98	(18)	137	234	10	3	1	(28)	442
Pro forma Operating EBITDA ³	2,322	1,015	1,675	5,129	1,388	1,227	1,043	1,133	(818)	14,114
Depreciation and amortization	186	657	649	770	235	64	59	121	121	2,862
Total assets	6,960	16,256	11,638	17,837	7,592	1,202	1,807	2,832	13,387	79,511
Investment in nonconsolidated affiliates	84	280	1,588	881	659	30	—	7	218	3,747
Capital expenditures	222	404	232	2,731	83	28	16	88	—	3,804

1. See Note 6 for information regarding the Company's restructuring programs and other asset related charges.

2. A reconciliation of "Income from continuing operations, net of tax" to Operating EBITDA is provided in the table on the following page.

3. A reconciliation of "Income from continuing operations, net of tax" to pro forma Operating EBITDA is provided in the table on the following page.

4. See Note 16 for information regarding the asbestos-related charge.

Reconciliation of "Income from continuing operations, net of tax" to Operating EBITDA		
In millions		2018
Income from continuing operations, net of tax	\$	4,004
+ Provision for income taxes on continuing operations		1,489
Income from continuing operations before income taxes	\$	5,493
+ Depreciation and amortization		5,918
- Interest income ¹		210
+ Interest expense and amortization of debt discount		1,504
- Foreign exchange gains (losses), net ^{1, 2}		(184)
EBITDA	\$	12,889
- Significant items		(5,404)
Operating EBITDA	\$	18,293

1. Included in "Sundry income (expense) - net."

2. Excludes a \$50 million pretax foreign exchange loss significant item related to adjustments to Historical DuPont's foreign currency exchange contracts as a result of U.S. tax reform during the twelve months ended December 31, 2018.

Reconciliation of "Income from continuing operations, net of tax" to Pro Forma Operating EBITDA		
In millions		
	2017	2016
Income from continuing operations, net of tax	\$ 1,669	\$ 4,404
+ Provision (Credit) for income taxes on continuing operations	(476)	9
Income from continuing operations before income taxes	\$ 1,193	\$ 4,413
+ Depreciation and amortization	3,969	2,862
- Interest income ¹	147	107
+ Interest expense and amortization of debt discount	1,082	858
- Foreign exchange gains (losses), net ¹	(63)	(126)
+ Pro forma adjustments	3,179	4,298
Pro forma EBITDA	\$ 9,339	\$ 12,450
- Adjusted significant items ²	(6,827)	(1,664)
Pro forma Operating EBITDA	\$ 16,166	\$ 14,114

1. Included in "Sundry income (expense) - net."

2. Significant items, excluding the impact of one-time transaction costs directly attributable to the Merger and reflected in the pro forma adjustments.

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The significant items for 2018 are presented on an as reported basis. The adjusted significant items for 2017 and 2016 are presented on a pro forma basis. The following tables summarize the pretax impact of significant items and adjusted significant items by segment that are excluded from Operating EBITDA and pro forma Operating EBITDA:

Significant Items by Segment for 2018										
In millions	<i>Agri- culture</i>	<i>Perf. Materials & Coatings</i>	<i>Ind. Interm. & Infrast.</i>	<i>Pack. & Spec. Plastics</i>	<i>Elect. & Imaging</i>	<i>Nutrition & Biosciences</i>	<i>Transp. & Adv. Polymers</i>	<i>Safety & Const.</i>	<i>Corp.</i>	<i>Total</i>
Net loss on divestitures and change in joint venture ownership ¹	\$ 22	\$ (20)	\$ 20	\$ —	\$ (27)	\$ —	\$ —	\$ (14)	\$ —	\$ (19)
Integration and separation costs ²	—	—	—	—	—	—	—	—	(2,463)	(2,463)
Inventory step-up amortization ³	(1,554)	—	—	(2)	—	(67)	—	(5)	—	(1,628)
Restructuring, goodwill impairment and asset related charges - net ^{4,5}	(479)	(21)	(11)	(46)	(2)	(29)	(6)	(24)	(491)	(1,109)
Loss on early extinguishment of debt ⁶	—	—	—	—	—	—	—	—	(135)	(135)
Income tax related item ⁷	—	—	—	—	—	—	—	—	(50)	(50)
Total	\$ (2,011)	\$ (41)	\$ 9	\$ (48)	\$ (29)	\$ (96)	\$ (6)	\$ (43)	\$ (3,139)	\$ (5,404)

1. Includes a gain related to Historical Dow's sale of its equity interest in MEGlobal, a gain related to Agriculture asset sales and a loss related to post-closing adjustments on the Dow Silicones ownership restructure.
2. Integration and separation costs related to post-Merger integration and Intended Business Separation activities, and costs related to the ownership restructure of Dow Silicones.
3. Includes the fair value step-up of Historical DuPont's inventories as a result of the Merger and the acquisition of the H&N Business. See Note 3 for additional information.
4. Includes Board approved restructuring plans and asset related charges, which include other asset impairments. See Note 6 for additional information. Also includes net favorable adjustments of \$14 million related to prior Historical Dow and Historical DuPont restructuring programs and other asset-related charges.
5. Includes a \$4 million dollar restructuring charge related to an equity affiliate of Transportation & Advanced Polymers that is reflected in "Equity in earnings of nonconsolidated affiliates" in the consolidated financial statements.
6. Historical Dow and Historical DuPont retired outstanding notes payable resulting in a loss on early extinguishment. See Note 15 for additional information.
7. Includes a foreign exchange loss related to adjustments to Historical DuPont's foreign currency exchange contracts as a result of U.S. tax reform.

Adjusted Significant Items by Segment for 2017 (Pro Forma)										
In millions	<i>Agri- culture</i>	<i>Perf. Materials & Coatings</i>	<i>Ind. Interm. & Infrast.</i>	<i>Pack. & Spec. Plastics</i>	<i>Elect. & Imaging</i>	<i>Nutrition & Biosciences</i>	<i>Transp. & Adv. Polymers</i>	<i>Safety & Const.</i>	<i>Corp.</i>	<i>Total</i>
Gains on sales of businesses/entities ¹	\$ 635	\$ —	\$ —	\$ 227	\$ —	\$ 162	\$ —	\$ —	\$ 7	\$ 1,031
Integration and separation costs ²	—	—	—	—	—	—	—	—	(1,499)	(1,499)
Inventory step-up amortization ³	(425)	—	—	(120)	(144)	(404)	(212)	(178)	—	(1,483)
Litigation related charges, awards and adjustments ⁴	(469)	—	—	137	—	—	—	—	—	(332)
Restructuring, goodwill impairment and asset related charges - net ⁵	(134)	(1,578)	(17)	(716)	(128)	(7)	(6)	(318)	(690)	(3,594)
Settlement and curtailment items ⁶	—	—	—	—	—	—	—	—	(892)	(892)
Transaction costs and productivity actions ⁷	—	—	—	—	—	—	—	—	(58)	(58)
Total	\$ (393)	\$ (1,578)	\$ (17)	\$ (472)	\$ (272)	\$ (249)	\$ (218)	\$ (496)	\$ (3,132)	\$ (6,827)

1. Includes the sale of the DAS Divested Ag Business (\$635 million), the sale of Historical Dow's EAA Business (\$227 million), the sale of Historical DuPont's global food safety diagnostic business (\$162 million) and post-closing adjustments on the split-off of Historical Dow's chlorine value chain (\$7 million). See Note 5 for additional information.
2. Integration and separation costs related to the Merger, post-Merger integration and Intended Business Separation activities, and costs related to the ownership restructure of Dow Silicones.
3. Includes the fair value step-up of Historical DuPont's inventories as a result of the Merger and the acquisition of the H&N Business of \$1,469 million and the amortization of a basis difference related to the fair value step-up of inventories of \$14 million . See Note 3 for additional information.
4. Includes an arbitration matter with Bayer CropScience (\$469 million charge) and a patent infringement matter with Nova Chemicals Corporation (\$137 million gain). See Note 16 for additional information.
5. Includes Board approved restructuring plans, goodwill impairment and asset related charges, which includes other asset impairments. See Note 6 for additional information.
6. Includes a settlement charge related to the payment of plan obligations to certain participants of a Historical Dow U.S. non-qualified pension plan as a result of the Merger. See Note 19 for additional information.
7. Includes implementation costs associated with Historical Dow's restructuring programs and other productivity actions.

Adjusted Significant Items by Segment for 2016 (Pro Forma)										
In millions	<i>Agri-culture</i>	<i>Perf. Materials & Coatings</i>	<i>Ind. Inter. & Infrac.</i>	<i>Pack. & Spec. Plastics</i>	<i>Elect. & Imaging</i>	<i>Nutrition & Biosciences</i>	<i>Transp. & Adv. Polymers</i>	<i>Safety & Const.</i>	<i>Corp.</i>	<i>Total</i>
Asbestos-related charge ¹	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ (1,113)	\$ (1,113)
Charge for the termination of a terminal use agreement ²	—	—	—	(117)	—	—	—	—	—	(117)
Settlement and curtailment items ³	—	—	—	—	—	—	—	—	382	382
Customer claims adjustment/ recovery ⁴	53	—	—	—	—	—	—	—	—	53
Environmental charges ⁵	(2)	—	(1)	(2)	—	—	—	—	(290)	(295)
Gains on sales of businesses/entities ⁶	—	—	—	—	—	—	—	—	375	375
Impact of Dow Silicones ownership restructure ⁷	—	1,389	—	—	438	—	279	—	—	2,106
Integration and separation costs ⁸	—	—	—	—	—	—	—	—	(476)	(476)
Litigation related charges, awards and adjustments ⁹	—	16	(1,235)	—	4	—	7	—	—	(1,208)
Restructuring, goodwill impairment and asset related charges - net ¹⁰	(96)	(42)	(83)	(10)	(2)	(162)	(7)	—	(774)	(1,176)
Transaction costs and productivity actions ¹¹	—	—	—	—	—	—	—	—	(195)	(195)
Total	\$ (45)	\$ 1,363	\$ (1,319)	\$ (129)	\$ 440	\$ (162)	\$ 279	\$ —	\$ (2,091)	\$ (1,664)

1. Pretax charge related to Historical Dow's election to change its method of accounting for asbestos-related defense costs from expensing as incurred to estimating and accruing a liability. As a result of this accounting policy change, Historical Dow recorded a pretax charge of \$1,009 million for asbestos-related defense costs through the terminal date of 2049. Historical Dow also recorded a pretax charge of \$104 million to increase the asbestos-related liability for pending and future claims through the terminal date of 2049. See Note 16 for additional information.
2. Pretax charge related to Historical Dow's termination of a terminal use agreement.
3. Pretax curtailment gain related to changes to Historical DuPont's U.S. pension plan and U.S. other postretirement benefits plan.
4. Includes a reduction in customer claims accrual (\$23 million) and insurance recoveries for recovery of costs for customer claims (\$30 million) related to the use of Historical DuPont's IMPRELIS® herbicide.
5. Pretax charge for environmental remediation activities at a number of Historical Dow locations, primarily resulting from the culmination of negotiations with regulators and/or final agency approval. See Note 16 for additional information.
6. Includes a gain for post-closing adjustments on the split-off of the chlorine value chain (\$6 million) and the sale of the Historical DuPont (Shenzhen) Manufacturing Limited entity (\$369 million).
7. Includes a non-taxable gain of \$2,445 million related to the Dow Silicones ownership restructure; a \$317 million charge for the fair value step-up of inventories; and, a pretax loss of \$22 million related to the early redemption of debt incurred by Dow Silicones. See Note 3 for additional information.
8. Integration and separation costs related to the Merger and the ownership restructure of Dow Silicones.
9. Includes a loss of \$1,235 million related to Historical Dow's settlement of the urethane matters class action lawsuit and the opt-out cases litigation and a gain of \$27 million related to a decrease in Dow Silicones' implant liability. See Note 16 for additional information.
10. Includes Historical Dow and Historical DuPont restructuring activities. See Note 6 for additional information. Also includes a pretax charge related to AgroFresh, including a partial impairment of Historical Dow's investment in AFSI (\$143 million) and post-closing adjustments related to non-cash consideration (\$20 million); a pretax charge for the write-down of Historical DuPont's indefinite lived intangible assets (\$158 million) related to the realignment of brand marketing strategies and a determination to phase out the use of certain acquired trade names; and, a pretax charge related to the write-down of Historical DuPont's uncompleted enterprise resource planning system (\$435 million).
11. Includes implementation costs associated with Historical Dow's restructuring programs and other productivity actions of \$162 million and a charge of \$33 million for a retained litigation matter related to the chlorine value chain.

NOTE 25 - SELECTED QUARTERLY FINANCIAL DATA

Selected Quarterly Financial Data	2018				
	First	Second	Third	Fourth	Year
In millions, except per share amounts (Unaudited)					
Net sales	\$ 21,510	\$ 24,245	\$ 20,123	\$ 20,099	\$ 85,977
Gross margin	\$ 5,195	\$ 6,271	\$ 4,646	\$ 4,532	\$ 20,644
Restructuring, goodwill impairment and asset related charges - net ¹	\$ 262	\$ 189	\$ 290	\$ 364	\$ 1,105
Integration and separation costs	\$ 457	\$ 558	\$ 666	\$ 782	\$ 2,463
Income from continuing operations, net of tax ²	\$ 1,153	\$ 1,803	\$ 535	\$ 513	\$ 4,004
Net income	\$ 1,148	\$ 1,803	\$ 535	\$ 513	\$ 3,999
Net income attributable to DowDuPont Inc.	\$ 1,104	\$ 1,768	\$ 497	\$ 475	\$ 3,844
Earnings per common share from continuing operations - basic ³	\$ 0.47	\$ 0.76	\$ 0.22	\$ 0.21	\$ 1.66
Earnings per common share from continuing operations - diluted ³	\$ 0.47	\$ 0.76	\$ 0.21	\$ 0.21	\$ 1.65
Dividends declared per share of common stock	\$ 0.38	\$ 0.76	\$ —	\$ 0.38	\$ 1.52
Market price range of common stock:					
High	\$ 77.02	\$ 70.04	\$ 71.44	\$ 64.82	\$ 77.02
Low	\$ 62.41	\$ 62.04	\$ 64.31	\$ 49.09	\$ 49.09

In millions, except per share amounts (Unaudited)	2017 ⁴				
	First	Second	Third	Fourth	Year
Net sales	\$ 13,230	\$ 13,834	\$ 15,354	\$ 20,066	\$ 62,484
Gross margin ⁵	\$ 3,036	\$ 3,073	\$ 3,168	\$ 3,416	\$ 12,693
Restructuring, goodwill impairment and asset related charges - net ¹	\$ (1)	\$ (12)	\$ 179	\$ 3,114	\$ 3,280
Integration and separation costs	\$ 109	\$ 136	\$ 354	\$ 502	\$ 1,101
Income (loss) from continuing operations, net of tax ⁶	\$ 915	\$ 1,359	\$ 554	\$ (1,159)	\$ 1,669
Net income (loss)	\$ 915	\$ 1,359	\$ 534	\$ (1,216)	\$ 1,592
Net income (loss) attributable to DowDuPont Inc.	\$ 888	\$ 1,321	\$ 514	\$ (1,263)	\$ 1,460
Earnings (loss) per common share from continuing operations - basic ³	\$ 0.74	\$ 1.08	\$ 0.33	\$ (0.52)	\$ 0.97
Earnings (loss) per common share from continuing operations - diluted ^{3, 7}	\$ 0.72	\$ 1.07	\$ 0.33	\$ (0.52)	\$ 0.95
Dividends declared per share of common stock	\$ 0.46	\$ 0.46	\$ 0.46	\$ 0.38	\$ 1.76
Market price range of common stock:					
High	\$ 65.00	\$ 65.26	\$ 70.41	\$ 73.32	\$ 73.32
Low	\$ 57.09	\$ 60.20	\$ 63.11	\$ 68.57	\$ 57.09

1. See Note 6 for additional information.

2. See Notes 3, 8 and 15 for information on additional items materially impacting "Income from continuing operations, net of tax." The fourth quarter of 2018 included Merger-related amortization of the fair value step-up of inventories; a loss on the early redemption of debt; and tax adjustments related to The Act. The second and third quarters of 2018 included Merger-related amortization of the fair value step-up of inventories. The first quarter of 2018 included Merger-related amortization of the fair value step-up of inventories and tax adjustments related to The Act.

3. Due to quarterly changes in the share count and the allocation of income to participating securities, the sum of the four quarters does not equal the earnings per share amount calculated for the year.

4. The Merger closed on August 31, 2017. Financial information for 2017 reflects the results of Historical Dow for all periods presented and the results of Historical DuPont beginning on and after September 1, 2017.

5. Previously reported amounts have been updated to reflect the impact of adoption of ASU 2017-07.

6. See Notes 3, 7, 8, 16 and 19 for information on additional items materially impacting "Income (loss) from continuing operations, net of tax." The fourth quarter of 2017 included: the effects of The Act, enacted on December 22, 2017; Merger-related amortization of the fair value step-up of inventories; a gain related to the DAS Divested Ag Business; and a charge related to payment of plan obligations to certain participants of a Historical Dow U.S. non-qualified pension plan. The third quarter of 2017 included a gain related to the sale of Historical Dow's EAA Business and Merger-related amortization of the fair value step-up of inventories. The second quarter of 2017 included a gain related to the Nova patent infringement award. The first quarter of 2017 included a loss related to the Bayer CropScience arbitration matter.

7. "Earnings (loss) per common share from continuing operations - diluted" for the three-month period ended December 31, 2017 was calculated using "Weighted average common shares outstanding - basic" due to a net loss reported in the period.

NOTE 26 - SUBSEQUENT EVENTS

Historical DuPont Repurchase Facility

In February 2019, Historical DuPont entered into a new committed receivable repurchase facility of up to \$1,300 million (the "2019 Repurchase Facility") which expires in December 2019. Under the 2019 Repurchase Facility, Historical DuPont may sell a portfolio of available and eligible outstanding customer notes receivables within the Agriculture segment to participating institutions and simultaneously agree to repurchase at a future date. The 2019 Repurchase Facility is considered a secured borrowing with the customer notes receivables, inclusive of those that are sold and repurchased, equal to 105 percent of the outstanding amounts borrowed utilized as collateral. Borrowings under the 2019 Repurchase Facility will have an interest rate of LIBOR plus 75 percent .

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

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As of the end of the period covered by this Annual Report on Form 10-K, the Company carried out an evaluation, under the supervision and with the participation of the Company's Disclosure Committee and the Company's management, including the Chief Executive Officer and the Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures pursuant to paragraph (b) of Exchange Act Rules 13a-15 and 15d-15. Based upon that evaluation, the Chief Executive Officer and the Chief Financial Officer concluded that the Company's disclosure controls and procedures were effective.

Changes in Internal Control Over Financial Reporting

There were no changes in the Company's internal control over financial reporting identified in connection with the evaluation required by paragraph (d) of Exchange Act Rules 13a-15 and 15d-15 that was conducted during the last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting

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

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

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- 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
- 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 consolidated financial statements.

Because of its inherent limitations, any system of internal control over financial reporting can provide only reasonable assurance and may not prevent or detect misstatements.

Management assessed the effectiveness of the Company's internal control over financial reporting and concluded that, as of December 31, 2018, such internal control is effective. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in *Internal Control—Integrated Framework (2013)*.

The Company's independent auditors, Deloitte & Touche LLP, with direct access to the Company's Board of Directors through its Audit Committee, have audited the consolidated financial statements prepared by the Company. Their report on the consolidated financial statements is included in Part II, Item 8. Financial Statements and Supplementary Data. Deloitte & Touche LLP's report on the Company's internal control over financial reporting is referenced therein and included herein. As described in their report, the effectiveness of E. I. du Pont de Nemours and Company's internal control over financial reporting was audited by other auditors whose report has been furnished to Deloitte & Touche LLP, and their opinion, insofar as it relates to the effectiveness of DuPont's internal control over financial reporting, is based solely on the report of the other auditors.

February 11, 2019

/s/ EDWARD D. BREEN

Edward D. Breen
Chief Executive Officer

/s/ HOWARD UNGERLEIDER

Howard Ungerleider
Chief Financial Officer

/s/ JEANMARIE F. DESMOND

Jeanmarie F. Desmond
Co-Controller, Wilmington, Delaware

/s/ RONALD C. EDMONDS

Ronald C. Edmonds
Co-Controller, Midland, Michigan

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of DowDuPont Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of DowDuPont Inc. and subsidiaries (the "Company") 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, based on our audit and the report of the other auditors, 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 COSO.

We did not audit the effectiveness of internal control over financial reporting of E. I. du Pont de Nemours and Company ("DuPont"), a wholly owned subsidiary of the Company, whose financial statements reflect total assets of \$101,025 million and \$112,964 million as of December 31, 2018 and 2017, respectively, and total revenues of \$26,279 million for the year ended December 31, 2018 and \$7,053 million for the period from August 31, 2017 (date of merger) to December 31, 2017. The effectiveness of DuPont's internal control over financial reporting was audited by other auditors whose report has been furnished to us, and our opinion, insofar as it relates to the effectiveness of DuPont's internal control over financial reporting, is based solely on the report of the other auditors.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2018 of the Company and the financial statement schedule listed in the Index at Item 15(a)2 and our report dated February 11, 2019, expressed an unqualified opinion on those financial statements and financial statement schedule based on our audit and the report of the other auditors and included an explanatory paragraph regarding a) a change in accounting policy related to asbestos-related defense and processing costs, b) a change in method of accounting for revenue due to the adoption of Accounting Standards Codification Topic 606, *Revenue From Contracts With Customers*, and c) an emphasis of a matter paragraph regarding the merger of The Dow Chemical Company and DuPont.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management's Report on Internal Control over Financial Reporting*. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit and the audit of the other auditors provide a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ DELOITTE & TOUCHE LLP

Deloitte & Touche LLP

Midland, Michigan

February 11, 2019

ITEM 9B. OTHER INFORMATION

None.

DowDuPont Inc.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information related to Directors, certain executive officers and certain corporate governance matters (including identification of Audit Committee members and financial expert(s)) is contained in the definitive Proxy Statement for the 2019 Annual Meeting of Stockholders of DowDuPont Inc. and is incorporated herein by reference. See also the information regarding executive officers of the registrant set forth in Part I, Item 1. Business under the caption "Executive Officers of the Registrant" in reliance on General Instruction G to Form 10-K.

On September 1, 2017, the Board of Directors of the Company adopted a code of ethics that applies to its principal executive officer, principal financial officer and principal accounting officer. A copy of the code can be obtained via the Internet through the Investor Relations section of the Company's website under Corporate Governance (www.dow-dupont.com/investors/corporate-governance). The Company's website and its content are not deemed incorporated by reference into this report.

ITEM 11. EXECUTIVE COMPENSATION

Information related to executive compensation and the Company's equity compensation plans is contained in the definitive Proxy Statement for the 2019 Annual Meeting of Stockholders of DowDuPont Inc. and is incorporated herein by reference.

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

Information with respect to beneficial ownership of DowDuPont Inc. common stock by each Director and all Directors and executive officers of the Company as a group is contained in the definitive Proxy Statement for the 2019 Annual Meeting of Stockholders of DowDuPont Inc. and is incorporated herein by reference.

Information relating to any person who beneficially owns in excess of 5 percent of the total outstanding shares of DowDuPont Inc. common stock is contained in the definitive Proxy Statement for the 2019 Annual Meeting of Stockholders of DowDuPont Inc. and is incorporated herein by reference.

Information with respect to compensation plans under which equity securities are authorized for issuance is contained in the definitive Proxy Statement for the 2019 Annual Meeting of Stockholders of DowDuPont Inc. and is incorporated herein by reference.

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

Reportable relationships and related transactions, if any, as well as information relating to director independence are contained in the definitive Proxy Statement for the 2019 Annual Meeting of Stockholders of DowDuPont Inc. and are incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information with respect to fees and services related to the Company's independent auditors, Deloitte & Touche LLP, and the disclosure of the Audit Committee's pre-approval policies and procedures are contained in the definitive Proxy Statement for the 2019 Annual Meeting of Stockholders of DowDuPont Inc. and are incorporated herein by reference.

DowDuPont Inc.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this report:

- (1) The Company's 2018 Consolidated Financial Statements are included in Part II, Item 8. Financial Statements and Supplementary Data.
- (2) Financial Statement Schedules – The following Financial Statement Schedule should be read in conjunction with the Consolidated Financial Statements and Report of Independent Registered Public Accounting Firm included in Part II, Item 8. Financial Statements and Supplementary Data:

Schedule II Valuation and Qualifying Accounts

Schedules other than the one listed above are omitted due to the absence of conditions under which they are required or because the information called for is included in the Consolidated Financial Statements or the Notes to the Consolidated Financial Statements.

- (3) Exhibits – See the Exhibit Index for the exhibits filed with this Annual Report on Form 10-K or incorporated by reference. The following exhibits are filed with this Annual Report on Form 10-K:

<i>Exhibit No.</i>	<i>Description of Exhibit</i>
--------------------	-------------------------------

- | | |
|-------|---|
| 2.1 | <u>Agreement and Plan of Merger, dated as of December 11, 2015, among The Dow Chemical Company, E. I. du Pont de Nemours and Company, Diamond Merger Sub, Inc., Orion Merger Sub, Inc. and Diamond-Orion HoldCo Inc., incorporated by reference to Exhibit 2.1 to The Dow Chemical Company Current Report on Form 8-K filed on December 11, 2015.</u> |
| 2.1.1 | <u>Amendment No. 1 to Agreement and Plan of Merger, dated as of March 31, 2017, among The Dow Chemical Company, E. I. du Pont de Nemours and Company, Diamond Merger Sub, Inc., Orion Merger Sub, Inc. and DowDuPont Inc. (f/k/a Diamond-Orion HoldCo Inc.), incorporated by reference to Exhibit 2.1 to The Dow Chemical Company Current Report on Form 8-K filed on March 31, 2017.</u> |
| 3.1 | <u>The Amended and Restated Certificate of Incorporation of DowDuPont Inc. as filed with the Secretary of State, State of Delaware on August 31, 2017, incorporated by reference to Exhibit 3.1 to the DowDuPont Inc. Current Report on Form 8-K filed September 1, 2017.</u> |
| 3.2 | <u>The Amended and Restated Bylaws of DowDuPont Inc., incorporated by reference to Exhibit 3.1 to the DowDuPont Inc. Current Report on Form 8-K filed September 12, 2017.</u> |
| 3.2.1 | <u>Amendment to the Amended and Restated Bylaws of DowDuPont Inc., incorporated by reference to Exhibit 3.1 to the DowDuPont Inc. Current Report on Form 8-K filed March 12, 2018.</u> |
| 10.1 | <u>The E. I. du Pont de Nemours and Company Equity Incentive Plan, incorporated by reference to Exhibit 4.1 to the DowDuPont Inc. Registration Statement on Form S-8 filed September 1, 2017.</u> |
| 10.2 | <u>The E. I. du Pont de Nemours and Company Stock Performance Plan, incorporated by reference to Exhibit 4.2 to the DowDuPont Inc. Registration Statement on Form S-8 filed September 1, 2017.</u> |
| 10.3 | <u>The E. I. du Pont de Nemours and Company Management Deferred Compensation Plan, incorporated by reference to Exhibit 4.3 to the DowDuPont Inc. Registration Statement on Form S-8 filed September 1, 2017.</u> |

- 10.4 [The E. I. du Pont de Nemours and Company Stock Accumulation and Deferred Compensation Plan for Directors, incorporated by reference to Exhibit 4.4 to the DowDuPont Inc. Registration Statement on Form S-8 filed September 1, 2017.](#)
- 10.5 [The Dow Chemical Company Amended and Restated 2012 Stock Incentive Plan, incorporated by reference to Exhibit 4.1 to the DowDuPont Inc. Registration Statement on Form S-8 filed September 5, 2017.](#)
- 10.5.1 [Performance Shares Deferred Stock Agreement Pursuant to The Dow Chemical Company 2012 Stock Incentive Plan, effective as of May 10, 2012, incorporated by reference to Exhibit 10\(ccc\) to The Dow Chemical Company Quarterly Report on Form 10-Q for the quarter ended June 30, 2012.](#)
- 10.5.2 [Deferred Stock Agreement Pursuant to The Dow Chemical Company 2012 Stock Incentive Plan, effective as of May 10, 2012, incorporated by reference to Exhibit 10\(ddd\) to The Dow Chemical Company Quarterly Report on Form 10-Q for the quarter ended June 30, 2012.](#)
- 10.5.3 [Non-Qualified Stock Option Agreement Pursuant to The Dow Chemical Company 2012 Stock Incentive Plan, effective as of May 10, 2012, incorporated by reference to Exhibit 10\(eee\) to The Dow Chemical Company Quarterly Report on Form 10-Q for the quarter ended June 30, 2012.](#)
- 10.6 [The Dow Chemical Company Amended and Restated 1988 Award and Option Plan, incorporated by reference to Exhibit 4.2 to the DowDuPont Inc. Registration Statement on Form S-8 filed September 5, 2017.](#)
- 10.6.1 [The Non-Qualified Stock Option Agreement Pursuant to The Dow Chemical Company 1988 Award and Option Plan, as amended, restated and effective as of January 1, 2009, incorporated by reference to Exhibit 10\(z\) to The Dow Chemical Company Annual Report on Form 10-K for the year ended December 31, 2008.](#)
- 10.7 [DuPont's Pension Restoration Plan, as last amended effective June 29, 2015, incorporated by reference to Exhibit 10.3 to the E. I. du Pont de Nemours and Company Quarterly Report on Form 10-Q for the quarter ended June 30, 2015.](#)
- 10.8 [DuPont's Supplemental Retirement Income Plan, as last amended effective December 18, 1996, incorporated by reference to Exhibit 10.2 to the E. I. du Pont de Nemours and Company Annual Report on Form 10-K for the year ended December 31, 2011.](#)
- 10.9 [DuPont's Rules for Lump Sum Payments, as last amended effective May 15, 2014, incorporated by reference to Exhibit 10.4 to the E. I. du Pont de Nemours and Company Quarterly Report on Form 10-Q for the quarter ended June 30, 2015.](#)
- 10.10 [DuPont's Retirement Savings Restoration Plan, as last amended effective May 15, 2014, incorporated by reference to Exhibit 10.08 to the E. I. du Pont de Nemours and Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014.](#)
- 10.11 [DuPont's Retirement Income Plan for Directors, as last amended January 2011, incorporated by reference to Exhibit 10.9 to the E. I. du Pont de Nemours and Company Quarterly Report on Form 10-Q for the quarter ended March 31, 2012.](#)
- 10.12 [DuPont's Senior Executive Severance Plan, as amended and restated effective December 10, 2015, incorporated by reference to Exhibit 10.10 to the E. I. du Pont de Nemours and Company's Annual Report on Form 10-K for the year ended December 31, 2015. The Company agrees to furnish supplementally a copy of any omitted schedules to the Commission upon request.](#)
- 10.13 [Employment Agreement by and between E. I. du Pont de Nemours and Company, and Edward D. Breen, dated as of August 3, 2017, incorporated by reference to Exhibit 10.1 to the E. I. du Pont de Nemours and Company Current Report on Form 8-K dated September 1, 2017.](#)

Table of Contents

10.14	<u>The Dow Chemical Company Voluntary Deferred Compensation Plan for Non-Employee Directors, as amended and restated on December 10, 2008, effective as of January 1, 2009, incorporated by reference to Exhibit 10(cc) to The Dow Chemical Company Annual Report on Form 10-K for the year ended December 31, 2008.</u>
21*	<u>Subsidiaries of DowDuPont Inc.</u>
23.1*	<u>Consent of Independent Registered Public Accounting Firm, Deloitte & Touche LLP.</u>
23.2*	<u>Consent of Independent Registered Public Accounting Firm, PricewaterhouseCoopers LLP.</u>
23.3*	<u>Ankura Consulting Group, LLC's Consent.</u>
31.1*	<u>Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
31.2*	<u>Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
32.1*	<u>Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>
32.2*	<u>Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.

*Filed herewith

A copy of any exhibit can be obtained via the Internet through the Investor Relations section of the Company's website (www.dow-dupont.com/investors), or the Company will provide a copy of any exhibit upon receipt of a written request for the particular exhibit or exhibits desired. All requests should be addressed to a Co-Controller of the Company at the addresses listed for the Company's principal executive offices. The referenced website and its content are not deemed incorporated by reference into this report.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

DowDuPont Inc.
Valuation and Qualifying Accounts

Schedule II

(In millions) For the year ended Dec 31,	2018	2017	2016
Accounts Receivable - Allowance for Doubtful Receivables			
Balance at beginning of period	\$ 127	\$ 110	\$ 94
Additions charged to expenses	114	43	31
Additions charged to other accounts ¹	4	3	—
Deductions from reserves ²	(54)	(29)	(15)
Balance at end of period	\$ 191	\$ 127	\$ 110
Inventory - Obsolescence Reserve			
Balance at beginning of period	\$ 170	\$ 123	\$ 152
Additions charged to expenses	493	129	29
Deductions from reserves ³	(338)	(82)	(58)
Balance at end of period	\$ 325	\$ 170	\$ 123
Reserves for Other Investments and Noncurrent Receivables			
Balance at beginning of period	\$ 437	\$ 358	\$ 494
Additions charged to expenses ⁴	44	83	153
Deductions from reserves ⁵	(16)	(4)	(289)
Balance at end of period	\$ 465	\$ 437	\$ 358
Deferred Tax Assets - Valuation Allowance ⁶			
Balance at beginning of period	\$ 2,511	\$ 1,061	\$ 1,000
Merger impact	—	1,160	—
Additions charged to expenses	351	404	155
Deductions from reserves	(455)	(114)	(94)
Balance at end of period	\$ 2,407	\$ 2,511	\$ 1,061

1. Additions to reserves for doubtful receivables charged to other accounts were classified as "Accounts and notes receivable - Other" in the consolidated balance sheets. These reserves relate to Historical Dow's sale of trade accounts receivable. Anticipated credit losses in the portfolio of receivables sold are used to fair value Historical Dow's interests held in trade accounts receivable conduits. See Notes 14 and 22 to the Consolidated Financial Statements for further information.

2. Deductions include write-offs, recoveries, currency translation adjustment and other miscellaneous items.

3. Deductions include disposals and currency translation adjustments.

4. In 2016, additions to reserves for "Other investments and noncurrent receivables" charged to costs and expenses include \$143 million related to the Company's investment in AgroFresh Solutions, Inc. See Note 6 to the Consolidated Financial Statements for further information.

5. In 2016, deductions from reserves for "Other investments and noncurrent receivables" include \$237 million related to the Dow Silicones ownership restructure. See Note 3 to the Consolidated Financial Statements for further information.

6. The Company has corrected its valuation allowance (with a corresponding reduction in tax loss and credit carryforwards) in the amount of \$238 million for the year ended December 31, 2017 as a result of a change in the Delaware state apportionment methodology.

DowDuPont Inc.
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.

DOWDUPONT INC.

/s/ JEANMARIE F. DESMOND

Jeanmarie F. Desmond
Co-Controller, Wilmington, Delaware
February 11, 2019

/s/ RONALD C. EDMONDS

Ronald C. Edmonds
Co-Controller, Midland, Michigan
February 11, 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.

/s/ LAMBERTO ANDREOTTI

Lamberto Andreotti, Director
February 11, 2019

/s/ MARILLYN A. HEWSON

Marillyn A. Hewson, Director
February 11, 2019

/s/ AJAY BANGA

Ajay Banga, Director
February 11, 2019

/s/ LOIS D. JULIBER

Lois D. Juliber, Director
February 11, 2019

/s/ JACQUELINE K. BARTON

Jacqueline K. Barton, Director
February 11, 2019

/s/ PAUL POLMAN

Paul Polman, Director
February 11, 2019

/s/ JAMES A. BELL

James A. Bell, Director
February 11, 2019

/s/ JAMES M. RINGLER

James M. Ringler, Director
February 11, 2019

/s/ EDWARD D. BREEN

Edward D. Breen, Director, Chief Executive Officer
February 11, 2019

/s/ RUTH G. SHAW

Ruth G. Shaw, Director
February 11, 2019

/s/ ROBERT A. BROWN

Robert A. Brown, Director
February 11, 2019

/s/ LEE M. THOMAS

Lee M. Thomas, Director
February 11, 2019

/s/ ALEXANDER M. CUTLER

Alexander M. Cutler, Co-Lead Independent Director
February 11, 2019

/s/ HOWARD UNGERLEIDER

Howard Ungerleider, Chief Financial Officer
February 11, 2019

/s/ RICHARD K. DAVIS

Richard K. Davis, Director
February 11, 2019

/s/ PATRICK J. WARD

Patrick J. Ward, Director
February 11, 2019

/s/ JEFF M. FETTIG

Jeff M. Fettig, Executive Chair and Co-Lead Independent Director
February 11, 2019

DowDuPont Inc.
Trademark Listing

®™ ACANTO, ACOUSTICRYL, AcreMax, ACREVALUE, ACRY SOL, AFFINITY, AGVENTURE, ALFOREX, AMBERLITE, APPROACH PRIMA, APPROACH POWER, AquaMax, AQUASET, ARIGO, ARYLEX, AVANSE, BELCO, BELKAR, BETA FORCE, BETAMATE, BETASEAL, BIO-PDO, BREVANT, BROADWAY, CARBOWAX, CENT-7, CITADEL, CLASSIC, CLINCHER, CLIPPER, CLOSER, CORIAN, CRASTIN, CURZATE, Cyazypyr, DAIRYLAND SEED, DANISCO, DELEGATE, DELRIN, DIMENSION, DITHANE, DOW, DOW CORNING, DOWDUPONT, DOWEX, DOW SEMENTES, DOWSIL, DuPont, DURANGO, ELITE, Encirca, ENLIST, ENLIST DUO, ENLISTONE, ENTRUST, EQUATION CONTACT, EQUATION PRO, EVOLV3D, EVOQUE, EXALT, ExpressSun, EXZACT, FENCER, FILMTEC, FONTELIS, FORMASHIELD, FORTILIFE, GALILEO, GALLANT, GALLERY, GARLON, GF-120, GRANITE, GRANULAR, GRAZON, GREAT STUFF, G2, HERCULEX, HPT, HOEGEMEYER, HOWARU, HYTREL, IMPRELIS, INATREQ, INSTINCT, INTEGRAFLUX, INTREPID, ISOCLAST, ISOTHERMING, KALREZ, KERB, KEVLAR, KEYSTONE, LANCET, LANNATE, Leptra, LIGATE, LIQUIDARMOR, LONTREL, LOYANT, LUMIDERM, LumiGEN, LUMIVIA, MAINCOTE, MAXIMUS, MECS, MOLYKOTE, MORGAN, MULTIBASE, MUSTANG, MYCOGEN, NEXERA, NOMEX, N-LOCK, NORDEL, N-SERVE, NUTECH, Optimum, PACTO, PANNAR, PANZER, PERFECTMATCH, PEXALON, PHYTOGEN, PINDAR, Pioneer, PIXXARO, Plenish, POWER PLUS, PRIMAL, PRIMUS, PROPOUND, Protector, PYRAXALT, QUELEX, RADIANT, RAINBOW, REALM Q, REFUGE ADVANCED, RESICORE, RHOPLEX, RICER, RINSKOR, RPM, Rynaxypyr, RYNITE, SEED CONSULTANTS, SENTRICON, SENTRY, SILASTIC, SILVADUR, SNAPSHOT, SOLAMET, SONIC, SORONA, SPIDER, STARANE, STRATCO, SUPREME EX, STYROFOAM, SURESTART, TALENDO, TALIU S, TAMOL, TANOS, TEDLAR, TERGITOL, TERRAL SEED, TEXARO, THERMAX, TOPSHOT, TORDON, TPSiV, TRACER, TRANSFORM, TRELLIS, TRITON, TRIVENCE, TYCHEM, TYNEX, TYVEK, UCAR, UCARTHERM, UCON, VAMAC, VERDICT, VERSENE, VESPEL, VESSARYA, VIPER, VP MAXX, VYDATE, WALOCEL, WEATHERMATE, WIDEATTACK, WIDEMATCH, XENERGY, XL, ZORVEC, ZYPAR, ZYTEL are trademarks of The Dow Chemical Company ("Dow") or E. I. du Pont de Nemours and Company ("DuPont") or affiliated companies of Dow or DuPont.

The following registered trademarks of Monsanto Technology LLC appear in this report: SMARTSTAX®, POWERCORE™. SMARTSTAX® and POWERCORE™ multi-event technology developed by Dow Agrosciences LLC and Monsanto Technology LLC. ENLIST E3™ soybeans are developed by Dow AgroSciences and MS Technologies.

The following registered service mark of American Chemistry Council appears in this report: RESPONSIBLE CARE®

DowDuPont Inc.
SUBSIDIARIES OF THE REGISTRANT

EXHIBIT 21

Set forth below are certain subsidiaries of DowDuPont Inc.

Historical Dow Subsidiaries	Organized Under Laws Of
The Dow Chemical Company	Delaware
3313045 Nova Scotia Company	Canada
Agrigenetics, Inc.	Delaware
Alforex Seeds LLC	Delaware
Centen AG LLC	Delaware
Chemars III LLC	Delaware
Coodetec Desenvolvimento, Producao e Comercializacao Agricola Ltda.	Brazil
CUPOSIT Electronic Materials Zhangjiagang Co., Ltd.	China
Dairyland Seed Co., Inc.	Wisconsin
DC Alabama, Inc.	Delaware
DDP Specialty Electronic Materials US 5, LLC	Delaware
DDP Specialty Electronic Materials US 9, LLC	Delaware
DDP Specialty Electronic Materials US, Inc.	Delaware
DDP Specialty Products Germany GmbH & Co. KG	Germany
Dorinco Reinsurance Company	Michigan
Dorintal Reinsurance Limited	Vermont
Dow (Zhangjiagang) Holding Co., Ltd.	China
Dow AgroSciences (China) Company Limited	China
Dow AgroSciences (Malaysia) Sdn Bhd	Malaysia
Dow AgroSciences (Thailand) Limited	Thailand
Dow AgroSciences A.S.	Turkey
Dow AgroSciences Argentina S.R.L.	Argentina
Dow AgroSciences Australia Limited	Australia
Dow AgroSciences B.V.	Netherlands
Dow AgroSciences Bolivia S.A.	Bolivia
Dow AgroSciences Canada Inc.	Canada
Dow AgroSciences Chile S.A.	Chile
Dow AgroSciences Danmark A/S	Denmark
Dow AgroSciences de Colombia S.A.	Colombia
Dow AgroSciences de Mexico S.A. de C.V.	Mexico
Dow AgroSciences Distribution S.A.S.	France
Dow AgroSciences Hungary Kft.	Hungary
Dow AgroSciences Iberica S.A.	Spain
Dow AgroSciences India Pvt. Ltd.	India
Dow AgroSciences Industrial Ltda.	Brazil
Dow AgroSciences Italia s.r.l.	Italy
Dow AgroSciences Japan Limited	Japan
Dow AgroSciences Limited	United Kingdom
Dow AgroSciences LLC	Delaware
Dow AgroSciences Pacific Limited	Hong Kong
Dow AgroSciences Paraguay S.A.	Paraguay
Dow AgroSciences Polska Sp. z o.o.	Poland
Dow AgroSciences S.A.S.	France
Dow AgroSciences s.r.o.	Czech Republic
Dow AgroSciences Southern Africa (Proprietary) Limited	South Africa
Dow AgroSciences Switzerland S.A.	Switzerland
Dow Benelux B.V.	Netherlands

Dow Brasil Industria e Comercio de Produtos Quimicos Ltda.	Brazil
Dow Brasil Sudeste Industrial Ltda.	Brazil
Dow Chemical (Australia) Pty Ltd	Australia
Dow Chemical (China) Investment Company Limited	China
Dow Chemical (NZ) Limited	New Zealand
Dow Chemical (Shanghai) Company Limited	China
Dow Chemical (Sichuan) Co., Ltd.	China
Dow Chemical (Zhangjiagang) Company Limited	China
Dow Chemical Canada ULC	Canada
Dow Chemical Company Limited	United Kingdom
Dow Chemical Iberica S.L.	Spain
Dow Chemical International Private Limited	India
Dow Chemical Japan Limited	Japan
Dow Chemical Korea Limited	Korea
Dow Chemical OLED Ltd.	Korea
Dow Chemical OOO	Russia
Dow Chemical Pacific (Singapore) Private Limited	Singapore
Dow Chemical Pacific Limited	Hong Kong
Dow Chemical Philippines, Inc.	Philippines
Dow Chemical Services UK Limited	United Kingdom
Dow Chemical Silicones Korea, Ltd.	Korea
Dow Chemical Taiwan Limited	Taiwan
Dow Chemical Thailand Ltd.	Thailand
Dow Corning Singapore Pte. Ltd.	Singapore
Dow Corning Toray Company, Ltd.	Japan
Dow Deutschland Anlagengesellschaft mbH	Germany
Dow Deutschland Inc.	Delaware
Dow Europe GmbH	Switzerland
Dow Europe Holding B.V.	Netherlands
Dow Financial Services Inc.	Delaware
Dow France S.A.S.	France
Dow Global Technologies LLC	Delaware
Dow Hydrocarbons and Resources LLC	Delaware
Dow Internacional Mexicana S.A. de C.V.	Mexico
Dow International Finance S.a r.l.	Luxembourg
Dow Investment Argentina S.R.L.	Argentina
Dow Italia Divisione Commerciale s.r.l.	Italy
Dow Italia s.r.l.	Italy
Dow Izolan OOO	Russia
Dow Kakoh Kabushiki Kaisha	Japan
Dow Materials Science Saudi Arabia Limited	Saudi Arabia
Dow Mideast Systems S.A.E. (JSC)	Egypt
Dow Olefinverbund GmbH	Germany
Dow Performance Materials (Australia) Pty Ltd	Australia
Dow Peru S.A.	Peru
Dow Portugal Produtos Quimicos, Unipessoal, Lda.	Portugal
Dow Produktions und Vertriebs GmbH & Co. OHG	Germany
Dow Quimica Argentina S.R.L.	Argentina
Dow Quimica de Colombia S.A.	Colombia
Dow Quimica Mexicana S.A. de C.V.	Mexico
Dow Saudi Arabia Holding B.V.	Netherlands
Dow Saudi Arabia Product Marketing B.V.	Netherlands
Dow Silicones (Shanghai) Co., Ltd.	China

Dow Silicones Belgium SPRL	Belgium
Dow Silicones Corporation	Michigan
Dow Silicones Deutschland GmbH	Germany
Dow Silicones UK Limited	United Kingdom
Dow Siloxanes (Zhangjiagang) Co., Ltd.	China
Dow Southern Africa (Pty) Ltd	South Africa
Dow Specialties Limited	Saudi Arabia
Dow Stade Produktions GmbH & Co. OHG	Germany
Dow Suomi OY	Finland
Dow Sverige AB	Sweden
Dow Thames Limited	United Kingdom
Dow Turkiye Kimya Sanayi ve Ticaret Limited Sirketi	Turkey
DSP Germany GmbH	Germany
DSP S.A.S.	Netherlands
FilmTec Corporation	Delaware
Fort Saskatchewan Ethylene Storage Limited Partnership	Canada
Hampshire Chemical Corp.	Delaware
Multibase S.A.	France
Mycogen LLC	California
Nitta Haas Incorporated	Japan
Nitta Haas Trading Company	Japan
OMEX Overseas Holdings Inc.	Virgin Islands
Palmyra do Brasil Indústria e Comércio de Silício Metálico e Recursos Naturais Ltda.	Brazil
PBBPolisur S.R.L.	Argentina
Petroquímica-Dow S.A. (Petrodow)	Chile
Pfister Seeds LLC	Delaware
Phytogen Seed Company, LLC	Delaware
PT Dow AgroSciences Indonesia	Indonesia
PT Dow Indonesia	Indonesia
Rohm and Haas Canada Investments Limited	Canada
Rohm and Haas Canada LP	Canada
Rohm and Haas Chemical (Thailand) Limited	Thailand
Rohm and Haas Chemicals LLC	Delaware
Rohm and Haas Company	Delaware
Rohm and Haas Electronic Materials (Dongguan) Co., Ltd.	China
Rohm and Haas Electronic Materials (Shanghai) Co., Ltd.	China
Rohm and Haas Electronic Materials Asia Limited	Hong Kong
Rohm and Haas Electronic Materials Asia-Pacific Co., Ltd.	Taiwan
Rohm and Haas Electronic Materials CMP Asia Inc.	Delaware
Rohm and Haas Electronic Materials CMP Inc.	Delaware
Rohm and Haas Electronic Materials CMP Korea Ltd.	Korea
Rohm and Haas Electronic Materials CMP Sdn. Bhd.	Malaysia
Rohm and Haas Electronic Materials K.K.	Japan
Rohm and Haas Electronic Materials Korea Ltd.	Korea
Rohm and Haas Electronic Materials LLC	Delaware
Rohm and Haas Electronic Materials Singapore Pte. Ltd.	Singapore
Rohm and Haas Electronic Materials Taiwan Ltd.	Taiwan
Rohm and Haas International Trading (Shanghai) Co. Ltd.	China
Rohm and Haas Italia S.r.l.	Italy
Rohm and Haas Kimyasal Urunler Uretim Dagitim ve Ticaret A.S.	Turkey
Rohm and Haas Korea Co., Ltd.	Korea
Rohm and Haas Mexico, S. de R.L. de C.V.	Mexico
Rohm and Haas New Zealand Limited	New Zealand

Rohm and Haas Shanghai Chemical Industry Co., Ltd.	China
Rohm and Haas Singapore (Pte.) Ltd.	Singapore
Rohm and Haas Taiwan, Inc.	Taiwan
Rohm and Haas Texas Incorporated	Texas
Specialty Electronic Materials Italy srl	Italy
Specialty Electronic Materials Switzerland GmbH	Switzerland
Specialty Electronic Materials UK Limited	United Kingdom
Specialty Products US, LLC	Delaware
The Dow Chemical Company	Delaware
Union Carbide Corporation	New York
Univation Technologies, LLC	Delaware
Zhejiang OMEX Environmental Engineering Co., Ltd.	China

Historical DuPont Subsidiaries	Organized Under Laws Of
E.I. du Pont de Nemours and Company	Delaware
AG Orion Holding B.V.	The Netherlands
Belco Technologies Corporation	Delaware
DACI Investments, LLC	Delaware
DPC (Luxembourg) SARL	Luxembourg
DPNL BV	The Netherlands
Du Pont (Australia) PTY LTD.	Australia
Du Pont Chemical and Energy Operations, Inc.	Delaware
Du Pont China Limited	Delaware
Du Pont de Nemours (Belgium) BVBA	Belgium
Du Pont de Nemours Italiana S.r.l.	Italy
Du Pont Energy Company, LLC	Delaware
Du Pont Feedstocks Company	Delaware
DuPont (China) Research & Development and Management Co., Ltd.	China
DuPont (Korea) Inc.	Korea
DuPont (Thailand) Limited	Thailand
DuPont (U.K.) Industrial Limited	United Kingdom
DuPont (U.K.) Ltd.	United Kingdom
DuPont Acquisition (Luxembourg) S.a.r.l.	Luxembourg
DuPont Apollo (Shenzhen) Limited	China
DuPont Argentina S.R.L.	Argentina
DuPont Asturias, S.L.	Spain
DuPont Belgium North America Finance Company	Belgium
DuPont Capital Management Corporation	Delaware
DuPont China Holding Company Ltd.	China
DuPont China Limited	Hong Kong
DuPont Company (Singapore) Pte Ltd.	Singapore
DuPont Coordination Center N.V.	Belgium
DuPont DACI Beteiligungs-GmbH	Austria
DuPont de Nemours (Deutschland) GmbH	Germany
DuPont de Nemours (France) S.A.S.	France
DuPont de Nemours (Luxembourg) Sarl	Luxembourg
DuPont de Nemours (Nederland) B.V.	The Netherlands
DuPont de Nemours (Nederland) Holding B.V.	The Netherlands
DuPont de Nemours Groupe SAS	France
DuPont de Nemours Holding Sarl (LLC)	Switzerland
DuPont de Nemours International Sarl	Switzerland
DuPont Deutschland Holding GmbH & Co. KG	Germany
DuPont do Brasil S.A.	Brazil

DuPont Electronics Microcircuits Industries, Ltd.	Bermuda
DuPont Filaments-Americas, LLC	Delaware
DuPont Global Operations, LLC	Delaware
DuPont Iberica, S.L.	Spain
DuPont International (Luxembourg) SCA	Luxembourg
DuPont International B.V.	The Netherlands
DuPont International Operations S.a r.l.	Switzerland
DuPont Kabushiki Kaisha	Japan
DuPont KGA B.V.	The Netherlands
DuPont Mexico S.A. de C.V.	Mexico
DuPont Nutrition Biosciences ApS	Denmark
DuPont Nutrition USA, Inc.	Delaware
DuPont Operations Worldwide, Inc.	Delaware
DuPont Operations, Inc.	Delaware
DuPont Performance Materials International Sàrl	Switzerland
DuPont Science (Luxembourg) S.a r.l.	Luxembourg
DuPont Solutions (Luxembourg) SARL	Luxembourg
DuPont Specialty Products Kabushiki Kaisha	Japan
DuPont Specialty Products Operations Sàrl	Switzerland
DuPont Taiwan Limited	Taiwan
DuPont Technology (Luxembourg) S.a.r.l.	Luxembourg
DuPont Teijin Films China LTD.	Hong Kong
DuPont Trading (Shanghai) Co., Ltd.	China
DuPont Turkey Endustri Urunleri Limited Sirketi	Turkey
DuPont Xingda Filaments Company Limited	China
E&C EMEA Holding 2 B.V.	The Netherlands
E&C EMEA Holding 3 B.V.	The Netherlands
E.I. DuPont Canada Company	Canada
E.I. DuPont Canada- Thetford Inc.	Canada
E.I. DuPont India Private Limited	India
EKC Technology, Inc.	California
FCC Acquisition Corporation	California
FMC Biopolymer AS	Norway
FMC Chemicals (Thailand) Ltd. USD Branch	Thailand
FMC Manufacturing Limited	Ireland
Hickory Holdings, Inc.	Delaware
Hickory Securities, L.L.C.	Delaware
Howson Algraphy BV	The Netherlands
IB EMEA Holding 2 B.V.	The Netherlands
MECS Inc.	Delaware
N&H EMEA Holding B.V.	The Netherlands
Performance Science Materials Company	Canada
Performance Specialty Products Asturias S.L.	Spain
Pioneer Hi-Bred International, Inc.	Iowa
PT Du Pont Agricultural Products Indonesia	Indonesia
Shenzhen DuPont Performance Materials Investment Co., Ltd.	China
Solae L.L.C.	Delaware
SP EMEA Holding 7 B.V.	The Netherlands
SP Holding IB, Inc.	Delaware
Specialty Products N&H, Inc.	Delaware

Subsidiaries not listed would not, if considered in the aggregate as a single subsidiary, constitute a significant subsidiary.

We consent to the incorporation by reference of our reports dated February 11, 2019, relating to (1) the consolidated financial statements and financial statement schedule of DowDuPont Inc. and subsidiaries (the “Company”), (which report expresses an unqualified opinion on those financial statements and financial statement schedule and includes an explanatory paragraph regarding a change in accounting policy related to asbestos-related defense and processing costs, a change in the method of accounting for revenue due to the adoption of Accounting Standards Codification Topic 606, *Revenue From Contracts With Customers* , and an emphasis of a matter paragraph regarding the merger of The Dow Chemical Company and E. I. du Pont de Nemours and Company), and (2) the effectiveness of the Company's internal control over financial reporting as of December 31, 2018, appearing in this Annual Report on Form 10-K of DowDuPont Inc. for the year ended December 31, 2018, in the following Registration Statements of DowDuPont Inc.

Form S-3:

Nos. 333-227202

Form S-8:

Nos. 333-220324
333-220330

/s/ DELOITTE & TOUCHE LLP

Deloitte & Touche LLP

Midland, Michigan

February 11, 2019

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-220324 and 333-220330) and Form S-3 (No. 333-227202) of DowDuPont Inc. of our Successor report dated February 11, 2019 relating to the financial statements, financial statement schedule and the effectiveness of internal control over financial reporting of E. I. du Pont de Nemours and Company, which appears in this Annual Report on Form 10-K.

/s/ PRICEWATERHOUSECOOPERS LLP

PricewaterhouseCoopers LLP

Philadelphia, Pennsylvania

February 11, 2019

DowDuPont Inc.:

Ankura Consulting Group, LLC ("Ankura") hereby consents to the use of Ankura's name and the reference to Ankura's reports in this Annual Report on Form 10-K of DowDuPont Inc. for the year ended December 31, 2018 , and the incorporation by reference thereof in the following Registration Statements of DowDuPont Inc.:

Form S-3:

Nos. 333-227202

Form S-8:

Nos. 333-220324
333-220330

/s/ B. THOMAS FLORENCE

B. Thomas Florence
Senior Managing Director
Ankura Consulting Group, LLC
February 11, 2019

Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Edward D. Breen, certify that:

1. I have reviewed this annual report on Form 10-K of DowDuPont Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 11, 2019

/s/ EDWARD D. BREEN

Edward D. Breen

Chief Executive Officer

Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Howard Ungerleider, certify that:

1. I have reviewed this annual report on Form 10-K of DowDuPont Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 11, 2019

/s/ HOWARD UNGERLEIDER

Howard Ungerleider
Chief Financial Officer

Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

I, Edward D. Breen, Chief Executive Officer of DowDuPont Inc. (the “Company”), certify that:

1. the Annual Report on Form 10-K of the Company for the year ended December 31, 2018 as filed with the Securities and Exchange Commission (the “Report”) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ EDWARD D. BREEN

Edward D. Breen
Chief Executive Officer
February 11, 2019

Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

I, Howard Ungerleider, Chief Financial Officer of DowDuPont Inc. (the “Company”), certify that:

1. the Annual Report on Form 10-K of the Company for the year ended December 31, 2018 as filed with the Securities and Exchange Commission (the “Report”) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ HOWARD UNGERLEIDER

Howard Ungerleider
Chief Financial Officer
February 11, 2019