Tenacious

Determined

Committed

Motivated

Persistent

Resolute

Engrossed

Dedicated

Fixated

Rapt

Disciplined

Absorbed

Purposeful

Galvanized

Decisive

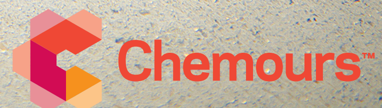
Centered

Driven

Dogged

Persistent

Focused.



THE CHEMOURS COMPANY
2019 ANNUAL REPORT

2019 Focused. Disciplined. Relentless.

Chemours Stakeholders,

Five years into our journey, our young company is strengthening our leadership position in key markets, remaining relentlessly focused on creating shareholder value. All the while, we are helping move our industry into a more environmentally and socially conscious future. Every day, across the globe, our employees are resolute in their pursuit of growth opportunities and exceeding the expectations of our customers.

At the same time, we've faced our share of obstacles. Today, we are taking several steps to shape a future for Chemours where our product innovation and a renewed level of focus and discipline across our company will power us to new heights.

In 2019, our company achieved net sales of $5.5 billion, adjusted* EBITDA of $1.02 billion, and adjusted* earnings per share of $2.51.

Weakening macro-economic conditions and some self-inflicted wounds affected our financial performance. We saw softness in two of our key end markets, the automotive and electronics industries, which are particularly vulnerable to trade uncertainties. Our Titanium Technologies business lost greater market share than anticipated early in 2019 with the simultaneous installation of new contract structures and our industry-first Ti-Pure™ Flex online portal, both key elements of our Ti-Pure™ Value Stabilization Strategy. We also experienced costly production setbacks in our Fluoroproducts supply chain.

Despite these challenges, we achieved several milestones of note. We delivered record adjusted* EBITDA in our Chemical Solutions segment, we captured double-digit sales volume growth of Opteon™ refrigerants in the automotive market, and we returned $486 million to shareholders via share repurchases and dividends.

$5.5B
Net sales

$1.02B
Adjusted* EBITDA

$2.51
Adjusted* earnings per share

$486M
Returned to shareholders
in 2019 via share repurchases and dividends

Here are some additional 2019 highlights:

Positioning Chemours for future growth . . .

- In Corpus Christi, Texas, **we ramped up production** at our new Opteon™ refrigerants plant, a $300 million facility that will triple our global capacity of this valuable low global warming refrigerant. The Opteon™ products manufactured in Corpus Christi will allow us to capture additional opportunities, as the world transitions to the next generation of more sustainable refrigerants.
- We **acquired Southern Ionics Minerals**, a responsible mining company with assets in Georgia and Florida, increasing our company's internal supply of high-quality ilmenite ore used in the production of titanium dioxide.
- Hundreds of our scientists **moved into our new 312,000-square-foot, state-of-the-art research facility, the Chemours Discovery Hub** (CDH), located on the University of Delaware's STAR Campus. At the CDH, our world-class scientists will harness chemistry to create the next generation of Chemours ingredients and products that make a positive difference in the world, including 5G communications equipment, new energy vehicles, and wearable technologies.
- We **launched several new products** to serve our customers in fast-growing markets, including Nafion™ NC700 ion-exchange membranes for fuel cells and Ti-Pure™ TS-4567 pigment for printing inks.
- In December, we **simplified our product portfolio** and manufacturing footprint with the sale of our methylamines and methylamides business in Belle, West Virginia.

Strengthening our key-market leadership positions . . .

- We captured **increased adoption of Opteon™** refrigerants in automotive and stationary air conditioning markets around the world, including several high-profile customer wins. For instance, automotive OEMs are expected to fully convert to HFOs in the United States by 2021 and Japan by 2023. We are also excited to announce Opteon™ is now the official refrigerant solution of the National Hockey League® and is being used to cool the rink at the Pepsi Center, home of the Colorado Avalanche®. Additionally, Chemours has significantly stepped up its efforts to help European Union regulators crack down on illegal imports of less sustainable HFCs from China into Europe.
- We **regained more stable relationships with titanium dioxide customers** as our contract terms and Ti-Pure™ Flex portal gained acceptance, demonstrating market share recovery in the second half of the year.

Trailblazing environmental and social responsibility for our industry . . .

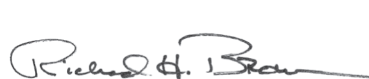
- In Fayetteville, North Carolina, we **designed and installed a thermal oxidizer that will eliminate 99.9% of our air emissions of fluorinated compounds** at this site. Our $100 million thermal oxidizer was developed in-house by our sustainability and engineering teams, and we believe this technology will become an industry-wide model for emissions control at manufacturing sites around the world.
- We **built on our Corporate Responsibility Commitments** work, including the ten ambitious goals we set for ourselves to achieve by 2030. We published our first data baselines against these ten goals, which we'll use to measure our progress in the future. We also expanded our Future of Chemistry Scholarships program, and hundreds of our employees volunteered around the world during our first Corporate Responsibility Commitments day of community service.

These accomplishments notwithstanding, we are committed to taking the lessons learned in 2019 to create a more disciplined company, laser-focused on manufacturing excellence and commercial execution. We will concentrate our efforts on strategically capturing opportunities in fast-growing end-markets, striving for best-in-class reliability at our plants, and continuing to streamline our product portfolio and manufacturing footprint.

That, plus the tenacity and resilience—the grit—our workforce has demonstrated from our start in 2015 and the trust and confidence of our customers and investors will power Chemours to new heights.

Thank you for being with us on this exciting journey.

Best regards,



Richard H. Brown
Chairman of the Board

Mark P. Vergnano
President & Chief Executive Officer

* See the definitions and reconciliations of all non-Generally Accepted Accounting Principles (GAAP) financial measures to their most directly comparable financial measures calculated and presented in accordance with GAAP starting on page 57 of the Form 10-K. Forward-looking statements are subject to risk, uncertainties, and assumptions, all of which are described in our public filings.

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, 2019

OR

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

Commission File Number 001-36794

The Chemours Company
(Exact Name of Registrant as Specified in Its Charter)

Delaware	**46-4845564**
(State or other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)

1007 Market Street, Wilmington, Delaware 19801
(Address of Principal Executive Offices)
Registrant's Telephone Number: **(302) 773-1000**

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

Title of Each Class	Trading Symbols(s)	Name of Exchange on Which Registered
Common Stock ($.01 par value)	CC	New York Stock Exchange

Securities are registered pursuant to Section 12(g) of the Act: **None**

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

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

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

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

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

Large accelerated filer ☒	Accelerated filer ☐	Non-accelerated filer ☐
Smaller reporting company ☐	Emerging growth company ☐	

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

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

The aggregate market value of common stock held by non-affiliates of the registrant as of June 28, 2019, the last business day of the registrant's most recently completed second fiscal quarter, was approximately $3.9 billion. As of February 10, 2020, 164,006,272 shares of the company's common stock, $0.01 par value, were outstanding.

Documents Incorporated by Reference

Portions of the registrant's definitive proxy statement relating to its 2020 annual meeting of shareholders (the "2020 Proxy Statement") are incorporated by reference into Part III of this Annual Report on Form 10-K where indicated. The 2020 Proxy Statement will be filed with the U. S. Securities and Exchange Commission within 120 days after the end of the fiscal year to which this report relates.

The Chemours Company

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Forward-looking Statements

This section and other parts of this Annual Report on Form 10-K contain forward-looking statements within the meaning of the federal securities law that involve risks and uncertainties. Forward-looking statements provide current expectations of future events based on certain assumptions and include any statement that does not directly relate to any historical or current fact. The words "believe," "expect," "anticipate," "plan," "estimate," "target," "project," and similar expressions, among others, generally identify "forward-looking statements," which speak only as of the date the statements were made. The matters discussed in these forward-looking statements are subject to risks, uncertainties, and other factors that could cause actual results to differ materially from those set forth in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and within *Item 1A – Risk Factors*.

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

- fluctuations in energy and raw materials pricing;
- failure to develop and market new products and applications, and optimally manage product life cycles;
- increased competition, and increasing consolidation of our core customers;
- significant litigation and environmental matters, including indemnifications we were required to assume;
- significant or unanticipated expenses, including, but not limited to, litigation or legal settlement expenses;
- our ability to manage and complete capital projects and/or planned expansions, including the start-up of capital projects;
- changes in relationships with our significant customers and suppliers;
- failure to manage process safety and product stewardship issues appropriately;
- global economic and capital markets conditions, such as inflation, interest and currency exchange rates, and commodity prices, as well as regulatory requirements;
- currency-related risks;
- our current indebtedness and availability of borrowing facilities, including access to our revolving credit facilities;
- business or supply disruptions and security threats, such as acts of sabotage, terrorism or war, weather events, and natural disasters;
- uncertainty regarding the availability of additional financing in the future, and the terms of such financing;
- negative rating agency actions;
- changes in laws and regulations or political conditions;
- our ability to protect, defend, and enforce our intellectual property rights;
- our ability to predict, identify, and address changes in consumer preference and demand;
- our ability to complete potential divestitures or acquisitions and our ability to realize the expected benefits of divestitures or acquisitions if they are completed;
- our ability to meet our growth expectations and outlook;
- our ability to pay a dividend and the amount of any such dividend declared; and,
- disruptions in our information technology networks and systems.

Additionally, there may be other risks and uncertainties that we are unable to identify at this time, or that we do not currently expect to have a material impact on our business. We assume no obligation to revise or update any forward-looking statement for any reason, except as required by law.

Unless the context otherwise requires, references herein to "The Chemours Company," "Chemours," "the Company," "our company," "we," "us," and "our" refer to The Chemours Company and its consolidated subsidiaries. References herein to "DuPont" refer to E. I. du Pont de Nemours and Company, which is now a subsidiary of Corteva, Inc., a Delaware corporation, unless the context otherwise requires.

PART I

Item 1. BUSINESS

Overview

The Chemours Company (herein referred to as "us," "we," or "our") is a leading, global provider of performance chemicals that are key inputs in end-products and processes in a variety of industries. We deliver customized solutions with a wide range of industrial and specialty chemicals products for markets, including plastics and coatings, refrigeration and air conditioning, general industrial, electronics, mining, and oil refining. Our principal products include refrigerants, industrial fluoropolymer resins, sodium cyanide, performance chemicals and intermediates, and titanium dioxide ("TiO_2") pigment. We manage and report our operating results through three reportable segments: Fluoroproducts, Chemical Solutions, and Titanium Technologies. Our Fluoroproducts segment is a leading, global provider of fluoroproducts, including refrigerants and industrial fluoropolymer resins. Our Chemical Solutions segment is a leading, North American provider of industrial chemicals used in gold production, industrial, and consumer applications. Our Titanium Technologies segment is a leading, global provider of TiO_2 pigment, a premium white pigment used to deliver whiteness, brightness, opacity, and protection in a variety of applications.

We operate 30 major production facilities located in nine countries and serve approximately 3,700 customers across a wide range of end-markets in over 120 countries.

We are committed to creating value for our customers and stakeholders through the reliable delivery of high-quality products and services around the world. To achieve this goal, we have a global team dedicated to upholding our five values: (i) ***customer centricity*** – driving customer growth, and our own, by understanding our customers' needs and building long-lasting relationships with them; (ii) ***refreshing simplicity*** – cutting complexity by investing in what matters, and getting results faster; (iii) ***collective entrepreneurship*** – empowering our employees to act like they own our business, while embracing the power of inclusion and teamwork; (iv) ***safety obsession*** – living our steadfast belief that a safe workplace is a profitable workplace; and, (v) ***unshakable integrity*** – doing what's right for our customers, colleagues, and communities – always.

We also have a forward-looking Corporate Responsibility commitment, which focuses on three key principles – inspired people, a shared planet, and an evolved portfolio – in an effort to achieve, among other goals, increased diversity and inclusion in our global workforce, increased sustainability of our products, and becoming carbon positive. We call this responsible chemistry – it is rooted in who we are, and we expect that our Corporate Responsibility commitment will drive sustainable, long-term earnings growth.

Many of our commercial and industrial relationships span decades. Our customer base includes a diverse set of companies, many of which are leaders in their respective industries. Our sales are not materially dependent on any single customer. As of December 31, 2019, no one individual customer balance represented more than 5% of our total outstanding receivables balance, and no one individual customer represented more than 10% of our consolidated net sales.

Corporate History

We began operating as an independent company on July 1, 2015 (the "Separation Date") after separating from E.I. du Pont de Nemours and Company ("DuPont") (the "Separation"). The Separation was completed pursuant to a separation agreement and other agreements with DuPont, including an employee matters agreement, a tax matters agreement, a transition services agreement, and an intellectual property cross-license agreement. These agreements govern the relationship between us and DuPont following the Separation and provided for the allocation of various assets, liabilities, rights, and obligations at the Separation Date. On August 31, 2017, DuPont completed a merger with The Dow Chemical Company ("Dow"). Following their merger, DuPont and Dow engaged in a series of reorganization steps and, in 2019, separated into three publicly-traded companies named Dow Inc., DuPont de Nemours, Inc., and Corteva, Inc. ("Corteva"). DuPont is now a subsidiary of Corteva, and, at this time, any agreements related to our Separation remain between us and DuPont.

Segments

In our Fluoroproducts segment, we are a globally-integrated producer making both fluorochemicals and fluoropolymers. In our Fluorochemicals business, there is increased adoption of Opteon™, one of the world's lowest global warming potential ("GWP") refrigerant brands, as governments around the world pass legislation that makes the use of low GWP refrigerants a requirement. Our Fluoropolymers offerings provide customers with tailored products that have unique properties, including very high temperature resistance, high chemical resistance, resistivity, and selective permeability. We will continue to invest in research and development ("R&D") to remain a leader in these areas and ensure that we are able to meet our customers' needs.

In our Chemical Solutions segment, our Mining Solutions and Performance Chemicals and Intermediates businesses produce industrial chemicals used in various applications by our customers, which are primarily located in the Americas. As one of the largest North American producers of solid sodium cyanide, our Mining Solutions business is recognized for its high quality product offering, reliability of supply, and commitment to the safe production, storage, and use of our products. Global demand growth over the next three years is expected to remain healthy, driven by growth in gold ore processing volumes. In our Mining Solutions business, particularly in the Americas region, the demand for sodium cyanide is expected to exceed global demand growth rates. In our Performance Chemicals and Intermediates business, growth in demand for our products is expected to generally grow in line with growth in global gross domestic product ("GDP").

In our Titanium Technologies segment, we have a long-standing history of delivering high-quality TiO_2 pigment using our proprietary chloride technology. We are one of the largest global producers of TiO_2 pigment, and our low-cost network of manufacturing facilities allows us to efficiently and cost-effectively serve our global customer base. We believe we are well-positioned to remain one of the lowest-cost, high-quality TiO_2 pigment producers, and we will continue to meet our customers' needs around the world.

We will maintain our commitment to responsible stewardship and safety for our employees, customers, and the communities in which we operate. Meeting and exceeding our customers' expectations while conducting business in accordance with our high ethical standards will continue to be a primary focus for us as we continue to operate as a higher-value chemistry company.

Additional information on our segments can be found in *Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations* and "Note 28 – Geographic and Segment Information" to the *Consolidated Financial Statements*.

Fluoroproducts Segment

Segment Overview

Our Fluoroproducts segment is a leading, global provider of fluorine-based, advanced materials solutions, such as refrigerants and industrial resins and derivatives. The segment creates products that have unique properties, such as high temperature resistance, high chemical resistance, and unique di-electric properties, for applications across a broad array of industries and applications. We have an industry-leading safety culture and apply world-class R&D and technical expertise to ensure that our operations run safely and reliably, and to improve our process technology. We sell fluoroproducts through two primary product groups: Fluorochemicals and Fluoropolymers.

Fluorochemicals products include refrigerants, foam blowing agents, and propellants. We have held a leading position in the fluorochemicals market since the commercial introduction of Freon™ in 1930. Since the original chlorofluorocarbons ("CFC")-based product was introduced, we have been at the forefront of new technology research for lower GWP and lesser ozone-depleting potential products, leading to the development of hydrochlorofluorocarbons ("HCFC") and hydrofluorocarbons ("HFC"). We have a leading position in HFC refrigerants under the brand name Freon™, and we are a leader in the development of sustainable technologies like Opteon™, a line of low GWP hydrofluoroolefin ("HFO") refrigerants, which also have a zero ozone-depletion footprint. Opteon™ was initially developed in response to the European Union's ("EU") Mobile Air Conditioning Directive. Today, our Opteon™-branded portfolio of products are used in a broad range of applications, including automotive, air conditioning, commercial refrigeration, and foam blowing agents. This patented technology offers similar functionality to current HFC products, but meets or betters currently-mandated environmental standards and, in some cases, provides energy efficiency benefits.

We led the industry in the Montreal Protocol-driven transition in 1987 from CFCs to the lesser ozone-depleting HCFCs and non-ozone-depleting HFCs. In 1988, we committed to cease production of CFCs and started manufacturing non-ozone-depleting HFCs in the early 1990s. Driven by new and emerging environmental legislation being enacted across the U.S., Europe, Latin America, and Japan, we have commercialized Opteon™. Over the years, regulations have pushed the industry to evolve and respond to environmental concerns. We will continue to invest in R&D to remain a leader and meet our customers' needs as regulations change.

Fluoropolymers products include various industrial resins, specialty products, and coatings. We serve a wide range of essential industrial and end-user applications, including electronics, communications, automotive, wire and cable, energy, oil and gas, and aerospace, among others. Our products' unique properties include chemical inertness, thermal stability, non-stick adhesion, low friction, weather and corrosion resistance, extreme temperature resistance, and unique di-electric properties. Our Fluoropolymers products are sold under the brand names Teflon™, Viton™, Krytox™, and Nafion™. Teflon™ coatings, resins, additives, and films are used in a wide range of industrial products. Our fluoroelastomer products, sold under the Viton™ brand name, are used in automotive, consumer electronics, chemical processing, oil and gas, petroleum refining and transportation, and aircraft and aerospace applications. Our Krytox™-branded lubricants are used in a broad range of industrial applications, including bearings, electric motors, and gearboxes. Under the brand name Nafion™, we sell membranes, which are used in fuel cells, energy flow battery storage, transportation, stationary power, and medical tubing.

Industry Overview and Competitors

Our Fluoroproducts segment competes against a broad variety of global manufacturers, as well as regional Chinese and Indian manufacturers. We have a leadership position in fluorine chemistry and materials science, a broad scope and scale of operations, market-driven applications development, and deep customer knowledge. Key competitors in Fluorochemicals include: Honeywell International, Inc., Arkema S.A., Orbia, Dongyue Group Co., Ltd. ("Dongyue"), and Juhua Group Corporation. Key competitors in Fluoropolymers include: Daikin Industries, Ltd., 3M Company, Solvay, S.A., Asahi Glass Co., Ltd., Dongyue, and Chenguang Group.

Fluoroproducts demand growth is generally in line with global GDP growth. Within Fluorochemicals, growth may be higher than GDP in situations where, for environmental reasons, regulatory drivers constrain the market or drive the market toward lower GWP alternatives. In Fluoropolymers, overall market growth is expected to be in line with GDP over the next few years, but may be influenced by increased competition and pricing pressure in some businesses. There are certain emerging technologies, such as 5G, along with our focus on application development, that may drive our growth at a rate faster than GDP. Developed markets represent the largest consumers of fluoroproducts today. Global middle class growth and the increasing demand for expanding infrastructure, alternative energy, consumer electronics, telecommunications, automobiles, refrigeration, and air conditioning are all key drivers of increased demand for various fluoroproducts.

Raw Materials

The primary raw materials required to support the Fluoroproducts segment are fluorspar, chlorinated organics, chlorinated inorganics, hydrofluoric acid, and vinylidene fluoride. These are available in many countries and are not concentrated in any particular region. We pursue maximum competitiveness in our global supply chains through favorable sourcing of key raw materials. Our contracts typically include terms that span from two to 10 years, except for select resale purchases that are negotiated on a monthly basis. Qualified fluorspar sources have fixed contract prices or freely-negotiated, market-based pricing. We diversify our sourcing through multiple geographic regions and suppliers to ensure a stable and cost competitive supply. Our current supply agreements are generally in effect for the next five years.

Sales, Marketing, and Distribution

With more than 85 years of innovation and development in fluorine science, our technical, marketing, and sales teams around the world have deep expertise in our products and their end-uses. We work with customers to select the appropriate fluoroproducts to meet their technical performance needs. We sell our products through direct channels and through resellers. Selling agreements vary by product line and markets served and include both spot-pricing arrangements and contracts with a typical duration of one year.

We maintain a large fleet of railcars, tank trucks, and containers to deliver our products and support our supply chain needs. For the portion of the fleet that is leased, the related lease terms are usually staggered, which provides us with a competitive cost position, as well as the ability to adjust the size of our fleet in response to changes in market conditions. A dedicated logistics team, along with external partners, continually optimizes the assignment of our transportation equipment to product lines and geographic regions in order to maximize utilization and flexibility of the supply chain.

Customers

The Fluoroproducts segment serves approximately 2,800 customers and distributors globally and, in many instances, these commercial relationships have been in place for decades. No single Fluoroproducts customer represented more than 10% of the segment's net sales in 2019.

Seasonality

Fluorochemicals' refrigerant sales fluctuate by season, as sales in the first half of the year are generally higher than sales in the second half of the year due to increased demand for residential, commercial, and automotive air conditioning in the spring, which peaks in the summer months, and then declines in the fall and winter in the northern hemisphere. Mobile air conditioning demand is slightly higher in the first half of the year due to the timing of automotive production shutdowns in the second half of the year. There is no significant seasonality for Fluoropolymers, as demand is relatively consistent throughout the year.

Chemical Solutions Segment

Segment Overview

Our Chemical Solutions segment is comprised of a portfolio of industrial chemical businesses, primarily operating in the Americas. The segment's products are used as important raw materials and catalysts for a diverse group of industries including, among others, gold production, oil and gas, water treatment, electronics, and automotive. Chemical Solutions generates value through the use of market-leading manufacturing technology, safety performance, product stewardship, and differentiated logistics capabilities.

The Chemical Solutions segment has operations at three production facilities in North America, which sell products and solutions through two primary product groups: Mining Solutions and Performance Chemicals and Intermediates. The Mining Solutions product group includes our sodium cyanide and hydrogen cyanide product lines. We are a market leader in solid sodium cyanide production in the Americas, which is used primarily by the mining industry for gold and silver production. We are also investing in a new sodium cyanide production facility in Mexico, for which construction is currently suspended as discussed further in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*. For our Mining Solutions product group, we expect global demand growth to remain healthy over the next few years. In the Performance Chemicals and Intermediates product group, we manufacture a wide variety of chemicals used in many different applications. Performance Chemicals and Intermediates is now primarily comprised of our Glycolic Acid, Vazo™, and Aniline product lines, following our exit of the Methylamines and Methylamides business at our Belle, West Virginia production facility. Our plans to exit the business were announced in the third quarter of 2019, culminating in our completed exit and sale of the business to Belle Chemical Company, a subsidiary of Cornerstone Chemical Company, in the fourth quarter of 2019. Our remaining Performance Chemicals and Intermediates business is expected to generally grow in line with growth in global GDP.

Industry Overview and Competitors

The industrial and specialty chemicals produced by our Chemical Solutions segment are important raw materials for a wide range of industries and end-markets. We hold a long-standing reputation for high quality, and the safe-handling of hazardous products, such as sodium cyanide, Aniline, and Vazo™. Our positions in these products are the result of our process technology, manufacturing scale, efficient supply chain, and proximity to large customers. Our Chemical Solutions segment holds what we believe to be leading process technologies for the production of hydrogen and sodium cyanide, which are used in industrial polymers and gold production. The segment occasionally licenses these process technologies, as well as its process technology for the production of acrylonitrile. Key competitors for the Chemicals Solutions segment include Cyanco Corp., Hebei Chengxin Group Co. Ltd., CyPlus GmbH, Orica Ltd., and Tongsuh Petrochemical Corp., Ltd.

Raw Materials

Key raw materials for our Chemical Solutions segment include ammonia, methanol, natural gas, hydrogen, and caustic soda. We source raw materials from global and regional suppliers, where possible, and maintain multiple supplier relationships to protect against supply disruptions and potential price increases. To further mitigate the risk of raw materials availability and cost fluctuations, our Chemical Solutions segment has also taken steps to optimize routes for distribution, lock in long-term contracts with key suppliers, and increase the number of customer contracts with raw materials price pass-through terms. We do not believe that the loss of any particular supplier would be material to our business.

Sales, Marketing, and Distribution

Our technical, marketing, and sales teams around the world have deep expertise with our products and their end-markets. We predominantly sell directly to end-customers, although we also use a network of distributors for specific product lines and geographies. Sales may take place through either spot transactions or via long-term contracts.

Most of Chemical Solutions' raw materials and products can be delivered by efficient bulk transportation. As such, we maintain a large fleet of railcars, tank trucks, and containers to support our supply chain needs. For the portion of the fleet that is leased, the related lease terms are usually staggered, which provides us with a competitive cost position as well as the ability to adjust the size of our container fleet in response to changes in market conditions. A dedicated logistics team, along with external partners, continually optimizes the assignment of our transportation equipment to product lines and geographic regions in order to maximize utilization and flexibility of the supply chain. The strategic placement of our production facilities in locations designed to serve our key customer base in the Americas gives us robust distribution capabilities.

Customers

Our Chemical Solutions segment focuses on developing long-term partnerships with key market participants. Many of our commercial and industrial relationships have been in place for decades and are based on our proven value proposition of safely and reliably supplying our customers with the materials needed for their operations. Our reputation and long-term track record are key competitive advantages, as several of the products' end-users demand the highest level of excellence in safe manufacturing, distribution, handling, and storage. Our Chemical Solutions segment has U.S. Department of Transportation Special Permits and Approvals in place for the distribution of various materials associated with each of our business lines, as required. Our Chemical Solutions segment serves approximately 500 customers globally. No single Chemical Solutions customer represented more than 10% of the segment's net sales in 2019.

Seasonality

Our Chemical Solutions segment's sales are subject to minimal seasonality.

Titanium Technologies Segment

Segment Overview

Our Titanium Technologies segment is a leading, global manufacturer of high-quality TiO_2 pigment. TiO_2 pigment is used to deliver whiteness, brightness, opacity, and ultra-violet light protection in applications such as architectural and industrial coatings, flexible and rigid plastic packaging, polyvinylchloride ("PVC"), laminate papers used for furniture and building materials, coated paper, and coated paperboard used for packaging. We sell our TiO_2 pigment under the Ti-Pure™ brand name. We also sell a chloride-based TiO_2 pigment under the BaiMax™ brand name, which is exclusively produced for customers in Greater China. We operate four TiO_2 pigment production facilities: two in the U.S., one in Mexico, and one in Taiwan. In addition, we have a large-scale repackaging and distribution facility in Belgium. We also operate mineral sands mining and separation operations in Starke, Florida, as well as mineral sands mining operations in Folkston, Georgia and mineral sands separation operations in Offerman, Georgia. In total, we have a TiO_2 pigment nameplate capacity of approximately 1.25 million metric tons per year.

We are one of a limited number of manufacturers operating a chloride process for the production of TiO_2 pigment. We believe that our proprietary chloride technology enables us to operate plants at a much higher capacity than other chloride technology-based TiO_2 pigment producers, as we uniquely utilize a broad spectrum of titanium-bearing ore feedstocks to achieve one of the highest TiO_2 pigment unit margins in our industry. This technology, which is in use at all of our production facilities, provides us with one of the industry's lowest manufacturing cost positions. Our R&D efforts focus on improving production processes and developing TiO_2 pigment grades that help our customers achieve optimal cost and product performance to enhance end-user total value.

We sell over 20 different grades of TiO_2 pigment, with each grade tailored for targeted applications. Our portfolio of premium performance TiO_2 pigment grades provides end-users with benefits beyond opacity, such as longer-lasting performance, brighter colors, and the brilliant whites achievable only through chloride-manufactured pigment.

We have operated a titanium mine in Starke, Florida since 1949. Additionally, in 2019, we acquired a titanium mine in Folkston, Georgia, from which we source ore feedstock to be processed at its associated mineral sands separation facility in Offerman, Georgia. The recently added mine and separation facility were attained in the third quarter of 2019 as part of our acquisition of Southern Ionics Minerals, LLC ("SIM"), which expands our flexibility and scalability to internally source ore. These mines provide us with access to low-cost sources of domestic, high-quality ilmenite ore feedstock and supply less than 10% of our ore feedstock consumption needs, with expansion options that could effectively double our in-sourced material base. Co-products of our mining operations, which comprised less than 5% of our total net sales in Titanium Technologies during 2019, are zircon (zirconium silicate) and staurolite minerals. We are a major supplier of high-quality calcined zircon in North America, primarily focused on the precision investment casting industry, foundry, specialty applications, and ceramics. Our staurolite blasting abrasives are used in a variety of surface preparation applications, including steel preparation and maintenance and paint removal.

Industry Overview and Competitors

The overall demand for TiO_2 pigment is highly correlated to growth in the global residential housing, commercial construction, and packaging markets. In the long-run, industry demand for TiO_2 pigment is generally expected to grow proportionately with GDP growth. We continue to experience customers' preference for high-quality Ti-Pure™ offerings. After 2016 and 2017 demand in the TiO_2 pigment market above GDP growth, the TiO_2 pigment market contracted below the GDP trend in 2018 and 2019. In the longer-term, we expect global TiO_2 pigment demand to resume its historical correlation with global GDP growth rates.

We estimate that the worldwide demand for TiO_2 pigment in 2019 was approximately 6.1 million metric tons, of which approximately 60% was for premium performance pigments. Worldwide nameplate capacity in 2019 was estimated to be approximately 8.0 million metric tons. The products manufactured on this global capacity base are not fully substitutable due to pigment quality consistency and pigment product design. We believe that the utilization of the premium performance manufacturing base is considerably higher than that for general purpose, lower-performance production. Over the next few years, as customer demand grows, we will be able to incrementally increase our production capacity by approximately 10% through technology-enabled de-bottlenecking processes. We believe that unlocking this additional 10% of capacity is in line with the anticipated needs of our customers during this time. This new capacity is expected to provide the equivalent of a new production line, while requiring a fraction of the capital investment. Our increased production capacity will be supported by investments to extend our ilmenite mines and through long-term contracts with our suppliers.

Competition in the TiO_2 pigment market is based primarily on product performance (both product design and quality consistency), supply capability, price, and technical service. Our major competitors within higher-performance pigments include: Tronox Holdings plc, Venator Materials plc, Kronos Worldwide, Inc., and INEOS AG. Beyond multi-national suppliers, the only other large producer of TiO_2 pigment is the Chinese producer, the Lomon-Billions Group. The other TiO_2 pigment producers are fragmented, mostly utilizing the sulfate production process, and competing in the general purpose, lower-performance pigment market. Over the next few years, we believe that the announced added effective capacity in China is expected to be somewhat offset by capacity shutdowns at marginal producers.

Raw Materials

The primary raw materials used in the manufacture of TiO_2 pigment are titanium-bearing ores, chlorine, calcined petroleum coke, and energy. We source titanium-bearing ores from a number of suppliers around the globe, who are primarily located in Australia and Africa. To ensure proper supply volume and to minimize pricing volatility, we generally enter into contracts in which volume is requirement-based and pricing is determined by a range of mechanisms structured to help us achieve competitive cost. We typically enter into a combination of long-term and medium-term supply contracts and source our raw materials from multiple suppliers across different regions and from multiple sites per supplier. Furthermore, we typically purchase multiple grades of ore from each supplier to limit our exposure to any single supplier for any single grade of ore in any given time period. Historically, we have not experienced any problems renewing such contracts for raw materials or securing our supply of titanium-bearing ores.

We play an active role in ore source development around the globe, especially for those ores which can only be used by us, given the capability of our unique process technology. Supply chain flexibility allows for ore purchase and use optimization to manage short-term demand fluctuations and provides long-term competitive advantage. Our process technology and ability to use lower-grade ilmenite ore gives us the flexibility to alter our ore mix to low-cost configuration based on sales, demand, and projected ore pricing. Lastly, we have taken steps to optimize routes for distribution and increase storage capacity at our production facilities.

Transporting chlorine, one of our primary raw materials, can be costly. To reduce our need to transport chlorine, we have a chlor-alkali production facility run by a third party that is co-located at our New Johnsonville, Tennessee site. Calcined petroleum coke is an important raw material input to our process. We source calcined petroleum coke from well-established suppliers in North America and China, typically under contracts that run multiple years to facilitate materials and logistics planning through the supply chain. Distribution efficiency is enhanced through the use of bulk ocean, barge, and rail transportation modes. Energy is another key input cost in the TiO_2 pigment manufacturing process, representing approximately 10% of the production cost. We have access to natural gas-based energy at our U.S. and Mexico TiO_2 pigment production facilities and our Florida and Georgia minerals plants, supporting advantaged energy costs given the low cost of shale gas in the U.S.

Sales, Marketing, and Distribution

We sell the majority of our products through a direct sales force. In 2018, we launched our Ti-Pure™ Value Stabilization ("TVS") strategy, which we believe to be foundational to maintain and grow our Titanium Technologies business. Our TVS strategy establishes a commercial framework that allows us to focus on enhancing durable, value-oriented customer relationships, while providing access to a predictable and reliable supply of high-quality TiO_2. Customers can purchase Ti-Pure™ TiO_2 through our Chemours Assured Value Agreements ("AVA"). As an alternative, in 2019, we launched a new, innovative channel, Ti-Pure™ Flex, which provides customers the unique ability to purchase Ti-Pure™ TiO_2 via our web-based portal, the first of its kind in the industry. To further expand our reach beyond these sales channels, we also utilize third-party sales agents and distributors.

TiO_2 pigment represents a significant raw material cost for our direct customers, and as a result, purchasing decisions are often made by our customers' senior management teams. TiO_2 pigment, however, is only a small fraction of the cost when considering certain end-use applications, especially in segments with larger value chain players, such as specialty coatings, plastics, and laminates applications. Our sales organization works to develop and maintain close relationships with key decision-makers in our value chain. In addition to close purchasing relationships, our sales and technical service teams work together to develop relationships with all layers of our customers' organizations to ensure that we meet our customers' commercial and technical requirements. When appropriate, we collaborate closely with customers to solve formulation or application problems by modifying product characteristics or developing new product grades.

To ensure an efficient distribution, we have a large fleet of railcars, which are predominantly used for outbound distribution of products in the U.S. and Canada. A dedicated logistics team, along with external partners, continually optimizes the assignment of our transportation equipment to product lines and geographic regions in order to maximize utilization and maintain an efficient supply chain.

Customers

Globally, we serve approximately 600 customers through our Titanium Technologies segment. In 2019, our 10 largest Titanium Technologies customers accounted for approximately 40% of the segment's net sales, and one Titanium Technologies customer represented more than 10% of the segment's net sales. Our larger customers are typically served through direct sales and tend to have medium-term to long-term contracts. We serve our small-size and mid-size customers through a combination of our direct sales and distribution network. Our direct customers in the Titanium Technologies segment are producers of decorative coatings, automotive and industrial coatings, polyolefin masterbatches, PVC, engineering polymers, laminate paper, coatings paper, and coated paperboard. We focus on developing long-term partnerships with key market participants in each of these sectors. We also deliver a high level of technical service to satisfy our customers' specific needs, which helps us maintain strong customer relationships.

Seasonality

The demand for TiO_2 pigment is subject to seasonality due to the influence of weather conditions and holiday seasons on some of our applications, such as decorative coatings. As a result, our TiO_2 pigment sales volume is typically lowest in the first quarter, highest in the second and third quarters, and moderate in the fourth quarter. This pattern applies to the entire TiO_2 pigment market, but may vary by region, country, or application. It can also be altered by economic or other demand cycles.

Intellectual Property

Intellectual property, including trade secrets, certain patents, trademarks, copyrights, know-how, and other proprietary rights, is a critical part of maintaining our technology leadership and competitive edge. Our business strategy is to file patent and trademark applications globally for proprietary new product and applications development technologies. We hold many patents, particularly in our Fluoroproducts segment, as described herein. These patents, including various patents that will expire in varying years into the 2030s, in the aggregate, are believed to be of material importance to our business. However, we believe that no single patent (or related group of patents) is material in relation to our business as a whole. Our Chemical Solutions segment is a manufacturing and application development technology leader in a majority of the markets in which it participates. Trade secrets are one of the key elements of our intellectual property security in the Chemical Solutions segment, as most of the segment's manufacturing and applications development technologies are no longer under patent coverage. In addition, particularly in our Titanium Technologies segment, we hold significant intellectual property in the form of trade secrets, and, while we believe that no single trade secret is material in relation to our combined business as a whole, we believe that our trade secrets are material in the aggregate. Unlike patents, trade secrets do not have a pre-determined validity period, but are valid indefinitely, so long as their secrecy is maintained. We work actively on a global basis to create, protect, and enforce our intellectual property rights. The protection afforded by these patents and trademarks varies based on country, scope of individual patent, and trademark coverage, as well as the availability of legal remedies in each country. Although certain proprietary intellectual property rights are important to our success, we do not believe that we are materially-dependent on any particular patent or trademark. We believe that securing our intellectual property is critical to maintaining our technology leadership and our competitive position, especially with respect to new technologies or the extensions of existing technologies. Our proprietary process technology can be a source of incremental income through licensing arrangements.

Our Fluoroproducts segment is a technology leader in the markets in which it participates. We have one of the largest patent portfolios in the fluorine derivatives industry. In our Fluoroproducts segment's intellectual property portfolio, we consider our Freon™, Opteon™, Teflon™, Viton™, Nafion™, and Krytox™ trademarks to be valuable assets. Our Titanium Technologies segment in particular relies upon unpatented proprietary knowledge, continuing technological innovation, and other trade secrets to develop and maintain our competitive position in this sector. Our proprietary chloride production process is an important part of our technology, and our business could be harmed if our trade secrets are not maintained in confidence. In our Titanium Technologies segment's intellectual property portfolio, we consider our trademarks Ti-Pure™ and BaiMax™ to be valuable assets and have registered the Ti-Pure™ trademark in a number of countries and the BaiMax™ trademark in China.

At the Separation, certain of our subsidiaries entered into an intellectual property cross-license agreement with DuPont, pursuant to which (i) DuPont licenses to us certain patents, know-how, and technical information owned by DuPont or its affiliates which are necessary or useful in our business, and (ii) we license to DuPont certain patents owned by us or our affiliates which are necessary or useful in DuPont's business. In most circumstances, the licenses are perpetual, irrevocable, sub-licensable (in connection with the party's business), assignable (in connection with a sale of the applicable portion of a party's business or assets, subject to certain exceptions) worldwide licenses in connection with the current operations of the businesses and, with respect to specified products and fields of use, future operations of such businesses, subject to certain limitations with respect to specified products and fields of use.

Backlog

In general, we do not manufacture our products against a backlog of orders and do not consider backlog to be a significant indicator of the level of our future sales activity. Our production and inventory levels are based on the level of incoming orders, as well as projections of future demand. Therefore, we believe that backlog information is not material to understanding our overall business and should not be considered a reliable indicator of our ability to achieve any particular level of net sales or financial performance.

Environmental Matters

Information related to environmental matters is included in several areas of this Annual Report on Form 10-K, including: (i) *Item 1A – Risk Factors*; (ii) *Item 3 – Legal Proceedings*, under the heading "Environmental Proceedings"; (iii) *Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations*; and, (iv) "Note 3 – Summary of Significant Accounting Policies" and "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*.

Available Information

We are subject to the reporting requirements under the Securities Exchange Act of 1934 (the "Exchange Act"). Consequently, we are required to file reports and information with the U.S. Securities and Exchange Commission ("SEC"), including reports on the following forms: Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act.

Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports are also accessible on our website at http://www.chemours.com by clicking on the section labeled "Investor Relations," then on "Financials" and "SEC Filings." These reports are made available, without charge, as soon as it is reasonably practicable after we file or furnish them electronically with the SEC at http://www.sec.gov.

Employees

We have approximately 7,000 employees, approximately 14% of whom are represented by unions or works councils. Management believes that its relations with employees and labor organizations are good.

Item 1A. RISK FACTORS

Our operations could be affected by various risks, many of which are beyond our control. Based on current information, we believe that the following identifies the most significant risk factors that could affect our business, results of operations, or financial condition. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. See our "Forward-looking Statements" for more details.

Risks Related to Our Business

Our results of operations could be adversely affected by litigation and other commitments and contingencies.

We face risks arising from various unasserted and asserted legal claims, investigations and litigation matters, such as product liability claims, patent infringement claims, antitrust claims, and claims for third-party property damage or personal injury stemming from alleged environmental actions (which may concern regulated or unregulated substances) or other torts. We have noted a nationwide trend in purported mass tort and class actions against chemical manufacturers generally seeking relief such as medical monitoring, property damages, off-site remediation, and punitive damages arising from alleged environmental actions (which may concern regulated or unregulated substances) or other torts without claiming present personal injuries. We also have noted a trend in public and private nuisance suits being filed on behalf of states, counties, cities, and utilities alleging harm to the general public and damages to natural resources. Various factors or developments in these nationwide trends or in the actions could result in future charges that could have a material adverse effect on us. An adverse outcome in any one or more of these matters could be material to our financial results and/or stock price, and could adversely impact the value of any of our brands that are associated with any such matters. As discussed below, we are a named defendant and/or indemnifying and defending DuPont in litigation related to the production and use of perfluorooctanoic acids and its salts, including the ammonium salt ("PFOA"); hexafluoropropylene oxide dimer acid ("HFPO Dimer Acid," sometimes referred to as "GenX" or "C3 Dimer Acid"); Aqueous Film Forming Foam ("AFFF"); perfluorinated and polyfluorinated compounds ("PFAS"); and other compounds.

We have received inquiries, government investigations, directives, multiple lawsuits, and other actions related to PFOA, GenX, AFFF, and PFAS as discussed in more detail in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*. These or other governmental inquiries or lawsuits could lead to our incurring liability for damages or other costs, a criminal or civil proceeding, the imposition of fines and penalties, and/or other remedies, as well as restrictions on or added costs for our business operations going forward, including in the form of restrictions on discharges at our Fayetteville Works site in Fayetteville, North Carolina ("Fayetteville") or otherwise. Additional lawsuits or inquiries also could be instituted related to these or other compounds in the future. Accordingly, the existing lawsuits and inquiries, and any such additional litigation, relating to our existing operations, PFOA, HFPO Dimer Acid, AFFF, PFAS and other perfluorinated and polyfluorinated compounds, or other compounds associated with our products or operations, could result in us incurring additional costs and liabilities, which may be material to our financial results.

In the ordinary course of business, we 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. Additionally, we may be required to indemnify DuPont with regard to liabilities allocated to, or assumed by us, under each of the separation agreement, the employee matters agreement, the tax matters agreement, and the intellectual property cross-license agreement that were executed prior to the Separation. These indemnification obligations to date have included defense costs associated with certain litigation matters as well as certain damages awards, settlements, and penalties. On August 24, 2017, we and DuPont entered into an amendment to the separation agreement concerning future PFOA litigation and costs not covered by the MDL Settlement as detailed in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*. Future PFOA-related costs and settlements could be significant and could exceed the amounts we have accrued with respect thereto, adversely affecting our results of operations. In addition, in the event that DuPont seeks indemnification for adverse trial rulings or outcomes, these indemnification claims could materially adversely affect our financial condition. Disputes with DuPont and others which may arise with respect to indemnification matters including disputes based on matters of law or contract interpretation, could materially adversely affect us.

We are subject to extensive environmental and health and safety laws and regulations that may result in unanticipated loss or liability related to our current and past operations, and that may result in significant additional compliance costs or obligations, which in either case, could reduce our profitability.

Our operations and production facilities are dependent upon attainment and renewal of requisite operating permits and are subject to extensive environmental and health and safety laws, regulations, and enforcements at national, international, and local levels in numerous jurisdictions relating to pollution, protection of the environment, climate change, transporting and storing raw materials and finished products, storing and disposing of hazardous wastes, and product content and other safety concerns. Such laws include, but are not limited to:

- U.S.-based regulations, such as the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA," often referred to as "Superfund"), the Resource Conservation and Recovery Act ("RCRA") and similar state and global laws for management and remediation of hazardous materials, the Clean Air Act ("CAA") and Clean Water Act ("CWA") and similar state and global laws for the protection of air and water resources, and the Toxic Substances Control Act ("TSCA");
- Foreign-based chemical control regulations, such as the Registration, Evaluation, Authorization, and Restriction of Chemicals ("REACH") in the EU, the Chemical Substances Control Law ("CSCL") in Japan, MEP Order No. 7 in China, and the Toxic Chemical Substance Control Act ("TCSCA") in Taiwan for the production and distribution of chemicals in commerce and reporting of potential adverse effects;
- The EU Emissions Trading System and similar local and global laws for regulating greenhouse gas ("GHG") emissions; and,
- Numerous local, state, federal, and foreign laws, regulations, and enforcements governing materials transport and packaging.

If we are found to be in violation of these laws, regulations, or enforcements, which may be subject to change based on legislative, scientific, or other factors, we may incur substantial costs, including fines, damages, criminal or civil sanctions, remediation costs, reputational harm, loss of sales or market access, or experience interruptions in our operations. We also may be subject to changes in our operations and production based on increased regulation or other changes to, or restrictions imposed by, any such additional regulations. Any operational interruptions or plant shutdowns may result in delays in production, or may cause us to incur additional costs to develop redundancies in order to avoid interruptions in our production cycles. In addition, the manner in which adopted regulations (including environmental and safety regulations) are ultimately implemented may affect our products, the demand for and public perception of our products, the reputation of our brands, our market access, and our results of operations. In the event of a catastrophic incident involving any of the raw materials we use or chemicals we produce, we could incur material costs as a result of addressing the consequences of such event and future reputational costs associated with any such event.

Our costs of complying with complex environmental laws, regulations, and enforcements, as well as internal voluntary programs, are significant and will continue to be significant for the foreseeable future. These laws, regulations, and enforcements may change and could become more stringent over time, which could result in significant additional compliance costs, increased costs of purchased energy or other raw materials, investments in, or restrictions on, our operations, or installation or modification of GHG emitting equipment. As a result of our current and historic operations, including the operations of divested businesses and certain discontinued operations, we also expect to continue to incur costs for environmental investigation and remediation activities at a number of our current or former sites and third-party disposal locations. However, the ultimate costs under environmental laws and the timing of these costs are difficult to accurately predict. While we establish accruals in accordance with U.S. generally accepted accounting principles ("GAAP"), the ultimate actual costs and liabilities may vary from the accruals because the estimates on which the accruals are based depend on a number of factors (many of which are outside of our control), including the nature of the matter and any associated third-party claims, the complexity of the site, site 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 and financial viability of other PRPs. See "Environmental Matters" within *Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations* and "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements* for further information. We also could incur significant additional costs as a result of additional contamination that is discovered or remedial obligations imposed in the future.

There is also a risk that one or more of our manufacturing processes, key raw materials, or products may be found to have, or be characterized or perceived as having, a toxicological or health-related impact on the environment or on our customers or employees or unregulated emissions, which could potentially result in our incurring liability in connection with such characterization and the associated effects of any toxicological or health-related impact. If such a discovery or characterization occurs, we may incur increased costs in order to comply with new regulatory requirements or as a result of litigation. In addition, the relevant materials or products, including products of our customers incorporating our materials or products, may be recalled, phased-out, or banned. Changes in laws, science or regulations, or their interpretation, and our customers' perception of such changes or interpretations may also affect the marketability of certain of our products.

For example, in May 2016, the European Chemicals Agency ("ECHA") accepted a proposal from France's competent authority under REACH to change the classification of TiO_2. ECHA's Committee for Risk Action ("RAC") provided the opinion that the evidence meets the criteria under the EU's Classification, Labeling and Packaging ("CLP") Regulation to classify TiO_2 as a Category 2 Carcinogen (suspected human carcinogen) by inhalation. To implement this opinion, the EU Commission ("EC") presented a draft of the full 14th Adaptation to Technical Progress ("ATP"), including a proposed classification (with notes) for the powder form of TiO_2 as a Category 2 Carcinogen by inhalation, as a delegated act for scrutiny by EU Council and Parliament. The scrutiny period ended in February 2020, with publication to follow shortly thereafter. Publication will then be followed by an 18-month implementation period before the act comes into enforcement. Upon publication of the act and our subsequent review of the additional regulatory measures enacted, we may be subject to increased requirements for TiO_2 product labeling, importing operations, and certain downstream use applications associated with TiO_2. This could increase our costs associated with our TiO_2 manufacturing and handling processes.

In June 2019, the Member States Committee of ECHA also voted to list HFPO Dimer Acid as a Substance of Very High Concern. The vote was based on Article 57(f) – equivalent level of concern having probable serious effects to the environment. This identification does not impose immediate regulatory restriction or obligations, but may lead to a future authorization or restriction of the substance, which could have an adverse effect on our results of operations, financial condition, and cash flows. In September 2019, Chemours filed an application with the EU Court of Justice for the annulment of the decision of ECHA to list HFPO Dimer Acid as a Substance of Very High Concern.

The businesses in which we compete are highly competitive. If our intellectual property were compromised or copied by competitors, or if our competitors were to develop similar or superior intellectual property or technology, our results of operations could be negatively affected.

Each of the businesses in which we operate is highly competitive. Competition in the performance chemicals industry is based on a number of factors such as price, product quality, and service. We face significant competition from major international and regional competitors. Some of our competitors have announced plans to expand their chloride capacity. Additionally, our Titanium Technologies business competes with numerous regional producers, including producers in China, who have expanded their readily-available production capacity during the previous five years. The risk of substitution of these Chinese producers by our customers could increase as these Chinese producers expand their use of chloride production technology. Similarly, we compete with various producers in our Fluoroproducts business, and the risk of substitution of these producers by our customers could increase if these producers develop better capabilities to manufacture products similar to our specialty fluoropolymers.

Intellectual property rights, including patents, trade secrets, confidential information, trademarks, and tradenames are important to our business. We endeavor to protect our intellectual property rights in key jurisdictions in which our products are produced or used and in jurisdictions into which our products are imported. Our success depends to a significant degree upon our ability to protect and preserve our intellectual property rights. However, we may be unable to obtain protection for our intellectual property in key jurisdictions. Although we own and have applied for numerous patents and trademarks throughout the world, we may have to rely on judicial enforcement of our patents and other proprietary rights. Our patents and other intellectual property rights may be challenged, invalidated, circumvented, and rendered unenforceable or otherwise compromised. A failure to protect, defend, or enforce our intellectual property could have an adverse effect on our financial condition and results of operations. Similarly, third parties may assert claims against us and our customers and distributors alleging our products infringe upon third-party intellectual property rights.

We also rely upon unpatented proprietary technology, know-how, and other trade secrets to maintain our competitive position. While we maintain policies to enter into confidentiality agreements with our employees and third parties to protect our proprietary expertise and other trade secrets, these agreements may not be enforceable or, even if legally enforceable, we may not have adequate remedies for breaches of such agreements. We also may not be able to readily detect breaches of such agreements. The failure of our patents or confidentiality agreements to protect our proprietary technology, know-how, or trade secrets could result in significantly lower revenues, reduced profit margins, or loss of market share.

If we must take legal action to protect, defend, or enforce our intellectual property rights, any suits or proceedings could result in significant costs and diversion of resources and management's attention, and we may not prevail in any such suits or proceedings. A failure to protect, defend, or enforce our intellectual property rights could have an adverse effect on our financial condition and results of operations.

Restrictions under the intellectual property cross-license agreement could limit our ability to develop and commercialize certain products and/or prosecute, maintain, and enforce certain intellectual property.

We depend to a certain extent on DuPont to prosecute, maintain, and enforce certain of the intellectual property licensed under the intellectual property cross-license agreement. Specifically, DuPont is responsible for filing, prosecuting, and maintaining patents that DuPont licenses to us. DuPont also has the first right to enforce such patents, trade secrets, and the know-how licensed to us by DuPont. If DuPont fails to fulfill its obligations or chooses to not enforce the licensed patents, trade secrets, or know-how under the intellectual property cross-license agreement, we may not be able to prevent competitors from making, using, and selling competitive products unless we are able to effectively exercise our secondary rights to enforce such patents, trade secrets, and know-how.

In addition, our restrictions under the intellectual property cross-license agreement could limit our ability to develop and commercialize certain products. For example, the licenses granted to us under the agreement may not extend to all new products, services, and businesses that we may enter in the future. These limitations and restrictions may make it more difficult, time-consuming, or expensive for us to develop and commercialize certain new products and services, or may result in certain of our products or services being later to market than those of our competitors.

If we are unable to innovate and successfully introduce new products, or new technologies or processes reduce the demand for our products or the price at which we can sell products, our profitability could be adversely affected.

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

Our results of operations and financial condition could be seriously impacted by business disruptions and security breaches, including cybersecurity incidents.

Business and/or supply chain disruptions, plant downtime, power outages, and/or information technology system and network disruptions, regardless of cause, including acts of sabotage, employee error or other actions, geo-political activity, military actions, and terrorism (including cyberterrorism) could seriously harm our operations, as well as the operations of our customers and suppliers. Further, the nature of our business dictates that we maintain significant concentrations of physical assets in certain geographical locations, some of which may be prone to weather-related events and natural disasters (which could be exacerbated by climate change). Such events could also seriously harm our operations, as well as the operations of our customers and suppliers, and accordingly, we continue to study the long-term implications of changing climate parameters on plant siting, operational issues, and water availability. Any of the aforementioned disruptions and/or events could have a negative impact on our business, results of operations, financial condition, and cash flows.

Failure to effectively prevent, detect, and recover from security breaches, including attacks on information technology and infrastructure by hackers, viruses, breaches due to employee error or other actions, or other disruptions, could result in misuse of our assets, business disruptions, loss of property including trade secrets and confidential business information, legal claims or proceedings, reporting errors, processing inefficiencies, negative media attention, loss of sales, and interference with regulatory compliance. Like most major corporations, we have been, and expect to be the target of industrial espionage, including cyberattacks, from time to time. We have determined that these attacks have resulted, and could result in the future, in unauthorized parties gaining access to certain confidential business information, and have included the obtaining of trade secrets and proprietary information related to the chloride manufacturing process for TiO_2 pigment by third parties. Although we do not believe that we have experienced any material losses to date related to these breaches, there can be no assurance that we will not suffer any such losses in the future. We plan to actively manage the risks within our control that could lead to business disruptions and security breaches. As these threats continue to evolve, particularly around cybersecurity, we may be required to expend significant resources to enhance our control environment, processes, practices, and other protective measures. Despite these efforts, such events could materially adversely affect our business, financial condition, or results of operations.

Our information technology is provided by a combination of internal and external services and service providers, and we rely on information technology in many aspects of our business, including internal and external communications, and the management of our accounting, finance, and supply chain functions. Further, our business involves the use, storage, and transmission of information about customers, suppliers, and employees. As we become more dependent on information technology to conduct our business, and as the number and sophistication of cyberattacks increases, the risks associated with cybersecurity, information security, and data privacy also increase. Failure to maintain effective internal control over our information technology and infrastructure could materially adversely affect our business, financial condition, or results of operations, and/or have a material adverse impact on our stock price.

Preparedness plans pertaining to the physical- and cyber-related aspects of our business have been developed and detail the actions needed in the event of unforeseen events or severe weather. These measures have historically been in place, and such activities and associated costs are driven by normal operational preparedness. However, there can be no assurance that such measures will be effective for a particular event that we may experience.

Our ability to make future strategic decisions regarding our manufacturing operations are subject to regulatory, environmental, political, legal, and economic risks, and to a certain extent may be subject to consents or cooperation from DuPont under the agreements entered into between us and DuPont as part of the Separation. These could adversely affect our ability to execute our future strategic decisions and our results of operations and financial condition.

One of the ways we may improve our business is through the expansion or improvement of our facilities. Construction of additions or modifications to facilities involves numerous regulatory, environmental, political, legal, and economic uncertainties that are beyond our control, and are subject to various start-up risks and consent to operate. Difficulties in obtaining any of the requisite licenses, permits, and authorizations from governmental or regulatory authorities could increase the total cost, delay, jeopardize, or prevent the construction or opening of such facilities. Our expansion or improvement projects may also require the expenditure of significant amounts of capital, and financing may not be available on economically acceptable terms, or at all. As a result, these projects may not be completed on schedule, at the budgeted cost, or at all, which may adversely affect our results of operations, financial condition, and cash flows. Moreover, our revenue may not increase immediately upon the expenditure of funds on a particular project or may be negatively impacted by regulatory or other developments relating to the chemicals we use or manufacture. As a result, we may not be able to realize our expected investment return, which could also adversely affect our results of operations, financial condition, and cash flows.

We periodically assess our manufacturing operations in order to manufacture and distribute our products in the most efficient manner. Based on our assessments, we may make strategic decisions regarding our manufacturing operations such as capital improvements to modernize certain units, move manufacturing or distribution capabilities from one plant or facility to another plant or facility, discontinue manufacturing or distributing certain products, or close or divest all or part of a manufacturing plant or facility, some of which have significant shared services and lease agreements with DuPont. These agreements may adversely impact our ability to make these strategic decisions regarding our manufacturing operations. Further, if such agreements are terminated or revised, we would have to assess and potentially adjust our manufacturing operations, the closure or divestiture of all or part of a manufacturing plant or facility that could result in future charges that could be significant.

If our long-lived assets become impaired, we may be required to record a significant charge to earnings.

We have a significant amount of long-lived assets on our consolidated balance sheets. Under GAAP, we review our long-lived assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Factors that may be considered a change in circumstances, indicating that the carrying value of our long-lived assets may not be recoverable, include, but are not limited to, changes in the industrial, economic, political, and social landscapes in which we operate, as well as competition or other factors leading to a reduction in expected long-term sales or profitability. We may be required to record a significant non-cash charge in our financial statements during the period in which any impairment of our long-lived assets is determined, negatively impacting our results of operations.

In March 2018, a civil association in Mexico filed a complaint against the government authorities involved in the permitting process of our new Mining Solutions facility under construction in Gomez Palacio, Durango, Mexico. The claimant sought and obtained a suspension from the district judge to stop our construction work. The suspension was subsequently lifted on appeal, and the matter is before the Supreme Court of Mexico. A second similar complaint was filed in September 2019 and, again, a suspension of construction was granted. We have filed an appeal. In the event that the suspension of construction is ultimately upheld, we would incur $26 million of contract termination fees with a third-party services provider. Additionally, at December 31, 2019, we had $144 million long-lived assets under construction at the facility, $7 million of other related prepaid costs, and $51 million of our goodwill assigned to the Mining Solutions reporting unit. While we currently believe these amounts are recoverable, any future assessment that could potentially deem the facility to be impaired would result in a non-cash charge that negatively impacts our results of operations.

Our operations could be materially impacted in the event of a failure of our information technology infrastructure.

We currently use an enterprise resource planning ("ERP") software platform that is no longer supported; however, we are able to pay for extended, customer-specific support, which can be costly. We are currently evaluating our options to upgrade or switch this platform. Any systems failure, accident, or security breach could result in significant costs or disruptions to our operations, which could have a material adverse effect on our business. Further, such improvements and upgrades are often complex, costly, and time-consuming. We may experience challenges integrating any new ERP software platform with our existing technology systems, or may uncover problems with our existing technology systems. Any unsuccessful attempt to upgrade or switch our ERP software platform could result in outages, a disruption to our operations and our ability to serve our customers, and/or damage to our reputation.

Hazards associated with chemical manufacturing, storage, containment, and transportation could adversely affect our results of operations.

There are hazards associated with chemical manufacturing and the related storage, containment, and transportation of raw materials, products, and wastes. These hazards could lead to an interruption or suspension of operations and have an adverse effect on the productivity and profitability of a particular manufacturing facility or on us as a whole. While we endeavor to provide adequate protection for the safe-handling of these materials, issues could be created by various events, including unforeseen accidents or defects, natural disasters, severe weather events, acts of sabotage, military actions, terrorism, and performance by third parties, and as a result, we could face the following potential hazards:

- piping and storage tank leaks and ruptures;
- mechanical failure;
- employee exposure to hazardous substances; and,
- chemical spills and other discharges or releases of toxic or hazardous substances or gases.

These hazards may cause personal injury and loss of life, damage to property, contamination of the environment, and damage to natural resources, which could lead to government fines and penalties, remedial obligations, work stoppage injunctions, claims and lawsuits by injured persons, damage to our public reputation and brands, loss of sales and market access, customer dissatisfaction, and diminished product acceptance. If such actions are determined adversely to us or there is an associated economic impact to our business, we may have inadequate insurance or cash flows to offset any associated costs. Such outcomes could adversely affect our financial condition and results of operations.

Our success depends on our ability to attract and retain key employees, and to identify and develop talented personnel to succeed our senior management and other employees.

Our success depends on the performance of our senior management team and other key employees. If we are unable to attract, retain, identify, and develop such individuals, whether due to technical, geographical, social, or other misalignment, our results of operations, financial condition, and cash flows could be adversely affected. Further, if we are unable to effectively plan for the succession of our senior management team, our results of operations, financial condition, and cash flows could be adversely affected, as we may be unable to realize our business strategy. While our ongoing personnel practices identify a succession process for our key employees, including our senior management team, we cannot guarantee the effectiveness of this process, the continuity of highly-qualified individuals serving in all of our key positions at particular moments in time, and/or the completeness of any knowledge transfer at the time of succession.

In addition, we expect to experience significant turnover at an operations level due to the demographics of our general workforce. Accordingly, we cannot guarantee the completeness of any knowledge transfer at the time of departure, or the continuity of key processes and/or internal controls over our financial reporting and disclosure controls and procedures.

Operating as a multi-national corporation presents risks associated with global and regional economic downturns and global capital market conditions as well as risks resulting from changes to regional regulatory requirements (including environmental standards).

Our business and operating results may in the future be adversely affected by global economic conditions, including instability in credit markets, declining consumer and business confidence, fluctuating commodity prices and interest rates, volatile exchange rates, and other challenges, such as tariffs on international trade and a changing financial regulatory environment that could affect the global economy. Such global economic conditions may be further affected by physical risks that stem from a number of root causes, including natural disasters and/or travel-based restrictions that may be driven by geo-political activities, military actions, terrorism, and the spread of pandemics, such as the novel coronavirus.

Our customers may experience deterioration of their businesses, shortages in cash flows, and difficulty obtaining financing. As a result, existing or potential customers may delay or cancel plans to purchase products and may not be able to fulfill their obligations to us in a timely fashion. Further, suppliers could experience similar conditions, which could impact their ability to supply materials or otherwise fulfill their obligations to us. Because we have significant international operations, there are a large number of currency transactions that result from our international sales, purchases, investments, and borrowings. Also, our effective tax rate may fluctuate because of variability in our geographic mix of earnings, changes in statutory rates, and taxes associated with the repatriation of our non-U.S. earnings. Future weakness in the global economy and failure to manage these risks could adversely affect our results of operations, financial condition, and cash flows in future periods.

In addition to the general risks associated with operating in the global economy, our revenue and profitability are largely dependent on the TiO_2 pigment industry and the industries that are the end-users of our fluoroproducts. TiO_2 pigment and our fluoroproducts, such as refrigerants and resins, are used in many "quality of life" products for which demand historically has been linked to global, regional, and local GDP and discretionary spending, which can be negatively impacted by regional and world events, or economic conditions. Such events, which may or may not impact all of our businesses at the same time or to the same degree, are likely to cause a decrease in the demand for our products and, as a result, may have an adverse effect on our results of operations and financial condition. The future profitability of our operations, and cash flows generated by those operations, will also be affected by the available supply of our products in the market. Our future Ti-Pure™ demand growth may be below average global GDP growth rates if our sales into developed markets outpace our sales into emerging markets. In addition, because demand for our fluorochemicals is driven in part by industry needs to comply with certain mandated environmental regulations (such as markets for refrigerants and foams with low GWP), changes in, the elimination of, or lack of enforcement of such environmental regulations in the U.S., the EU, or other jurisdictions can also negatively impact demand for such products and, as a result, our results of operations and financial condition.

Our reported results could be adversely affected by currency exchange rates and currency devaluation could impair our competitiveness.

Due to our international operations, we transact in many foreign currencies, including, but not limited to, the euro, the Mexican peso, the Chinese yuan, and the Japanese yen. As a result, we are subject to the effects of changes in foreign currency exchange rates. During times of a strengthening U.S. dollar, our reported net sales and operating income will be reduced because the local currency will be translated into fewer U.S. dollars. During periods of local economic crisis, local currencies may be devalued significantly against the U.S. dollar, potentially reducing our margin. For example, depreciation of the euro against the U.S. dollar has historically negatively impacted our results of operations, and further decline of the euro could affect future periods.

We enter into certain of our qualifying foreign currency forward contracts under a cash flow hedge program to mitigate the risks associated with fluctuations in the euro against the U.S. dollar for forecasted U.S. dollar-denominated inventory purchases for certain of our international subsidiaries. There can be no assurance that any hedging action will lessen the adverse impact of a variation in currency rates. Also, actions to recover margins may result in lower volume and a weaker competitive position, which may have an adverse effect on our profitability. For example, in our Titanium Technologies segment, a substantial portion of our manufacturing is located in the U.S. and Mexico, while our TiO_2 pigment is delivered to customers around the world. Furthermore, our ore cost is principally denominated in U.S. dollars. Accordingly, in periods when the U.S. dollar or Mexican peso strengthen against other local currencies, such as the euro, our costs are higher relative to some of our competitors who operate largely outside of the U.S., and the benefits we realize from having lower costs associated with our manufacturing process are reduced, impacting our profitability.

Effects of price fluctuations in energy and raw materials, our raw materials contracts, and our inability to renew such contracts, could have a significant impact on our earnings.

Our manufacturing processes consume significant amounts of energy and raw materials, the costs of which may be subject to worldwide supply and demand factors, global trade regulations and tariffs, GHG emissions-based regulations, and other factors beyond our control. Variations in the cost of energy, which primarily reflect market prices for oil and natural gas, and for raw materials may significantly affect our operating results from period to period. Additionally, consolidation in the industries providing our raw materials may have an impact on the cost and availability of such materials. To the extent we do not have fixed price contracts with respect to specific raw materials, we have no control over the costs of raw materials and such costs may fluctuate widely for a variety of reasons, including changes in availability, major capacity additions or reductions, or significant facility operating problems.

When possible, we have purchased, and we plan to continue to purchase, raw materials, including titanium-bearing ores and fluorspar, through negotiated medium-term or long-term contracts to minimize the impact of price fluctuations. To the extent that we have been able to achieve favorable pricing in our existing negotiated long-term contracts, we may not be able to renew such contracts at the current prices, or at all, and this may adversely impact our profitability and cash flows from operations. However, to the extent that the prices of the raw materials that we utilize significantly decline, we may be bound by the terms of our existing long-term contracts and obligated to purchase such raw materials at higher prices as compared to other market participants.

We attempt to offset the effects of higher energy and raw materials costs through selling price increases, productivity improvements, and cost reduction programs. However, the outcome of these efforts is largely determined by existing competitive and economic conditions, and may be subject to a time delay between the increase in our raw materials costs and our ability to increase prices, which could vary significantly depending on the market served. If we are not able to fully offset the effects of higher energy or raw materials costs, there could be a material adverse effect on our financial results.

In connection with our Separation, we were required to assume, and indemnify DuPont for, certain liabilities. As we may be required to make payments pursuant to these indemnities to DuPont, we may need to divert cash to meet those obligations and our financial results could be negatively affected. In addition, DuPont's obligation to indemnify us for certain liabilities may not be sufficient to insure us against the full amount of liabilities for which it will be allocated responsibility, and DuPont may not be able to satisfy its indemnification obligations in the future.

Pursuant to the separation agreement, the employee matters agreement, the tax matters agreement, and the intellectual property cross-license agreement, we entered into with DuPont prior to the Separation, we were required to assume, and indemnify DuPont for, certain liabilities. These indemnification obligations to date have included, among other items, defense costs associated with certain litigation matters as well as certain damages awards, settlement amounts, and penalties. In connection with MDL Settlement described in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*, we and DuPont entered into an amendment to the separation agreement concerning PFOA costs, the terms of which are also described in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*. Payments pursuant to these indemnities, whether relating to PFOA costs or otherwise, may be significant and could negatively impact our business, particularly indemnities relating to our actions that could impact the tax-free nature of the distribution. In addition, in the event that DuPont seeks indemnification for adverse trial rulings or outcomes, these indemnification claims could materially adversely affect our financial condition.

Disputes with DuPont and others which may arise with respect to indemnification matters, including disputes based on matter of law or contract interpretation, could materially adversely affect us. As described in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*, we have filed a lawsuit against DuPont regarding indemnification matters. As further described in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*, multiple lawsuits have been filed by third parties containing allegations that DuPont's separation of Chemours was fraudulent.

Third parties could also seek to hold us responsible for any of the liabilities of the DuPont businesses. DuPont has agreed to indemnify us for such liabilities, but such indemnity from DuPont may not be sufficient to protect us against the full amount of such liabilities, and DuPont may not be able to fully satisfy its indemnification obligations. Moreover, even if we ultimately succeed in recovering from DuPont any amounts for which we are held liable, we may be temporarily required to bear these losses ourselves. Each of these risks could negatively affect our business, financial condition, results of operations, and cash flows. See "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements* for further information.

In connection with our Separation, we were required to enter into numerous Separation-related and commercial agreements with our former parent company, DuPont, which may not reflect optimal or commercially beneficial terms to us.

Commercial agreements we entered into with DuPont prior to the Separation were formed in the context of the Separation while we were still a wholly-owned subsidiary of DuPont. Accordingly, during the period in which the terms of those agreements were formed, we did not have an independent board of directors or management independent of DuPont. Certain commercial agreements, having long terms and commercially-advantageous cancellation and assignment rights to DuPont, may not include adjustments for changes in industry and market conditions. There is a risk that the pricing and other terms under these agreements may not be commercially beneficial and may not be able to be changed in the future. The terms relate to, among other things, the allocation of assets, liabilities, rights, and obligations, including the provision of products and services and the sharing and operation of property, manufacturing, office, and laboratory sites, and other commercial rights and obligations between us and DuPont.

Our customers, prospective customers, suppliers, other companies with whom we conduct business, or regulators may need assurances that our financial stability is sufficient to satisfy their respective business or regulatory requirements.

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

We are a holding company that is dependent on cash flows from our operating subsidiaries to fund our debt obligations, capital expenditures, and ongoing operations.

All of our operations are conducted, and all of our assets are owned, by our operating companies, which are our subsidiaries. We intend to continue to conduct our operations at the operating companies and any future subsidiaries. Consequently, our cash flows and our ability to meet our obligations or make cash distributions depends upon the cash flows of our operating companies and any future subsidiaries, and the payment of funds by our operating companies and any future subsidiaries in the form of dividends or otherwise. The ability of our operating companies and any future subsidiaries to make any payments to us depends on their earnings, the terms of their indebtedness, including the terms of any credit facilities, and legal restrictions regarding the transfer of funds.

Our debt is generally the exclusive obligation of The Chemours Company and our guarantor subsidiaries, as described in "Note 20 – Debt" to the *Consolidated Financial Statements*. Because a significant portion of our operations are conducted by non-guarantor subsidiaries, our cash flows and our ability to service indebtedness, including our ability to pay the interest on our debt when due and principal of such debt at maturity, are dependent to a large extent upon cash dividends and distributions or other transfers from such non-guarantor subsidiaries. Any payment of dividends, distributions, loans, or advances by our non-guarantor subsidiaries to us could be subject to restrictions on dividends or repatriation of earnings under applicable local law, monetary transfer restrictions, and foreign currency exchange regulations in the jurisdictions in which our subsidiaries operate, and any restrictions imposed by the current and future debt instruments of our non-guarantor subsidiaries. In addition, payments to us by our subsidiaries are contingent upon our subsidiaries' earnings.

Our subsidiaries are separate legal entities and, except for our guarantor subsidiaries, have no obligation, contingent or otherwise, to pay any amounts due on our debt or to make any funds available for those amounts, whether by dividends, loans, distributions, or other payments, and do not guarantee the payment of interest on, or principal of, our debt. Any right that we have to receive any assets of any of our subsidiaries that are not guarantors upon the liquidation or reorganization of any such subsidiary, and the consequent right of holders of the outstanding notes to realize proceeds from the sale of their assets, will be structurally subordinated to the claims of that subsidiary's creditors, including trade creditors and holders of debt issued by that subsidiary.

Our failure to comply with the anti-corruption laws of the U.S. and various international jurisdictions could negatively impact our reputation and results of operations.

Doing business on a global basis requires us to comply with the laws and regulations of the U.S. government and those of various international and sub-national jurisdictions, and our failure to successfully comply with these rules and regulations may expose us to liabilities. These laws and regulations apply to companies, individual directors, officers, employees, and agents, and may restrict our operations, trade practices, investment decisions, and partnering activities. In particular, our international operations are subject to U.S. and foreign anti-corruption laws and regulations, such as the U.S. Foreign Corrupt Practices Act ("FCPA"), the U.K. Bribery Act 2010 ("Bribery Act"), as well as other anti-corruption laws of the various jurisdictions in which we operate. The FCPA, the Bribery Act, and other laws prohibit us and our officers, directors, employees, and agents acting on our behalf from corruptly offering, promising, authorizing, or providing anything of value to foreign officials for the purposes of influencing official decisions or obtaining or retaining business or otherwise obtaining favorable treatment. Our global operations may expose us to the risk of violating, or being accused of violating, the foregoing or other anti-corruption laws. Such violations could be punishable by criminal fines, imprisonment, civil penalties, disgorgement of profits, injunctions, and exclusion from government contracts, as well as other remedial measures. Investigations of alleged violations can be very expensive, disruptive, and damaging to our reputation. Although we have implemented anti-corruption policies and procedures, there can be no guarantee that these policies, procedures, and training will effectively prevent violations by our employees or representatives in the future. Additionally, we face a risk that our distributors and other business partners may violate the FCPA, the Bribery Act, or similar laws or regulations. Such violations could expose us to FCPA and Bribery Act liability and/or our reputation may potentially be harmed by their violations and resulting sanctions and fines.

We could be subject to changes in our tax rates and the adoption of tax legislation or exposure to additional tax liabilities that may adversely affect our results of operations, financial condition, and cash flows.

We are subject to taxes in the U.S. and non-U.S. jurisdictions where our subsidiaries are organized. Due to economic and political conditions, tax rates in various jurisdictions may be subject to significant change. Our future effective tax rates could be affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities, and changes in tax laws or their interpretations. Our tax returns and other tax matters are subject to examination by local tax authorities and governmental bodies. We regularly assess the likelihood of an adverse outcome resulting from these examinations to determine the adequacy of our provision for taxes. There can be no assurance as to the outcome of these examinations. If our effective tax rates were to increase, or if the ultimate determination of the taxes owed by us is for an amount in excess of amounts previously accrued, our operating results, financial condition, and cash flows could be adversely affected.

Failure to meet some or all of our key financial and non-financial targets could negatively impact the value of our business and adversely affect our stock price.

From time to time, we may announce certain key financial and non-financial targets that are expected to serve as benchmarks for our performance for a given time period, including goals for our future net sales growth, adjusted earnings before interest, taxes, depreciation, and amortization, adjusted earnings per share, free cash flows, return on invested capital, corporate responsibility, and/or sustainability. Our failure to meet one or more of these key targets may negatively impact our results of operations, stock price, and stockholder returns. The factors influencing our ability to meet these key targets include, but are not limited to, changes in the global economic environment, changes in our competitive landscape, including our relationships with new or existing customers, our ability to introduce new products, applications, or technologies, our undertaking of an acquisition, joint venture, or other strategic arrangement, the outcome of any new or existing litigation, our failure to comply with new or existing laws or regulations, and other factors described within this *Item 1A – Risk Factors*, many of which are beyond our control.

Risks Related to Our Indebtedness

Our current level of indebtedness could adversely affect our financial condition, and we could have difficulty fulfilling our obligations under our indebtedness, which may have a material adverse effect on us.

As of December 31, 2019, we had approximately $4.2 billion of indebtedness. At December 31, 2019, together with the guarantors, we had approximately $1.3 billion of indebtedness outstanding under our senior secured credit facilities, and an $800 million revolving credit facility ("Revolving Credit Facility") capacity, which would be senior secured indebtedness, if drawn (collectively, the "Senior Secured Credit Facilities"). Our current level of indebtedness increases the risk that we may be unable to generate cash sufficient to pay amounts due in respect of our indebtedness. The level of our indebtedness could have other important consequences on our business, including:

- making it more difficult for us to satisfy our obligations with respect to indebtedness;
- increasing our vulnerability to adverse changes in general economic, industry, and competitive conditions;
- requiring us to dedicate a significant portion of our cash flows from operations to make payments on our indebtedness, thereby reducing the availability of our cash flows to fund working capital and other general corporate purposes;
- limiting our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate;
- restricting us from capitalizing on business opportunities;
- placing us at a competitive disadvantage compared to our competitors that have less debt;
- limiting our ability to borrow additional funds for working capital, acquisitions, debt service requirements, execution of our business strategy, or other general corporate purposes;
- limiting our ability to enter into certain commercial arrangements because of concerns of counterparty risks; and,
- limiting our ability to adjust to changing market conditions and placing us at a competitive disadvantage compared to our competitors that have less debt.

The occurrence of any one or more of these circumstances could have a material adverse effect on us.

Our ability to make scheduled payments on and to refinance our indebtedness, including on our outstanding notes, depends on and is subject to our financial and operating performance, which in turn is affected by general and regional economic, financial, competitive, business, and other factors (many of which are beyond our control), including the availability of financing in the international banking and capital markets. We cannot be certain that our business will generate sufficient cash flows from operations or that future borrowings will be available to us in an amount sufficient to enable us to service our debt, including the outstanding notes, to refinance our debt, or to fund our other liquidity needs.

If we are unable to meet our debt service obligations or to fund our other liquidity needs, we will need to restructure or refinance all or a portion of our debt, including the outstanding notes. Failure to successfully restructure or refinance our debt could cause us to default on our debt obligations and would impair our liquidity. Our ability to restructure or refinance our debt will depend on the condition of the capital markets and our financial condition at such time. Any refinancing of our indebtedness could be at higher interest rates and may require us to comply with more onerous covenants that could further restrict our business operations.

Moreover, in the event of a default of our debt service obligations, the holders of the applicable indebtedness, including holders of our outstanding notes and the Senior Secured Credit Facilities, could elect to declare all the funds borrowed to be due and payable, together with accrued and unpaid interest. We cannot be certain that our assets or cash flows would be sufficient to fully repay borrowings under our outstanding debt instruments if accelerated upon an event of default. First, a default in our debt service obligations in respect of the outstanding notes would result in a cross-default under the Senior Secured Credit Facilities. The foregoing would permit the lenders under the Revolving Credit Facility to terminate their commitments thereunder and cease making further loans, and would allow the lenders under the Senior Secured Credit Facilities to declare all loans immediately due and payable and to institute foreclosure proceedings against their collateral, which could force us into bankruptcy or liquidation. Second, any event of default or declaration of acceleration under the Senior Secured Credit Facilities or certain other agreements relating to our outstanding indebtedness could also result in an event of default under the indenture governing the outstanding notes, and any event of default or declaration of acceleration under any other of our outstanding indebtedness may also contain a cross-default provision. Any such default, event of default, or declaration of acceleration could materially and adversely affect our results of operations and financial condition.

See “Note 20 – Debt” to the *Consolidated Financial Statements* for further discussion related to our indebtedness.

Despite our current level of indebtedness, we may incur substantially more debt and enter into other transactions, which could further exacerbate the risks to our financial condition described above.

Notwithstanding our current level of indebtedness, we may incur significant additional indebtedness in the future, including additional secured indebtedness (including the $800 million under the Revolving Credit Facility) that would be effectively senior to our outstanding notes. Although the indenture that governs the outstanding notes and the credit agreement that governs the Senior Secured Credit Facilities contain restrictions on our ability to incur additional indebtedness and to enter into certain types of other transactions, these restrictions are subject to a number of significant qualifications and exceptions. Additional indebtedness incurred in compliance with these restrictions, including additional secured indebtedness, could be substantial. These restrictions also do not prevent us from incurring obligations, such as trade payables, that do not constitute indebtedness as defined under our debt instruments. To the extent such new debt is added to our current debt levels, the substantial leverage risks described in the immediately preceding risk factor would increase.

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

Our industry is capital intensive, and we may require additional capital in the future to finance our growth and development, implement further marketing and sales activities, fund ongoing R&D activities, make investments driven by environmental compliance, and meet general working capital needs. Our capital requirements will depend on many factors, including acceptance of and demand for our products, the extent to which we invest in new technology and R&D projects, and the status and timing of these developments, as well as the general availability of capital from debt and/or equity markets. However, debt or equity financing may not be available to us on terms we find acceptable, if at all. If we are unable to raise additional capital when needed, our financial condition could be materially and adversely affected.

Additionally, our failure to maintain the credit ratings on our debt securities, including the outstanding notes, could negatively affect our ability to access capital and could increase our interest expense on future indebtedness. We expect the credit rating agencies to periodically review our capital structure and the quality and stability of our earnings. Deterioration in our capital structure or the quality and stability of our earnings could result in a downgrade of our overall credit ratings and our debt securities. Any negative rating agency actions could constrain the capital available to us, reduce or eliminate available borrowing to us, and could limit our access to and/or increase the cost of funding our operations. If, as a result, our ability to access capital when needed becomes constrained, our interest costs could increase, which could have material adverse effect on our results of operations, financial condition, and cash flows.

Our variable rate indebtedness subjects us to interest rate risk, which could cause our indebtedness service obligations to increase significantly.

Our borrowings under the Senior Secured Credit Facilities are at variable rates and expose us to interest rate risk. As a result, if interest rates increase, our debt service obligations under the Senior Secured Credit Facilities or other variable rate debt would increase, even though the amount borrowed would remain the same, and our net income and cash flows, including cash available for servicing our indebtedness, would correspondingly decrease. As of December 31, 2019, we had approximately $1.3 billion of our outstanding debt under the Senior Secured Credit Facilities at variable interest rates.

The agreements governing our indebtedness restrict our current and future operations, particularly our ability to respond to changes or to take certain actions.

The agreements governing our indebtedness, including the outstanding notes, contain, and the agreements governing future indebtedness and future debt securities may contain, significant restrictive covenants and, in the case of the Revolving Credit Facility, financial maintenance and negative covenants that will limit our operations, including our ability to engage in activities that may be in our long-term best interests. These restrictive covenants may limit us, and our restricted subsidiaries, from taking, or give rights to the holders of our indebtedness in the event of the following actions:

- incurring additional indebtedness and guaranteeing indebtedness and other obligations;
- paying dividends or making other distributions in respect of, or repurchasing or redeeming, our capital stock;
- making acquisitions or other investments;
- prepaying, redeeming, or repurchasing certain indebtedness;
- selling or otherwise disposing of assets;
- selling stock of our subsidiaries;
- incurring liens;
- entering into transactions with affiliates;
- entering into agreements restricting our subsidiaries' ability to pay dividends;
- entering into transactions that result in a change of control of us; and,
- consolidating, merging, or selling all or substantially all of our assets.

Our failure to comply with those covenants could result in an event of default that, if not cured or waived, could result in the acceleration of some or all of our indebtedness, which could lead us to bankruptcy, reorganization, or insolvency.

Risks Related to the Separation

If the distribution, in connection with the Separation, together with certain related transactions, were to fail to qualify for non-recognition treatment for U.S. federal income tax purposes, then we could be subject to significant tax and indemnification liability and stockholders receiving our common stock in the distribution could be subject to significant tax liability.

DuPont received a ruling from the U.S. Internal Revenue Service ("IRS") substantially to the effect that, among other things, the distribution in connection with the Separation qualified as a tax-free transaction under Section 355 and Section 368(a)(1)(D) of the Internal Revenue Code of 1986, as amended ("IRC"). The tax-free nature of the distribution was conditioned on the continued validity of the IRS Ruling, as well as on receipt of a tax opinion, in form and substance acceptable to DuPont, substantially to the effect that, among other things, the distribution would qualify as a tax-free transaction under Section 355 and Section 368(a)(1)(D) of the IRC, and certain transactions related to the transfer of assets and liabilities to us in connection with the Separation and distribution would not result in the recognition of any gain or loss to us, DuPont, or our stockholders. The IRS Ruling and the tax opinion relied on certain facts, assumptions, and undertakings, and certain representations from us and DuPont, regarding the past and future conduct of both respective businesses and other matters, and the tax opinion relies on the IRS Ruling. Notwithstanding the IRS Ruling and the tax opinion, the IRS could determine that the distribution or such related transactions should be treated as a taxable transaction if it determines that any of these facts, assumptions, representations, or undertakings were not correct, or that the distribution should be taxable for other reasons, including if the IRS were to disagree with the conclusions in the tax opinion that are not covered by the IRS Ruling.

If the distribution ultimately was determined to be taxable, then a stockholder of DuPont that received shares of our common stock in the distribution would be treated as having received a distribution of property in an amount equal to the fair market value of such shares on the distribution date and could incur significant income tax liabilities. Such distribution would be taxable to such stockholder as a dividend to the extent of DuPont's current and accumulated earnings and profits. Any amount that exceeded DuPont's earnings and profits would be treated first as a non-taxable return of capital to the extent of such stockholder's tax basis in its shares of DuPont stock with any remaining amount being taxed as a capital gain. DuPont would recognize a taxable gain in an amount equal to the excess, if any, of the fair market value of the shares of our common stock held by DuPont on the distribution date over DuPont's tax basis in such shares. In addition, if certain related transactions fail to qualify for tax-free treatment under U.S. federal, state, and/or local tax law, and/or foreign tax law, we and DuPont could incur significant tax liabilities under U.S. federal, state, and/or local tax law, and/or foreign tax law.

Generally, taxes resulting from the failure of the Separation and distribution or certain related transactions to qualify for non-recognition treatment under U.S. federal, state, and/or local tax law, and/or foreign tax law, would be imposed on DuPont or DuPont's stockholders and, under the tax matters agreement that we entered into with DuPont prior to the Separation, DuPont is generally obligated to indemnify us against such taxes to the extent that we may be jointly, severally, or secondarily liable for such taxes. However, under the terms of the tax matters agreement, we are also generally responsible for any taxes imposed on DuPont that arise from the failure of the distribution to qualify as tax-free for U.S. federal income tax purposes within the meaning of Section 355 of the IRC or the failure of such related transactions to qualify for tax-free treatment, to the extent such failure to qualify is attributable to actions, events, or transactions relating to our or our affiliates' stock, assets, or business, or any breach of our or our affiliates' representations, covenants, or obligations under the tax matters agreement (or any other agreement we enter into in connection with the Separation and distribution), the materials submitted to the IRS or other governmental authorities in connection with the request for the IRS Ruling or other tax rulings or the representation letter provided to counsel in connection with the tax opinion. Events triggering an indemnification obligation under the agreement include events occurring after the distribution that cause DuPont to recognize a gain under Section 355(e) of the IRC. Such tax amounts could be significant. To the extent we are responsible for any liability under the tax matters agreement, there could be a material adverse impact on our business, financial condition, results of operations, and cash flows in future reporting periods.

We are subject to continuing contingent tax-related liabilities of DuPont.

There are several significant areas where the liabilities of DuPont may become our obligations. For example, under the IRC and the related rules and regulations, each corporation that was a member of DuPont's consolidated tax reporting group during any taxable period or portion of any taxable period ending on or before the effective time of the distribution is jointly and severally liable for the U.S. federal income tax liability of the entire consolidated tax reporting group for such taxable period. In connection with the Separation and distribution, we entered into a tax matters agreement with DuPont that allocates the responsibility for prior period taxes of DuPont's consolidated tax reporting group between us and DuPont. If DuPont were unable to pay any prior period taxes for which it is responsible, however, we could be required to pay the entire amount of such taxes, and such amounts could be significant. Other provisions of federal, state, local, or foreign law may establish similar liability for other matters, including laws governing tax-qualified pension plans, as well as other contingent liabilities.

Risks Related to Our Common Stock

Our stock price could become more volatile and investments could lose value.

The market price for our common stock may be affected by a number of factors, including, but not limited to:

- our quarterly or annual earnings, or those of other companies in our industry;
- actual or anticipated fluctuations in our operating results;
- changes in earnings estimates by securities analysts or our ability to meet those estimates or our earnings guidance;
- anticipated or actual outcomes or resolutions of legal or other contingencies;
- the operating and stock price performance of other comparable companies;
- a change in our dividend or stock repurchase activities;
- changes in applicable rules and regulations and the reputation of our business;
- the announcement of new products by us or our competitors;
- overall market fluctuations and domestic and worldwide economic conditions; and,
- other factors described in this *Item 1A – Risk Factors*, and elsewhere within this Annual Report on Form 10-K.

A significant drop or rise in our stock price could expose us to costly and time-consuming litigation, which could result in substantial costs and divert management's attention and resources, resulting in an adverse effect on our business. As further described in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*, lawsuits have been filed alleging that Chemours and certain of its officers have violated the Exchange Act of 1934.

We cannot guarantee the timing or amount of our dividends and/or our share repurchases, which are subject to a number of uncertainties that may affect the price of our common stock.

The declaration, payment, and amount of any dividends, and/or the decision to purchase common stock under our share repurchase programs are subject to the sole discretion of our board of directors and, in the context of our financial policy and capital allocation strategy, will depend upon many factors, including our financial condition, operating results, cash flows, and relevant prospects, our capital requirements and access to capital markets, covenants associated with certain of our debt obligations, legal requirements, and other factors that our board of directors may deem relevant, and there can be no assurances that we will continue to pay a dividend or repurchase our common shares in the future.

The reduction or elimination of our dividends or share repurchase programs could adversely affect the price of our common stock. Additionally, any repurchases of our common stock will reduce the amount of our common stock outstanding. There can be no assurances that any share repurchase activity will increase stockholder value due to market fluctuations in the price of our common stock, which may reduce the price of our common stock to levels below the repurchase price. Although our share repurchase programs are designed to enhance long-term shareholder value, short-term fluctuations in the market price of our common stock could reduce the program's overall effectiveness.

A stockholder's percentage of ownership in us may be diluted in the future.

A stockholder's percentage ownership in our common stock may be diluted because of equity issuances for acquisitions, capital market transactions, or otherwise, including, without limitation, equity awards that we may be granting to our directors, officers, and employees. Such issuances may have a dilutive effect on our earnings per share, which could adversely affect the market price of our common stock.

In addition, our amended and restated certificate of incorporation authorizes us to issue, without the approval of our stockholders, one or more classes or series of preferred stock having such designation, powers, preferences, and relative participating, optional, and other special rights, including preferences over our common stock with respect to dividends and distributions, as our board of directors generally may determine. The terms of one or more classes or series of preferred stock could dilute the voting power or reduce the value of our common stock. For example, we could grant the holders of preferred stock the right to elect some number of our directors in all events or on the happening of specified events or to veto specified transactions. Similarly, the repurchase or redemption rights or liquidation preferences we could assign to holders of preferred stock could affect the residual value of our common stock.

Certain provisions in our amended and restated certificate of incorporation and amended and restated by-laws, and of Delaware law, may prevent or delay an acquisition of us, which could decrease the trading price of the common stock.

Our amended and restated certificate of incorporation and amended and restated by-laws contain, and Delaware law contains, provisions that are intended to deter coercive takeover practices and inadequate takeover bids by making such practices or bids unacceptably expensive to the bidder and to encourage prospective acquirers to negotiate with our board of directors rather than to attempt a hostile takeover. These provisions include, among others:

- the inability of our stockholders to act by written consent;
- the limited ability of our stockholders to call a special meeting;
- rules regarding how stockholders may present proposals or nominate directors for election at stockholder meetings;
- the right of our board of directors to issue preferred stock without stockholder approval;
- the ability of our directors, and not stockholders, to fill vacancies (including those resulting from an enlargement of the board of directors) on our board of directors; and,
- the requirement that stockholders holding at least 80% of our voting stock are required to amend certain provisions in our amended and restated certificate of incorporation and our amended and restated by-laws.

In addition, we are subject to Section 203 of the Delaware General Corporations Law ("DGCL"). Section 203 of the DGCL provides that, subject to limited exceptions, persons that (without prior board of directors approval) acquire, or are affiliated with a person that acquires, more than 15% of the outstanding voting stock of a Delaware corporation shall not engage in any business combination with that corporation, including by merger, consolidation, or acquisitions of additional shares, for a three-year period following the date on which that person or its affiliate becomes the holder of more than 15% of the corporation's outstanding voting stock.

We believe these provisions will protect our stockholders from coercive or otherwise unfair takeover tactics by requiring potential acquirers to negotiate with our board of directors and by providing our board of directors with more time to assess any acquisition proposal. These provisions are not intended to make us immune from takeovers. However, these provisions will apply even if an acquisition proposal or offer may be considered beneficial by some stockholders and could delay or prevent an acquisition that our board of directors determines is not in our best interests and/or our stockholders. These provisions may also prevent or discourage attempts to remove and replace incumbent directors.

Several of the agreements that we have entered into with DuPont require DuPont's consent to any assignment by us of our rights and obligations, or a change of control of us, under the agreements. The consent rights set forth in these agreements might discourage, delay, or prevent a change of control that a stockholder may consider favorable.

In addition, an acquisition or further issuance of our stock could trigger the application of Section 355(e) of the IRC. Under the tax matters agreement executed prior to the Separation, we would be required to indemnify DuPont for the tax imposed under Section 355(e) of the IRC resulting from an acquisition or issuance of its stock, even if it did not participate in or otherwise facilitate the acquisition, and this indemnity obligation might discourage, delay, or prevent a change of control that a stockholder may consider favorable. See the risk factor, "If the distribution, in connection with the Separation, together with certain related transactions, were to fail to qualify for non-recognition treatment for U.S. federal income tax purposes, then we could be subject to significant tax and indemnification liability and stockholders receiving our common stock in the distribution could be subject to significant tax liability" for further information.

Item 1B. UNRESOLVED STAFF COMMENTS

None.

Item 2. PROPERTIES

Our Production Facilities and Technical Centers

Our corporate headquarters is located in Wilmington, Delaware, and we maintain a global network of production facilities and technical centers located in cost-effective and strategic locations. We also use contract manufacturing and joint venture partners in order to provide regional access or to lower manufacturing costs, as appropriate.

The following chart sets forth our production facilities at December 31, 2019.

		Production Facilities		
Region	Fluoroproducts	Chemical Solutions	Titanium Technologies	Shared Locations
North America	El Dorado, Arkansas (1) Elkton, Maryland (1) Louisville, Kentucky Fayetteville, North Carolina Deepwater, New Jersey Parlin, New Jersey (2) Corpus Christi, Texas LaPorte, Texas (2) Washington, West Virginia	Memphis, Tennessee	DeLisle, Mississippi New Johnsonville, Tennessee Starke, Florida (Mine & Mineral Separation) Folkston, Georgia (Mine) Offerman, Georgia (Mineral Separation)	Pascagoula, Mississippi (4) Belle, West Virginia (4)
Europe, the Middle East, and Africa	Mechelen, Belgium Villers St. Paul, France (1) Dordrecht, Netherlands			
Latin America	Barra Mansa, Brazil (2) Manaus, Brazil (1) Monterrey, Mexico (1)		Altamira, Mexico	
Asia Pacific	Changshu, China Shanghai, China (3) Sichuan, China (3) Chiba, Japan (3) Shimizu, Japan (3)		Kuan Yin, Taiwan	

(1) Site is leased from a third party.

(2) Site is leased from DuPont.

(3) Site with joint venture equity affiliates.

(4) Shared site between the Chemical Solutions and Fluoroproducts segments.

We have technical centers and R&D facilities located at a number of our production facilities. We also maintain stand-alone technical centers to serve our customers and provide technical support.

The following chart sets forth our stand-alone technical centers at December 31, 2019.

		Technical Centers		
Region	Fluoroproducts	Chemical Solutions	Titanium Technologies	Shared Locations
North America	Deepwater, New Jersey			Newark, Delaware (All Segments) Wilmington, Delaware (All Segments) (2,4)
Europe, the Middle East, and Africa	Mechelen, Belgium Meyrin, Switzerland (2)		Kallo, Belgium (1)	
Latin America			Mexico City, Mexico (1)	
Asia Pacific	Shanghai, China (1) Shimizu, Japan (3)			Shanghai, China (All Segments) (1)

(1) Site is leased from a third party.

(2) Site is leased from DuPont.

(3) Site with joint venture equity affiliates.

(4) There are multiple sites at this location.

Our plants and equipment are maintained in good operating condition. We believe that we have sufficient production capacity for our primary products to meet demand in 2020. Our properties are primarily owned by us; however, certain properties are leased, as noted in the preceding tables.

We recognize that the security and safety of our operations are critical to our employees and communities, as well as our future. Physical security measures have been combined with process safety measures, administrative procedures, and emergency response preparedness into an integrated security plan. We conduct vulnerability assessments at our operating facilities in the U.S., as well as high-priority sites worldwide, and as a result, identify and implement the appropriate measures to protect these facilities from physical and cyberattacks. We are partnering with carriers, including railroad, shipping, and trucking companies, to secure chemicals in transit.

Item 3. LEGAL PROCEEDINGS

Legal Proceedings

We are subject to various legal proceedings, including, but not limited to, product liability, intellectual property, personal injury, commercial, contractual, employment, governmental, environmental, anti-trust, and other such matters that arise in the ordinary course of business. Information regarding certain of these matters is set forth below and in “Note 22 – Commitments and Contingent Liabilities” to the *Consolidated Financial Statements*.

Litigation

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 and other litigation matters is included in “Note 22 – Commitments and Contingent Liabilities” to the *Consolidated Financial Statements*.

Fayetteville, North Carolina

The following actions related to Fayetteville, as discussed in “Note 22 – Commitments and Contingent Liabilities” to the *Consolidated Financial Statements*, are filed in the U.S. District Court for the Eastern District of North Carolina, Southern Division:

- *Carey et al. vs. E. I. DuPont de Nemours and Company* (7:17-cv-00189-D; 7:17-cv-00197-D; and, 7:17-cv-00201-D);
- *Cape Fear Public Utility Authority vs. The Chemours Company FC, LLC et al. and Brunswick County v. DowDuPont et al.* (7:17-cv-00195-D and 7:17-cv-00209-D); and,
- *Dew et al. vs. E. I. DuPont de Nemours and Company et al.* (17:18-cv-00030-D).

Environmental Proceedings

LaPorte, Texas

The U.S. Environmental Protection Agency (“EPA”) conducted a multimedia inspection at the DuPont LaPorte, Texas facility in January 2008. DuPont, the EPA, and the U.S. Department of Justice 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 negotiations continue. We operate a fluoroproducts production facility at this site.

A Proposed Consent Agreement and Final Order (“CAFO”) was received from the EPA in January 2020, alleging CAA Section 112(r) violations at the LaPorte, Texas site. The alleged violations are under the CAA’s chemical accident prevention provisions (40 CFR Part 68), and the EPA states that it is seeking a civil penalty of $0.6 million for negotiation purposes. We are reviewing the draft CAFO and the alleged violations, and will respond to the EPA. At this time, we believe a loss is reasonably possible.

Dordrecht, Netherlands

We have complied with requests from the local environmental agency ("DCMR," formerly under the jurisdiction of "OZHZ"), the Labor Inspectorate ("iSZW"), the Inspectorate for Environment and Transportation ("ILT"), and the Water Authority ("RWS") in the Netherlands for information and documents regarding the Dordrecht site's operations. We have complied with the requests, and the agencies have published several reports between 2016 and 2018, all of them publicly available. The National Institute for Public Health and the Environment ("RIVM") has also published several reports with respect to PFOA and GenX. In December 2018, DCMR imposed a €1 million fine after undertaking waste water tests, which detected low levels of PFOA. DCMR continued taking samples and has imposed three additional fines between January and May 2019, each of which was €0.25 million. We have appealed all the fines, and we believe that we have valid defenses to prevail. We continue to cooperate with all authorities in responding to information requests.

Louisville, Kentucky

In October 2019, we received a $0.15 million fine from the Federal Rail Administration ("FRA") based on the results of an investigation of our Antimony Pentachloride railcar shipments, fleet, commodity code accuracy, and condition of valves. We are continuing to investigate this matter and have submitted a response to the FRA in December 2019.

Fayetteville, North Carolina

In February 2019, we received a Notice of Violation ("NOV") from the EPA alleging certain TSCA violations at Fayetteville. Matters raised in the NOV could have the potential to affect operations at Fayetteville. We responded to the EPA in March 2019, asserting that we have not violated environmental laws. At this time, management does not believe that a loss is probable related to the matters in this NOV. Further discussion related to this matter is included in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*.

Item 4. MINE SAFETY DISCLOSURES

Information regarding mine safety and other regulatory actions at our surface mines in Starke, Florida and Folkston, Georgia and our mineral sands separation facility in Offerman, Georgia is included in *Exhibit 95* to this Annual Report on Form 10-K.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

The following list sets forth our executive officers and a summary of their professional experience.

Mark P. Vergnano, age 62, serves as our President and Chief Executive Officer ("CEO"). Prior to joining Chemours, he held roles of increasing responsibility at DuPont. In October 2009, Mr. Vergnano was appointed Executive Vice President of DuPont and was responsible for multiple businesses and functions, including the businesses in the Chemours segment: DuPont Chemicals and Fluoroproducts and Titanium Technologies. In June 2006, he was named Group Vice President of DuPont Safety and Protection. In October 2005, he was named Vice President and General Manager – Surfaces and Building Innovations. In February 2003, he was named Vice President and General Manager – Nonwovens. Prior to that, he had several assignments in manufacturing, technology, marketing, sales, and business strategy. Mr. Vergnano joined DuPont in 1980 as a process engineer. Mr. Vergnano was appointed Chairman of the National Safety Council in 2017 and has served on its board of directors since 2007. He has also served on the board of directors of the American Chemistry Council since 2015 and was appointed Chairman in 2019, and he has served on the board of directors of Johnson Controls International plc since 2016. He previously served on the board of directors of Johnson Controls, Inc. from 2011 to 2016.

Mark E. Newman, age 56, serves as our Senior Vice President and Chief Operating Officer ("COO"). Mr. Newman was appointed Senior Vice President and COO in June 2019, prior to which time he had served as our Senior Vice President and Chief Financial Officer ("CFO") since November 2014. Mr. Newman joined Chemours in November 2014 from SunCoke Energy, Inc. ("SunCoke"), where he was SunCoke's Senior Vice President and CFO and led its financial, strategy, business development, and information technology functions. Mr. Newman joined SunCoke's leadership team in March 2011 to help drive SunCoke's separation from its parent company, Sunoco, Inc. He led SunCoke through an initial public offering and championed a major restructuring of SunCoke, which resulted in the initial public offering of SunCoke Energy Partners, L.P. in January 2013, creating the first coke-manufacturing master limited partnership. Prior to joining SunCoke, Mr. Newman served as Vice President – Remarketing and Managing Director of SmartAuction, Ally Financial Inc. (previously, the General Motors Acceptance Corporation). Mr. Newman began his career at the General Motors Company in 1986 as an Industrial Engineer and progressed through several financial and operational leadership roles within the global automaker, including Vice President and CFO of Shanghai General Motors Limited; Assistant Treasurer of General Motors Corporation; and, Vice President – North America and CFO. Mr. Newman has served on the board of Altria Group, Inc. since February 2018.

Sameer Ralhan, age 46, serves as our Senior Vice President, CFO, and Treasurer. Mr. Ralhan was appointed Senior Vice President and CFO in June 2019. Mr. Ralhan joined Chemours in November 2014 and has held several positions of increasing responsibility in strategy, mergers and acquisitions ("M&A"), finance, and treasury. He served as Vice President, Business Finance and Treasurer from 2018 to 2019, and Vice President, Business Finance and Head of M&A from 2016 to 2018. He also served as Treasurer and Head of M&A from 2015 to 2016, and Head of M&A from 2014 to 2015. Prior to joining Chemours, Mr. Ralhan served as a Managing Director in the Global Natural Resources Group of Goldman Sachs & Co. During his tenure at Goldman Sachs and Co., from 2007 to 2014, he advised companies in the chemicals, industrials, and basic materials sectors on M&A, portfolio transformations, corporate finance matters, and capital markets transactions. Mr. Ralhan also served as an associate in the investment banking group of Bank of America Securities, LLC from 2004 to 2007. Mr. Ralhan began his career as a Chemical Engineer and brings chemicals industry operating experience from his time (1998 – 2002) at Aspen Technology, Inc., where, as an advanced process control engineer, he executed manufacturing process improvement and operational enhancement initiatives for several global chemical and petrochemical companies.

Edwin C. Sparks, age 46, serves as our President – Fluoroproducts and President – Chemical Solutions. Mr. Sparks was appointed to these roles in October 2019 and April 2018, respectively. Previously, he served as Director of Corporate Strategy from 2017 to 2018 and Global Planning Director – Titanium Technologies from 2016 to 2017. He also served as the Asia Pacific Business Director – Titanium Technologies from 2015 to 2016, based in Singapore. Prior to joining Chemours, he held leadership positions of increasing scope in the DuPont Titanium Technologies business, with responsibilities including sales, marketing, operations, strategy, and technology. Mr. Sparks joined DuPont in 1994 as a process engineer.

Bryan Snell, age 63, serves as our President – Titanium Technologies. Mr. Snell was appointed President – Titanium Technologies in May 2015. Previously, he served as Planning Director – DuPont Performance Chemicals from 2014 to 2015. Prior to that, he held leadership positions in DuPont Titanium Technologies, including Planning Director from 2011 to 2012 in Wilmington, Delaware and from 2012 to 2013 in Singapore, and Global Sales and Marketing Director from 2008 to 2010. Mr. Snell served as Regional Operations Director – DuPont Coatings and Color Technologies Platform in 2007 and 2008. He was based in Taiwan from 2002 to 2006, in the roles of Plant Manager – Kuan Yin Plant and Asia Pacific Regional Director, DuPont Titanium Technologies. Mr. Snell joined DuPont in 1978 as a process engineer and has experience in nuclear and petrochemical operations, as well as sales, business strategy, and mergers and acquisitions.

David C. Shelton, age 56, serves as our Senior Vice President, General Counsel, and Corporate Secretary. Prior to Chemours, Mr. Shelton was appointed Associate General Counsel for DuPont in 2011 and was responsible for the U.S. Commercial team, which included the business lawyers and paralegals counseling all DuPont business units, with the exception of Agriculture. Mr. Shelton also served as the Commercial Attorney to a variety of DuPont businesses including the Performance Materials platform, which he advised on international assignment in Geneva, and the businesses now comprising the DuPont Chemicals and Fluoroproducts business unit. Prior to that, Mr. Shelton advised the company on environmental and remediation matters as part of the environmental legal team. Mr. Shelton joined DuPont in 1996, after seven years in private practice as a litigator in Pennsylvania and New Jersey.

Susan M. Kelliher, age 53, serves as our Senior Vice President – Human Resources and Health Services. Ms. Kelliher joined Chemours in 2017 from Albemarle Corporation ("Albemarle"), where she served as Senior Vice President – Human Resources for the global specialty chemical company. Prior to Albemarle, she served as Vice President – Human Resources at Hewlett Packard, where she held a number of leadership positions on global teams including Imaging and Printing and Global Sales and Enterprise Marketing from 2007 to 2012. Before joining Hewlett Packard, Ms. Kelliher served as Vice President – Human Resources for Cymer, Inc. ("Cymer"), where she led the people function. She joined Cymer from The Home Depot where, from 2004 to 2007, she was the Vice President – Human Resources for the growth engines of the company – Business Development and Home Services including responsibility for due diligence and integration for the company's acquisitions. From 2000 to 2004, Ms. Kelliher served as Senior Director of Human Resources for Corporate Business Development and International Operations for the Raytheon Company ("Raytheon"). Prior to Raytheon, she served as the Director of Human Resources – Western Region for YUM! Brands, Pizza Hut division from 1995 to 2000. Ms. Kelliher started her career at Mobil Oil, where her career progressed through a variety of assignments including support for new ventures in Europe, Russia, and Africa from 1990 to 1995.

Erich Parker, age 68, serves as our Senior Vice President of Corporate Communications and Chief Brand Officer. Mr. Parker was appointed Creative Director and Global Director of Corporate Communications of DuPont in 2010. He led the initiative to develop corporate positioning and its creative expression through branded content and program sponsorship with large international news media outlets. In 2008, Mr. Parker was appointed Communications Leader for DuPont's Safety and Protection Platform. Prior to joining DuPont, Mr. Parker was principal of his own public relations and marketing communications firm based in Washington, District of Columbia and New York. Mr. Parker has also served as Executive Vice President of Association and Issues Management; Director of Communications for the American Academy of Actuaries; founding publisher and Executive Editor of the magazine, Contingencies; and, Public Affairs Aide for Renewable Energy to the Secretary of Energy, U.S. Department of Energy.

PART II

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

Market for Registrant's Common Equity and Related Stockholder Matters

Our common stock is listed on the New York Stock Exchange ("NYSE") under the symbol, "CC." The number of record holders of our common stock was 45,310 at February 10, 2020. Holders of our common stock are entitled to receive dividends when they are declared by our board of directors, and dividends are generally declared and paid on a quarterly basis. The stock transfer agent and registrar is Computershare Trust Company, N.A.

Unregistered Sales of Equity Securities

None.

Issuer Purchases of Equity Securities

2017 Share Repurchase Program

On November 30, 2017, our board of directors approved a share repurchase plan authorizing the purchase of shares of our issued and outstanding common stock in an aggregate amount not to exceed $500 million, plus any associated fees or costs in connection with our share repurchase activity (the "2017 Share Repurchase Program"). Under the 2017 Share Repurchase Program, shares of our common stock were purchased in the open market from time to time, subject to management's discretion, as well as general business and market conditions. Our 2017 Share Repurchase Program became effective on November 30, 2017, and was announced to the public on December 1, 2017. On May 31, 2018, we completed the aggregate $500 million in authorized purchases of our issued and outstanding common stock under the 2017 Share Repurchase Program, which amounted to a cumulative 10,085,647 shares purchased at an average share price of $49.58 per share. All common shares purchased under the 2017 Share Repurchase Program are held as treasury stock and are accounted for using the cost method.

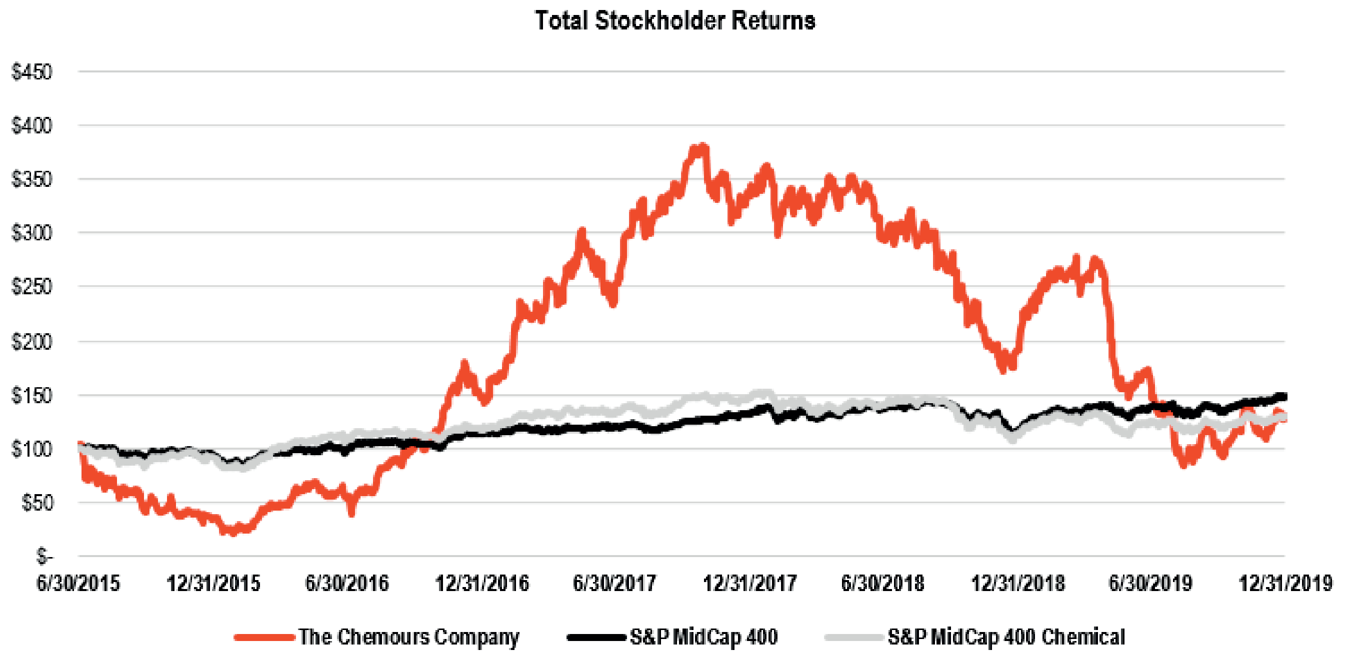
2018 Share Repurchase Program

On August 1, 2018, our board of directors approved a share repurchase program authorizing the purchase of shares of our issued and outstanding common stock in an aggregate amount not to exceed $750 million, plus any associated fees or costs in connection with our share repurchase activity (the "2018 Share Repurchase Program"). On February 13, 2019, our board of directors increased the authorization amount of the 2018 Share Repurchase Program from $750 million to $1.0 billion. Under the 2018 Share Repurchase Program, shares of our common stock can be purchased on the open market from time to time, subject to management's discretion, as well as general business and market conditions. Our 2018 Share Repurchase Program became effective on August 1, 2018, was announced to the public on August 2, 2018, and will continue through the earlier of its expiration on December 31, 2020, or the completion of repurchases up to the approved amount. The program may be suspended or discontinued at any time. All common shares purchased under the 2018 Share Repurchase Program are expected to be held as treasury stock and accounted for using the cost method.

As of December 31, 2019, we have purchased a cumulative 15,245,999 shares of our issued and outstanding common stock under the 2018 Share Repurchase Program, which amounted to $572 million at an average share price of $37.52 per share. There were no share repurchases under the 2018 Share Repurchase Program for the three months ended December 31, 2019. The aggregate amount of our common stock that remained available for purchase under the 2018 Share Repurchase Program at December 31, 2019 was $428 million.

Stock Performance Graph

The following graph presents the cumulative total stockholder returns for our common stock compared with the Standard & Poor's ("S&P") MidCap 400 and the S&P MidCap 400 Chemical indices since our Separation from DuPont on July 1, 2015, the date that our common stock began "regular-way" trading on the NYSE.



The graph assumes that the values of our common stock, the S&P MidCap 400 index, and the S&P MidCap 400 Chemical index were each $100 on July 1, 2015, and that all dividends were reinvested.

Item 6. SELECTED HISTORICAL CONSOLIDATED FINANCIAL DATA

The selected historical consolidated financial data for each of the years ended December 31, 2019, 2018, and 2017, and as of December 31, 2019 and 2018 was derived from the audited consolidated financial statements included in the *Consolidated Financial Statements* of this Annual Report on Form 10-K. The selected historical consolidated financial data for each of the years ended December 31, 2016 and 2015, and as of December 31, 2017, 2016, and 2015 was derived from our audited consolidated financial statements not included in this Annual Report on Form 10-K.

The selected historical consolidated financial data for the first six months of the year ended December 31, 2015 includes expenses of DuPont that were allocated to us for certain corporate functions, including information technology, R&D, finance, legal, insurance, compliance, and human resources activities. These costs may not be representative of our actual costs as an independent, publicly-traded company. In addition, our selected historical consolidated financial data does not reflect changes related to our Separation from DuPont, including changes in our cost structure, personnel needs, tax structure, capital structure, financing, and business operations. Consequently, the financial information included herein may not necessarily reflect what our financial position, results of operations, and cash flows would have been had we been an independent, publicly-traded company during the periods presented. Accordingly, these historical results should not be relied upon as an indicator of our future performance. For a better understanding of our financial results, this section should be read in conjunction with *Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations* and the *Consolidated Financial Statements*.

The following table sets forth our selected historical consolidated financial data as of and for the years ended December 31, 2019, 2018, 2017, 2016, and 2015.

	Year Ended December 31,				
(Dollars in millions, except per share amounts)	2019	2018	2017	2016	2015
Summary consolidated statements of operations data					
Net sales	$ 5,526	$ 6,638	$ 6,183	$ 5,400	$ 5,717
Restructuring, asset-related, and other charges	87	49	57	170	333
(Loss) income before income taxes	(124)	1,155	912	(11)	(188)
(Benefit from) provision for income taxes	(72)	159	165	(18)	(98)
Net (loss) income attributable to Chemours	(52)	995	746	7	(90)
Basic (loss) earnings per share of common stock (1,2)	(0.32)	5.62	4.04	0.04	(0.50)
Diluted (loss) earnings per share of common stock (1,2)	(0.32)	5.45	3.91	0.04	(0.50)
Summary consolidated balance sheets data					
Working capital, net (3)	$ 1,236	$ 1,584	$ 1,845	$ 782	$ 835
Total assets	7,258	7,362	7,293	6,060	6,298
Debt, net (4)	4,160	3,972	4,112	3,544	3,954
Other summary consolidated financial data					
Purchases of property, plant, and equipment	$ 481	$ 498	$ 411	$ 338	$ 519
Depreciation and amortization	311	284	273	284	267
Dividends per share of common stock (5,6)	1.00	0.67	0.29	0.12	0.58

(1) For the first six months of the year ended December 31, 2015, pro forma earnings per share was calculated based on 180,966,833 shares of our common stock that were distributed to DuPont's shareholders on July 1, 2015. The same number of shares was used to calculate basic and diluted earnings per share since none of our equity awards were outstanding prior to the Separation.

(2) In periods where the Company incurs a net loss, the impact of potentially dilutive securities is excluded from the calculation of earnings per share as its inclusion would have an anti-dilutive effect.

(3) Defined as current assets minus current liabilities. Our current assets include cash and cash equivalents of $943 million, $1.2 billion, $1.6 billion, $902 million, and $366 million at December 31, 2019, 2018, 2017, 2016, and 2015, respectively.

(4) Amounts at December 31, 2019, 2018, 2017, 2016, and 2015 include unamortized debt issuance costs and discount of $36 million, $45 million, $49 million, $47 million, and $60 million, respectively.

(5) Dividends per share of common stock for the year ended December 31, 2015 includes the following: (i) dividends of an aggregate amount of $100 million declared prior to the Separation by our then-board of directors (consisting of DuPont employees), which was paid on September 11, 2015 to our stockholders of record as of August 3, 2015; and, (ii) dividends of $0.03 per share declared after the Separation by our independent board of directors, which was paid on December 14, 2015 to our shareholders of record as of November 13, 2015.

(6) Dividends per share of common stock for the year ended December 31, 2017 includes a $0.17 per share dividend declared in December 2017, which was paid on March 15, 2018 to our shareholders of record as of February 15, 2018. In the third quarter of 2018, we increased our quarterly dividend declared to $0.25 per share. Our quarterly dividends declared in 2019 remained at $0.25 per share.

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

This Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") supplements the Consolidated Financial Statements and the related notes thereto included elsewhere herein to help provide an understanding of our financial condition, changes in our financial condition, and the results of our operations for the years ended December 31, 2019 and 2018 and the changes therein. For the year ended December 31, 2017, and changes from the year ended December 31, 2017 to the year ended December 31, 2018, management's discussion and analysis pertaining to our financial condition, changes in our financial condition, and the results of our operations have been omitted from this MD&A and may be found in Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations as included in our Annual Report on Form 10-K for the year ended December 31, 2018.

Our forward-looking statements are based on certain assumptions and expectations of future events that may not be accurate or realized. These statements, as well as our historical performance, are not guarantees of future performance. Forward-looking statements also involve risks and uncertainties that are beyond our control. Additionally, there may be other risks and uncertainties that we are unable to identify at this time or that we do not currently expect to have a material impact on our business. Factors that could cause or contribute to these differences include, but are not limited to, the risks, uncertainties, and other factors discussed within Item 1A – Risk Factors.

This MD&A should be read in conjunction with the Consolidated Financial Statements and the related notes thereto included elsewhere in this Annual Report on Form 10-K.

Overview

We are a leading, global provider of performance chemicals that are key inputs in end-products and processes in a variety of industries. We deliver customized solutions with a wide range of industrial and specialty chemical products for markets, including plastics and coatings, refrigeration and air conditioning, general industrial, electronics, mining, and oil refining. Our principal products include refrigerants, industrial fluoropolymer resins, sodium cyanide, performance chemicals and intermediates, and TiO_2 pigment. We manage and report our operating results through three reportable segments: Fluoroproducts, Chemical Solutions, and Titanium Technologies. Our Fluoroproducts segment is a leading, global provider of fluoroproducts, including refrigerants and industrial fluoropolymer resins. Our Chemical Solutions segment is a leading, North American provider of industrial chemicals used in gold production, industrial, and consumer applications. Our Titanium Technologies segment is a leading, global provider of TiO_2 pigment, a premium white pigment used to deliver whiteness, brightness, opacity, and protection in a variety of applications.

Recent Developments

Fayetteville Works, Fayetteville, North Carolina

In February 2019, we entered into a final Consent Order with the North Carolina Department of Environmental Quality ("NC DEQ") and Cape Fear River Watch, a non-profit organization. The final Consent Order comprehensively addressed certain legal and environmental matters at our Fayetteville Works site in Fayetteville, North Carolina ("Fayetteville") and was accepted by the North Carolina Superior Court for Bladen County.

In connection with the Consent Order, a thermal oxidizer ("TO") became fully operational at the site in December 2019, and we switched to the permitted operating scenario for the TO on December 31, 2019 as required by the Consent Order. The TO is designed to reduce aerial PFAS emissions from Fayetteville, and, within 90 days of installation, we, along with the North Carolina Division of Air Quality, will conduct testing to confirm whether the TO is destroying 99.99% of all PFAS air emissions routed to it, utilizing a 2017 baseline.

In the fourth quarter of 2019, we completed and submitted our Cape Fear River PFAS Loading Reduction Plan - Supplemental Information Report and Corrective Action Plan ("CAP") to NC DEQ. The Supplemental Information Report provides information to support the evaluation of potential remedial options to reduce PFAS loadings to surface waters, including interim alternatives. The CAP describes potential remediation activities to address PFAS in on-site groundwater and surface waters at the site, in accordance with the requirements of the Consent Order and the North Carolina groundwater standards, and builds on the previous submissions to NC DEQ. In the fourth quarter of 2019, based on the Consent Order, CAP, and our plans, we accrued an additional $132 million related to the estimated cost of on-site remediation.

See "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements* for further information about environmental remediation at Fayetteville.

Netherlands Pension Plan

In the fourth quarter of 2019, we completed a settlement transaction related to a significant portion of our Netherlands pension plan. The future risk, responsibility, and administration associated with the $932 million of inactive participants' vested pension benefits was transferred to a third-party asset management company via an irrevocable transaction in December 2019, thereby eliminating our exposure to the pension liabilities and formally effecting the settlement. The cumulative loss associated with the inactive participants' vested pension benefits was recognized in earnings, resulting in a charge of $380 million recognized in other expense, net in the consolidated statements of operations. At December 31, 2019, the projected benefit obligations associated with the plan's active employees remained on our consolidated balance sheet.

2019 Restructuring Program

In an effort to better align our cost structure with market opportunities, we recorded net severance charges of $22 million during the year ended December 31, 2019. Impacted employees are subject to our customary involuntary termination benefits. The majority of the employees separated from the Company during the fourth quarter of 2019, and the majority of the associated severance payments will be made by the end of 2020.

Also, in the third quarter of 2019, we announced plans to exit the Methylamines and Methylamides business at our Belle, West Virginia manufacturing plant, which culminated in our completed exit and sale of the business to Belle Chemical Company, a subsidiary of Cornerstone Chemical Company, in the fourth quarter of 2019. As a result, for the year ended December 31, 2019, we recorded accelerated depreciation of $34 million, which is reflected as a component of restructuring, asset-related, and other charges in the consolidated statement of operations. Upon completion of the sale, we also recorded an additional pre-tax loss on sale of $2 million, net of a benefit from working capital adjustments, in other expense, net in the consolidated statements of operations. Both of the aforementioned charges relate to Chemical Solutions, and we do not expect to incur additional charges related to our exit of the Methylamines and Methylamides business.

Accounts Receivable Securitization Facility

In July 2019, we, through a wholly-owned special purpose entity, entered into an accounts receivable securitization facility ("Securitization Facility") to enhance our liquidity. The original borrowings amounted to $125 million, which, along with available cash, was used to pay down our then outstanding revolving loan. At December 31, 2019, our net borrowings under the Securitization Facility were $110 million.

Capital Allocation

For the year ended December 31, 2019, we returned $486 million in cash to our shareholders by purchasing $322 million in our issued and outstanding common stock under our 2018 Share Repurchase Program, and through the payment of $164 million in cash dividends, thereby fulfilling our goal of returning the majority of our free cash flows to shareholders.

At December 31, 2019, the aggregate amount of our common stock that remained available for purchase under the 2018 Share Repurchase Program was $428 million.

Results of Operations and Business Highlights

Results of Operations

The following table sets forth our results of operations for the years ended December 31, 2019 and 2018.

(Dollars in millions, except per share amounts)	Year Ended December 31, 2019	Year Ended December 31, 2018
Net sales	$ 5,526	$ 6,638
Cost of goods sold	4,463	4,667
Gross profit	1,063	1,971
Selling, general, and administrative expense	548	657
Research and development expense	80	82
Restructuring, asset-related, and other charges	87	49
Total other operating expenses	715	788
Equity in earnings of affiliates	29	43
Interest expense, net	(208)	(195)
Loss on extinguishment of debt	—	(38)
Other (expense) income, net	(293)	162
(Loss) income before income taxes	(124)	1,155
(Benefit from) provision for income taxes	(72)	159
Net (loss) income	(52)	996
Less: Net income attributable to non-controlling interests	—	1
Net (loss) income attributable to Chemours	$ (52)	$ 995
Per share data		
Basic (loss) earnings per share of common stock	$ (0.32)	$ 5.62
Diluted (loss) earnings per share of common stock	(0.32)	5.45

Net Sales

The following table sets forth the impacts of price, volume, and currency on our net sales for the year ended December 31, 2019.

Change in net sales from prior period	Year Ended December 31, 2019
Price	(2)%
Volume	(14)%
Currency	(1)%
Total change in net sales	(17)%

Our net sales decreased by $1.1 billion (or 17%) to $5.5 billion for the year ended December 31, 2019, compared with net sales of $6.6 billion for the same period in 2018. The components of the decrease in our net sales by segment for the year ended December 31, 2019 were as follows: in our Fluoroproducts segment, price declined 2% and volume was down 4%; in our Chemical Solutions segment, price declined 4% and volume was down 7%; and, in our Titanium Technologies segment, price declined 1% and volume was down 24%. Unfavorable currency movements also added a 1% headwind to net sales in our Fluoroproducts and Titanium Technologies segments.

The drivers of these changes for each of our segments are discussed further under the heading “Segment Reviews” within this *MD&A.*

Cost of Goods Sold

Our cost of goods sold (“COGS”) decreased by $204 million (or 4%) to $4.5 billion for the year ended December 31, 2019, compared with COGS of $4.7 billion for the same period in 2018. The decrease in our COGS for the year ended December 31, 2019 was primarily attributable to lower net sales volumes, as well as lower distribution, freight, and logistics expenses. These decreases were partially offset by operational headwinds in our Fluoroproducts segment, and higher raw materials costs and lower fixed cost absorption in our Titanium Technologies segment. Additionally, during the year ended December 31, 2019, we incurred $150 million for environmental remediation activities related to Fayetteville.

Selling, General, and Administrative Expense

Our selling, general, and administrative ("SG&A") expense decreased by $109 million (or 17%) to $548 million for the year ended December 31, 2019, compared with SG&A expense of $657 million for the same period in 2018. The decrease in our SG&A expense for the year ended December 31, 2019 was primarily attributable to lower performance-related compensation costs, as well as costs incurred for our 2018 debt transactions, which did not recur in 2019. The year ended December 31, 2018 also included the accrual of $63 million for estimated liabilities associated with ongoing environmental matters at Fayetteville. These comparative decreases for the year ended December 31, 2019 are partially offset by $18 million incurred during the first quarter of 2019, in connection with the approved final Consent Order to settle certain legal and environmental matters at Fayetteville.

Research and Development Expense

Our R&D expense was largely unchanged at $80 million for the year ended December 31, 2019 and $82 million for the year ended December 31, 2018.

Restructuring, Asset-related, and Other Charges

Our restructuring, asset-related, and other charges amounted to $87 million and $49 million for the years ended December 31, 2019 and 2018, respectively.

For the year ended December 31, 2019, our restructuring, asset-related, and other charges were primarily attributable to $22 million of employee separation charges incurred in connection with our 2019 Restructuring Program, as well as $34 million of accelerated depreciation recorded in conjunction with our exit of the Methylamines and Methylamides business at our Belle, West Virginia manufacturing plant. We also recognized $20 million in decommissioning and dismantling-related charges, primarily attributable to the demolition and removal of certain unused buildings at our Chambers Works site in Deepwater, New Jersey, as well as $9 million of accelerated depreciation associated with the discontinuation of the titanium tetrachloride product line at our New Johnsonville, Tennessee site.

For the year ended December 31, 2018, our restructuring, asset-related, and other charges were primarily attributable to employee separation and other charges incurred in connection with our 2017 restructuring program of $27 million, and employee separation charges of $5 million for our 2018 restructuring program. In addition, we recognized $13 million in decommissioning and dismantling-related charges, primarily attributable to the demolition and removal of certain unused buildings at our Chambers Works site in Deepwater, New Jersey, and an asset-related charge of $4 million for a goodwill impairment in our Chemical Solutions segment.

Equity in Earnings of Affiliates

Our equity in earnings of affiliates decreased by $14 million (or 33%) to $29 million for the year ended December 31, 2019, compared with equity in earnings of affiliates of $43 million for the same period in 2018. The decrease in our equity in earnings of affiliates for the year ended December 31, 2019 was primarily attributable to global semiconductor and automotive market softness for our equity method investees in the Fluoroproducts segment.

Interest Expense, Net

Our interest expense, net increased by $13 million (or 7%) to $208 million for the year ended December 31, 2019, compared with interest expense, net of $195 million for the same period in 2018. The increase in our interest expense, net for the year ended December 31, 2019 was primarily attributable to a reduction in interest income earned on lower cash and cash equivalents balances, as well as less interest capitalized following the completion or stoppage of certain of our large-scale construction projects. These increases were partially offset by lower interest expense following our 2018 debt transactions.

Loss on Extinguishment of Debt

For the year ended December 31, 2019, we did not extinguish any of our outstanding debt.

For the year ended December 31, 2018, we recognized a combined loss on extinguishment of debt of $38 million in connection with the amendment and restatement of our credit agreement, and our tender offers to purchase any and all of our outstanding euro-denominated 6.125% senior unsecured notes due May 2023 and a portion of our outstanding U.S. dollar-denominated 6.625% senior unsecured notes due May 2023.

Other Income (Expense), Net

Our other income, net decreased by $455 million to other expense, net of $293 million for the year ended December 31, 2019, compared with other income, net of $162 million for the same period in 2018. The decrease in our other income, net for the year ended December 31, 2019 was primarily attributable to $368 million in non-operating pension and other post-retirement employee benefit loss, which is inclusive of a $380 million expense recognized upon settlement of the portion of our Netherlands pension plan pertaining to inactive participants' vested pension benefits. We also experienced a decrease in miscellaneous income, which is primarily attributable to $26 million lower EU fluorinated greenhouse gas ("F-Gas") quota authorization sales. The comparative decrease in our other income, net is also reflective of a $42 million gain on the sale of our Linden, New Jersey site during the year ended December 31, 2018. These decreases were partially offset by recognition of a previously deferred non-cash gain of $9 million during the year ended December 31, 2019. The gain, which was associated with the sale of our Repauno site in Gibbstown, New Jersey, had been deferred until certain environmental obligations were fulfilled.

Provision for (Benefit from) Income Taxes

Our benefit from income taxes amounted to $72 million for the year ended December 31, 2019, representing an effective tax rate of 58%. Our provision for income taxes amounted to $159 million for the year ended December 31, 2018, representing an effective tax rate of 14%.

The $231 million decrease in our provision for income taxes for the year ended December 31, 2019, when compared with the same period in 2018, was primarily attributable to reduced profitability and the geographic mix of our earnings. In addition, our benefit from income taxes for the year ended December 31, 2019 included $14 million in windfall benefit from our share-based payments, which was partially offset by an $8 million valuation allowance on certain foreign subsidiary earnings and certain foreign tax credits. Our provision for income taxes for the year ended December 31, 2018 included $14 million in windfall benefit from our share-based payments, a $15 million benefit from the release of a valuation allowance against our foreign tax credits, and a net $10 million benefit from certain other provisions of U.S. tax reform.

Segment Reviews

Adjusted earnings before interest, taxes, depreciation, and amortization ("Adjusted EBITDA") is the primary measure of segment performance used by our Chief Operating Decision Maker ("CODM") and is defined as income (loss) before income taxes, excluding the following:

- interest expense, depreciation, and amortization;
- non-operating pension and other post-retirement employee benefit costs, which represents the component of net periodic pension (income) costs excluding the service cost component;
- exchange (gains) losses included in other income (expense), net;
- restructuring, asset-related, and other charges;
- asset impairments;
- (gains) losses on sales of assets and businesses; and,
- other items not considered indicative of our ongoing operational performance and expected to occur infrequently.

A reconciliation of Adjusted EBITDA to net income (loss) attributable to Chemours for the years ended December 31, 2019 and 2018 is included in the "Non-GAAP Financial Measures" section of this *MD&A*.

The following table sets forth our Adjusted EBITDA by segment for the years ended December 31, 2019 and 2018.

	Year Ended December 31,	
(Dollars in millions)	**2019**	**2018**
Fluoroproducts	$ 578	$ 783
Chemical Solutions	80	64
Titanium Technologies	505	1,055
Segment Adjusted EBITDA	1,163	1,902
Corporate and Other	(143)	(162)
Total Adjusted EBITDA	$ 1,020	$ 1,740

Fluoroproducts

The following table sets forth the net sales, Adjusted EBITDA, and Adjusted EBITDA margin amounts for our Fluoroproducts segment for the years ended December 31, 2019 and 2018.

	Year Ended December 31,	
(Dollars in millions)	2019	2018
Segment net sales	$ 2,648	$ 2,862
Adjusted EBITDA	578	783
Adjusted EBITDA margin	22%	27%

The following table sets forth the impacts of price, volume, and currency on our Fluoroproducts segment's net sales for the year ended December 31, 2019.

	Year Ended December 31,
Change in segment net sales from prior period	**2019**
Price	(2)%
Volume	(4)%
Currency	(1)%
Total change in segment net sales	(7)%

Segment Net Sales

Our Fluoroproducts segment's net sales decreased by $214 million (or 7%) to $2.6 billion for the year ended December 31, 2019, compared with segment net sales of $2.9 billion for the same period in 2018. The decrease in segment net sales for the year ended December 31, 2019 was primarily attributable to decreases in volume and price of 4% and 2%, respectively. Illegal imports of legacy HFC refrigerants into the EU, in violation of the EU's F-gas regulations, impacted both volume and price during the year ended December 31, 2019. Volumes also declined due to lower demand for our legacy base refrigerants and polymers, which was driven by softness in global markets, primarily the automotive and electronics markets. These decreases were partially offset by volume increases from the continued adoption of Opteon™ products in mobile applications and growth in high-grade Fluoropolymers sales. Unfavorable currency movements added a 1% headwind to the segment's net sales during the year ended December 31, 2019.

Segment Adjusted EBITDA and Adjusted EBITDA Margin

Segment Adjusted EBITDA decreased by $205 million (or 26%) to $578 million and segment Adjusted EBITDA margin decreased by approximately 500 basis points to 22% for the year ended December 31, 2019, compared with segment Adjusted EBITDA of $783 million and segment Adjusted EBITDA margin of 27% for the same period in 2018. The decreases in segment Adjusted EBITDA and segment Adjusted EBITDA margin for the year ended December 31, 2019 were primarily attributable to the aforementioned decreases in the price and volume and unfavorable currency movements in the segment's net sales. We also experienced increased costs during the year ended December 31, 2019 due to the start-up of our new Opteon™ refrigerants facility in Corpus Christi, Texas, and unplanned outages at certain facilities. Additionally, our F-gas quota authorization sales decreased by $26 million when compared to the year ended December 31, 2018.

The segment's operating results for the years ended December 31, 2019 and 2018 included $22 million and $34 million, respectively, of additional costs for process waste water treatment at Fayetteville. We expect to continue to incur these costs as we actively work with the NC DEQ to resolve the suspension of our National Pollutant Discharge Elimination System permit.

Chemical Solutions

The following table sets forth the net sales, Adjusted EBITDA, and Adjusted EBITDA margin amounts for our Chemical Solutions segment for the years ended December 31, 2019 and 2018.

(Dollars in millions)	Year Ended December 31, 2019	2018
Segment net sales	$ 533	$ 602
Adjusted EBITDA	80	64
Adjusted EBITDA margin	15%	11%

The following table sets forth the impacts of price, volume, and currency on our Chemical Solutions segment's net sales for the year ended December 31, 2019.

Change in segment net sales from prior period	Year Ended December 31, 2019
Price	(4)%
Volume	(7)%
Currency	—%
Total change in segment net sales	(11)%

Segment Net Sales

Our Chemical Solutions segment's net sales decreased by $69 million (or 11%) to $533 million for the year ended December 31, 2019, compared with segment net sales of $602 million for the same period in 2018. The decrease in segment net sales for the year ended December 31, 2019 was primarily attributable to decreases in volume and price of 7% and 4%, respectively, which were driven by operational issues at a key customer mine in Mining Solutions and lower prices for certain Performance Chemicals and Intermediates products, mainly driven by mix and raw material cost pass-throughs as stipulated in certain contracts.

Segment Adjusted EBITDA and Adjusted EBITDA Margin

Segment Adjusted EBITDA increased by $16 million (or 25%) to $80 million and segment Adjusted EBITDA margin increased by approximately 400 basis points to 15% for the year ended December 31, 2019, compared with segment Adjusted EBITDA of $64 million and segment Adjusted EBITDA margin of 11% for the same period in 2018. The increases in segment Adjusted EBITDA and segment Adjusted EBITDA margin for the year ended December 31, 2019 were primarily attributable to increased license income and lower cost of goods sold, partially offset by the aforementioned decreases in net sales.

Titanium Technologies

The following table sets forth the net sales, Adjusted EBITDA, and Adjusted EBITDA margin amounts for our Titanium Technologies segment for the years ended December 31, 2019 and 2018.

(Dollars in millions)	Year Ended December 31, 2019	Year Ended December 31, 2018
Segment net sales	$ 2,345	$ 3,174
Adjusted EBITDA	505	1,055
Adjusted EBITDA margin	22%	33%

The following table sets forth the impacts of price, volume, and currency on our Titanium Technologies segment's net sales for the year ended December 31, 2019.

Change in segment net sales from prior period	Year Ended December 31, 2019
Price	(1)%
Volume	(24)%
Currency	(1)%
Total change in segment net sales	(26)%

Segment Net Sales

Our Titanium Technologies segment's net sales decreased by $829 million (or 26%) to $2.3 billion for the year ended December 31, 2019, compared with segment net sales of $3.2 billion for the same period in 2018. The decrease in segment net sales for the year ended December 31, 2019 was primarily attributable to a 24% decrease in volume, driven by lower TiPure™ TiO_2 net sales volumes due to market destocking and share loss. Price declined modestly by 1%, primarily due to customer, regional, and channel mix, but remained largely stable as a result of our TVS strategy. We also experienced a 1% headwind from unfavorable currency movements.

Segment Adjusted EBITDA and Adjusted EBITDA Margin

Segment Adjusted EBITDA decreased by $550 million (or 52%) to $505 million and segment Adjusted EBITDA margin decreased by approximately 1,100 basis points to 22% for the year ended December 31, 2019, compared with segment Adjusted EBITDA of $1.1 billion and segment Adjusted EBITDA margin of 33% for the same period in 2018. The decreases in segment Adjusted EBITDA and segment Adjusted EBITDA margin for the year ended December 31, 2019 were primarily attributable to the aforementioned decreases in segment net sales volume associated with market destocking and share loss, as well as margin compression due to higher costs for certain raw materials and lower fixed cost absorption as we reduced production rates to match reduced customer demand.

Corporate and Other

Corporate costs and certain legacy legal and environmental expenses, stock-based compensation costs, and foreign exchange gains and losses arising from the remeasurement of balances in currencies other than the functional currency of our legal entities are reflected in Corporate and Other.

Corporate and Other costs decreased by $19 million (or 12%) to $143 million for the year ended December 31, 2019, compared with Corporate and Other costs of $162 million for the same period in 2018. The decrease in Corporate and Other costs for the year ended December 31, 2019 was primarily attributable to lower performance-related compensation and lower costs for certain legacy legal matters.

2020 Outlook

Our 2020 results will be driven by the following expectations: (i) 2020 volume for our Titanium Technologies segment will continue to recover as we further execute our TVS strategy; (ii) there will be continued transition to Opteon™ refrigerants in our Fluoroproducts segment, which will be offset by the impacts of illegal imports of legacy HFC refrigerants into the EU in violation of the region's F-gas regulations; and, (iii) there will be continued demand for Mining Solutions products in our Chemical Solutions segment. We expect that our capital expenditures will be approximately $400 million.

Our outlook for 2020 reflects our current visibility and expectations based on market factors, such as currency movements, macro-economic factors, and end-market demand. In particular, end-market demand may be impacted by factors beyond our control, such as the recent spread of the novel coronavirus. Our ability to meet our expectations are subject to numerous risks, including, but not limited to, those described in *Item 1A – Risk Factors*.

Liquidity and Capital Resources

Our primary sources of liquidity are cash generated from operations, available cash, receivables securitization, and borrowings under our debt financing arrangements, which are described in further detail in "Note 20 – Debt" to the *Consolidated Financial Statements*. We believe these sources are sufficient to fund our planned operations and to meet our interest, dividend, and contractual obligations. Our financial policy seeks to: (i) selectively invest in organic and inorganic growth to enhance our portfolio, including certain strategic capital investments; (ii) return cash to shareholders through dividends and share repurchases; and, (iii) maintain appropriate leverage by using free cash flows to repay outstanding borrowings. Subject to approval by our board of directors, we may raise additional capital or borrowings from time to time, or seek to refinance our existing debt. There can be no assurances that future capital or borrowings will be available to us, and the cost and availability of new capital or borrowings could be materially impacted by market conditions. Further, the decision to refinance our existing debt is based on a number of factors, including general market conditions and our ability to refinance on attractive terms at any given point in time. Any attempts to raise additional capital or borrowings, or refinance our existing debt, could cause us to incur significant charges. Such charges could have a material impact on our financial position, results of operations, or cash flows.

Our operating cash flow generation is driven by, among other things, the general global economic conditions at any point in time and their resulting impacts on demand for our products, raw materials and energy prices, and industry-specific issues, such as production capacity and utilization. We have generated strong operating cash flows through various industry and economic cycles, evidencing the operating strength of our businesses.

In May 2018, we completed our $500 million 2017 Share Repurchase Program. On August 1, 2018, our board of directors increased our quarterly cash dividend to $0.25 per share. Additionally, on August 1, 2018, our board of directors approved the 2018 Share Repurchase Program, which authorizes us to purchase shares of our issued and outstanding common stock in an aggregate amount not to exceed $750 million, plus any fees or costs in connection with our share repurchase activity. On February 13, 2019, our board of directors increased the authorization amount of the 2018 Share Repurchase Program to $1.0 billion. The 2018 Share Repurchase Program became effective on August 1, 2018 and will continue through the earlier of its expiration on December 31, 2020, or the completion of repurchases up to the approved amount. To date, we have repurchased $572 million of our common stock under the 2018 Share Repurchase Program.

We anticipate making significant payments for interest, capital expenditures, environmental remediation costs and investments, dividends, and other actions over the next 12 months, which we expect to fund through cash generated from operations, available cash, receivables securitization, and borrowings. We further anticipate that our operations and existing debt financing arrangements will provide us with sufficient liquidity over the next 12 months. The availability under our revolving credit facility is subject to the last 12 months of consolidated EBITDA, as defined in the amended and restated credit agreement, which is discussed further in "Note 20 – Debt" to the *Consolidated Financial Statements*.

At December 31, 2019, we had total cash and cash equivalents of $943 million, of which, $839 million was held by our foreign subsidiaries. All of the cash and cash equivalents held by our foreign subsidiaries is readily convertible into currencies used in our operations, including the U.S. dollar. The cash and earnings of our foreign subsidiaries are generally used to finance their operations and capital expenditures. At December 31, 2019, management believed that sufficient liquidity was available in the U.S., which includes borrowing capacity under our revolving credit facility, and it is our intention to indefinitely reinvest the historical pre-2018 earnings of our foreign subsidiaries. Beginning in 2018, management asserts that only certain foreign subsidiaries are indefinitely reinvested. See "Note 9 – Income Taxes" to the *Consolidated Financial Statements* for further information related to our income tax positions.

Cash Flows

The following table sets forth a summary of the net cash provided by (used for) our operating, investing, and financing activities for the years ended December 31, 2019 and 2018.

	Year Ended December 31,	
(Dollars in millions)	2019	2018
Cash provided by operating activities	$ 650	$ 1,140
Cash used for investing activities	(483)	(487)
Cash used for financing activities	(419)	(993)

Operating Activities

We received $650 million and $1.1 billion in cash flows from our operating activities for the years ended December 31, 2019 and 2018, respectively. The decrease in our operating cash inflows for the year ended December 31, 2019 was primarily attributable to a decrease in our net income, despite reduction in our finished products inventories to align with decreased sales volumes during the year ended December 31, 2019 when compared to the prior year. We also made cash payments for certain raw materials purchases that occurred during the fourth quarter of 2018.

Investing Activities

We used $483 million in cash flows for our investing activities during the year ended December 31, 2019. Our investing cash outflows for the year ended December 31, 2019 were primarily attributable to purchases of property, plant, and equipment amounting to $481 million, as well as $10 million in total cash consideration payments for the acquisition of Southern Ionics Minerals, LLC. These investing cash outflows were partially offset by proceeds from the sales of assets and businesses of $9 million, which were primarily attributable to $4 million received from the sale of our Oakley, California site and $2 million received from the sale of our Methylamines and Methylamides business.

We used $487 million in cash flows for our investing activities during the year ended December 31, 2018. Our investing cash outflows for the year ended December 31, 2018 were primarily attributable to purchases of property, plant, and equipment amounting to $498 million, and $37 million in total cash consideration payments for the acquisition of ICOR International, Inc. These investing cash outflows were partially offset by proceeds from the sales of assets and businesses of $46 million, which were primarily attributable to the sale of our Linden, New Jersey site for $39 million.

Financing Activities

We used $419 million in cash flows for our financing activities during the year ended December 31, 2019. Our financing cash outflows for the year ended December 31, 2019 were primarily attributable to our capital allocation activities, resulting in $486 million of cash returned to shareholders through our 2018 Share Repurchase Program and through cash dividends paid. In addition, we made $30 million in payments for withholding taxes on certain of our vested stock-based compensation awards. We also drew $150 million on our revolving credit facility for general corporate purposes. We subsequently repaid the revolver borrowing in full, primarily using the $125 million proceeds originally received from the Securitization Facility, as well as available cash. During the year ended December 31, 2019, we also repaid a net $15 million of the borrowings from the Securitization Facility. The Securitization Facility is further described in “Note 20 – Debt” to the *Consolidated Financial Statements*.

We used $993 million in cash flows for our financing activities during the year ended December 31, 2018. Our financing cash outflows for the year ended December 31, 2018 were primarily attributable to the following: $679 million in debt repayments and $29 million in “make-whole” premium payments in connection with our debt refinancing activities, as well as scheduled principal repayments; $644 million for purchases of our issued and outstanding common stock under our share repurchase programs; and, $148 million for payments of cash dividends. These financing cash outflows were partially offset by $520 million in net proceeds from the issuance of our euro-denominated 4.000% senior unsecured notes due May 2026.

Current Assets

The following table sets forth the components of our current assets at December 31, 2019 and 2018.

	December 31,	
(Dollars in millions)	2019	2018
Cash and cash equivalents	$ 943	$ 1,201
Accounts and notes receivable, net	674	861
Inventories	1,079	1,147
Prepaid expenses and other	81	84
Total current assets	$ 2,777	$ 3,293

Our accounts and notes receivable, net decreased by $187 million (or 22%) to $674 million at December 31, 2019, compared with accounts and notes receivable, net of $861 million at December 31, 2018. The decrease in our accounts and notes receivable, net at December 31, 2019 was primarily attributable to lower net sales in the fourth quarter of 2019 versus the same period in 2018, as well as the timing of payments from our customers.

Our inventories decreased by $68 million (or 6%) to $1.1 billion at December 31, 2019, compared with inventories of $1.1 billion at December 31, 2018. The decrease in our inventories at December 31, 2019 was primarily attributable to a decrease in our finished products inventories, in order to align with decreased sales volumes across all segments, and changes to our last-in, first-out inventory reserve balances. These decreases were partially offset by an increase in our raw materials inventories, driven by the strategic acquisition of ore in our Titanium Technologies segment.

Our prepaid expenses and other assets were largely unchanged at $81 million and $84 million at December 31, 2019 and 2018, respectively.

Current Liabilities

The following table sets forth the components of our current liabilities at December 31, 2019 and 2018.

	December 31,	
(Dollars in millions)	2019	2018
Accounts payable	$ 923	$ 1,137
Short-term and current maturities of long-term debt	134	13
Other accrued liabilities	484	559
Total current liabilities	$ 1,541	$ 1,709

Our accounts payable decreased by $214 million (or 19%) to $923 million at December 31, 2019, compared with accounts payable of $1.1 billion at December 31, 2018. The decrease in our accounts payable at December 31, 2019 was primarily attributable to our decline in net sales volumes during the year ended December 31, 2019, as well as the timing of our inventory purchases in the fourth quarter of 2018.

Our short-term and current maturities of long-term debt increased by $121 million (or greater than 100%) to $134 million at December 31, 2019, compared with short-term and current maturities of long-term debt of $13 million at December 31, 2018. The increase in our short-term and current maturities of long-term debt at December 31, 2019 was primarily attributable to $110 million net borrowings under the Securitization Facility, $6 million for financed insurance premiums, and $5 million for the current portion of finance lease liabilities and financing obligations.

Our other accrued liabilities decreased by $75 million (or 13%) to $484 million at December 31, 2019, compared with other accrued liabilities of $559 million at December 31, 2018. The decrease in our other accrued liabilities at December 31, 2019 was primarily attributable to lower accrued compensation and employee-related costs, payments of certain accrued expenses, and changes in the expected timing of payments related to accrued environmental costs. These decreases were partially offset by balance sheet recognition of our operating lease liabilities upon the adoption of the new leasing standard on January 1, 2019. As of December 31, 2019, the current portion of our operating lease liabilities amounted to $66 million.

Credit Facilities and Notes

See "Note 20 – Debt" to the *Consolidated Financial Statements* for a summary of our debt arrangements.

Supplier Financing

We maintain global paying services agreements with several financial institutions. Under these agreements, the financial institutions act as our paying agents with respect to accounts payable due to our suppliers who elect to participate in the program. The agreements allow our suppliers to sell their receivables to one of the participating financial institutions at the discretion of both parties on terms that are negotiated between the supplier and the respective financial institution. Our obligations to our suppliers, including the amounts due and scheduled payment dates, are not impacted by our suppliers' decisions to sell their receivables under this program. At December 31, 2019 and 2018, the total payment instructions from us amounted to $106 million and $210 million, respectively. Pursuant to their agreement with one of the financial institutions, certain suppliers may elect to be paid early at their discretion. The available capacity under these programs can vary based on the number of investors and/or financial institutions participating in these programs at any point in time.

Capital Expenditures

Our operations are capital intensive, requiring ongoing investment to upgrade or enhance existing operations and to meet environmental and operational regulations. Our capital requirements have consisted, and are expected to continue to consist, primarily of:

- ongoing capital expenditures, such as those required to maintain equipment reliability, the integrity and safety of our manufacturing sites, and to comply with environmental regulations;
- investments in our existing facilities to help support the introduction of new products and de-bottleneck to expand capacity and grow our business; and,
- investments in projects to reduce future operating costs and enhance productivity.

The following table sets forth our ongoing and expansion capital expenditures, including environmental capital expenditures, for the years ended December 31, 2019 and 2018.

	Year Ended December 31,	
(Dollars in millions)	**2019**	**2018**
Fluoroproducts	$ 201	$ 274
Chemical Solutions	40	75
Titanium Technologies	121	91
Corporate and Other (1)	119	58
Total purchases of property, plant, and equipment	$ 481	$ 498

(1) Includes $83 million and $41 million during the years ended December 31, 2019 and 2018, respectively, related to our capital expenditures for our new R&D facility on the Science, Technology, and Advanced Research campus of the University of Delaware in Newark, Delaware ("Chemours Discovery Hub").

Our capital expenditures decreased by $17 million (or 3%) to $481 million for the year ended December 31, 2019, compared with capital expenditures of $498 million for the same period in 2018. Our capital expenditures for the year ended December 31, 2019 included the continued construction and completion of our new R&D facility on the Science, Technology, and Advanced Research campus of the University of Delaware in Newark, Delaware, as well as preparation of a new minerals sands mine site in Jesup, Georgia. We also invested in a thermal oxidizer to reduce aerial PFAS emissions from Fayetteville, which is further discussed in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*. These increases are more than offset by capital expenditures for the year ended December 31, 2018 that did not recur, whether to the same magnitude or at all, in 2019. Such expenditures included the completion of our Opteon™ refrigerants plant in Corpus Christi, Texas, as well as progress on our planned Mining Solutions plant in Mexico prior to its construction suspension, which is further discussed in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*.

Contractual Obligations

The following table sets forth information related to our significant contractual obligations at December 31, 2019.

		Payments Due In			
(Dollars in millions)	Total	2020	2021 - 2022	2023 - 2024	2025 and Beyond
Long-term debt obligations (1)	$ 4,036	$ 122	$ 26	$ 934	$ 2,954
Interest on long-term debt obligations (1)	1,046	203	401	309	133
Operating leases	379	82	115	64	118
Financing leases	76	9	16	16	35
Purchase obligations (2):					
Raw materials	1,290	160	303	257	570
Utilities	1,055	113	162	153	627
Other	107	64	30	13	—
Total purchase obligations	2,452	337	495	423	1,197
Other liabilities:					
Workers' compensation (3)	24	3	5	4	12
Asset retirement obligations (3)	61	7	21	11	22
Environmental remediation (3)	406	74	111	86	135
Legal settlements (3)	20	4	6	5	5
Employee separation charges	15	15	—	—	—
Other (3)	170	27	18	21	104
Total other liabilities	696	130	161	127	278
Total contractual obligations	$ 8,685	$ 883	$ 1,214	$ 1,873	$ 4,715

(1) To calculate payments due for principal and interest, we assumed that interest rates, foreign currency exchange rates, and outstanding borrowings under our credit facilities were unchanged from December 31, 2019 through their dates of maturity.

(2) Represents enforceable and legally-binding agreements to purchase goods and/or services that specify fixed or minimum quantities, fixed minimum or variable price provisions, and the approximate timing of the agreement.

(3) Represents reasonable estimates of future cash payments for our contractual obligations.

Off Balance Sheet Arrangements

Historically, we have not made significant payments to satisfy guarantee obligations; however, we believe we have the financial resources to satisfy these guarantees in the event required.

Recent Accounting Pronouncements

See "Note 3 – Summary of Significant Accounting Policies" to the *Consolidated Financial Statements* for a summary of our recent accounting pronouncements.

Critical Accounting Policies and Estimates

Our significant accounting policies are more fully described in "Note 3 – Summary of Significant Accounting Policies" to the *Consolidated Financial Statements*. Management believes that the application of these policies on a consistent basis enables us to provide the users of our financial statements with useful and reliable information about our operating results and financial condition.

The preparation of our consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts, including, but not limited to, receivable and inventory valuations, impairment of tangible and intangible assets, long-term employee benefit obligations, income taxes, restructuring liabilities, environmental matters, and litigation. Management's estimates are based on historical experience, facts, and circumstances available at the time, and various other assumptions that are believed to be reasonable. We review these matters and reflect changes in estimates as appropriate. Management believes that the following represents some of the more critical judgment areas in the application of our accounting policies, which could have a material effect on our financial position, results of operations, or cash flows.

Provision for (Benefit from) Income Taxes

The provision for (benefit from) income taxes is determined using the asset and liability approach of accounting for income taxes. Under this approach, deferred taxes represent the future tax consequences expected to occur when the reported amounts of assets and liabilities are recovered or paid. The provision for (benefit from) income taxes represents income taxes paid or payable for the current year, plus the change in deferred taxes during the year. Deferred taxes result from differences between the financial and tax bases of our assets and liabilities and are adjusted for changes in tax rates and tax laws when changes are enacted. Valuation allowances are recorded to reduce deferred tax assets when it is more-likely-than-not that a tax benefit will not be realized. In evaluating the ability to realize deferred tax assets, we rely 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.

The breadth of our operations and the global complexity of tax regulations require assessments of uncertainties and judgments in estimating the taxes that we will ultimately pay. The final taxes paid are dependent upon many factors, including negotiations with taxing authorities in various jurisdictions, outcomes of tax litigation, and resolutions of disputes arising from federal, state, and international tax audits in the normal course of business. A liability for unrecognized tax benefits is recorded when management concludes that the likelihood of sustaining such positions upon examination by taxing authorities is less than more-likely-than-not. It is our policy to include accrued interest related to unrecognized tax benefits in other income (expense), net and income tax-related penalties in the provision for (benefit from) income taxes.

With respect to U.S. tax reform, while we have completed our analysis within the applicable measurement period, pursuant to Staff Accounting Bulletin No. 118 as issued by the SEC, we account for the tax impacts of new provisions based on interpretation of existing statutory law, including proposed regulations issued by the U.S. Treasury and the IRS. While there can be no assurances as to the effect of any final regulations on our provision for (benefit from) income taxes, we will continue to evaluate the impacts as any issued regulations become final and adjust our estimates, as appropriate.

See "Note 9 – Income Taxes" to the *Consolidated Financial Statements* for further information related to our income tax positions.

Long-lived Assets

We evaluate the carrying value of our long-lived assets to be held and used when events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. For the purposes of recognition or measurement of an impairment charge, the assessment is performed on the asset or asset group at the lowest level for which identifiable cash flows are largely independent of the cash flows of other groups of assets and liabilities. To determine the level at which the assessment is performed, we consider factors such as revenue dependency, shared costs, and the extent of vertical integration. The carrying value of a long-lived asset is considered impaired when the total projected undiscounted cash flows from the use and eventual disposition of the asset or asset group are separately identifiable and are less than its carrying value. In that event, a loss is recognized based on the amount by which the carrying value exceeds the fair value of the long-lived asset. The fair value methodology used is an estimate of fair market value, which is made based on prices of similar assets or other valuation methodologies, including present value techniques. Long-lived assets to be disposed of other than by sale are classified as held for use until their disposal. Long-lived assets to be disposed of by sale are classified as held for sale and are reported at the lower of their carrying amount or fair market value, less the estimated costs to sell. Depreciation is discontinued for any long-lived assets classified as held for sale.

The testing for potential impairment of these assets is significantly dependent on numerous assumptions and reflects management's best estimates at a particular point in time. The dynamic economic environments in which our segments operate, and key economic and business assumptions with respect to projected selling prices, market growth, and inflation rates, can significantly impact the outcome of our impairment tests. Estimates based on these assumptions may differ significantly from actual results. Changes in the factors and 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. In addition, we continually review our diverse portfolio of assets to ensure that they are achieving their greatest potential and are aligned with our growth strategy. Strategic decisions involving a particular group of assets may trigger an assessment of the recoverability of the related assets. Such an assessment could result in impairment losses.

No impairment charges were recognized on our long-lived assets during the years ended December 31, 2019 and 2018.

Goodwill

The excess of the purchase price over the estimated fair value of the net assets acquired in a business combination, including any identified intangible assets, is recorded as goodwill. We test our goodwill for impairment at least annually on October 1; however, these tests are performed more frequently when events or changes in circumstances indicate that the asset may be impaired. Goodwill is evaluated for impairment at the reporting unit level, which is defined as an operating segment, or one level below an operating segment. A reporting unit is the level at which discrete financial information is available and reviewed by business management on a regular basis. An impairment exists when the carrying value of a reporting unit exceeds its fair value. The amount of impairment loss recognized in the consolidated statements of operations is equal to the excess of a reporting unit's carrying value over its fair value, which is limited to the total amount of goodwill allocated to the reporting unit.

The fair values of our reporting units were determined by using a combination of income-based and/or market-based valuation techniques. These valuation models incorporated a number of assumptions and judgments surrounding general market and economic conditions, short and long-term revenue growth rates, gross margins and prospective financial information surrounding future reporting unit cash flows. Projections are based on internal forecasts of future business performance and are based on growth assumptions which exclude business growth opportunities not yet fully realized. Discount rate and market multiple assumptions were determined based on relevant peer companies in the chemicals sector.

As of October 1, 2019, we performed our annual goodwill impairment tests for all reporting units. Based upon the results of our annual goodwill impairment tests, no adjustments to the carrying value of goodwill were necessary during the year ended December 31, 2019.

The estimated fair value of the Fluoropolymers reporting unit was determined by utilizing a discount rate of 9.84% and a market multiple of 7.3 times Adjusted EBITDA, resulting in an estimated fair value 30% higher than its carrying value. Fluoropolymers has $56 million of goodwill. Changing the weighting of the market and income approaches used for Fluoropolymers could result in a maximum reduction of the excess of estimated fair value over carrying value to 17%. Assuming all other factors remain the same, a 200-basis point increase in the discount rate would decrease the excess of estimated fair value over carrying value to 17%; a 1% decrease in the long-term growth rate would decrease the excess of estimated fair value over carrying value to 24%; and, a 15% decrease in the market multiple assumption would decrease the excess of estimated fair value over carrying value to 20%. Under each of these sensitivity scenarios, the Fluoropolymers reporting unit's fair value exceeded its carrying value.

The estimated fair value of the Mining Solutions reporting unit was determined by utilizing a discount rate of 11.09%, resulting in an estimated fair value 17% higher than its carrying value. Mining Solutions has $51 million of goodwill. Assuming all other factors remain the same, it would take more than a 110-basis point increase in the discount rate to cause the estimated fair value to fall below the unit's carrying value; and, a 1% decrease in the long-term growth rate would decrease the excess of estimated fair value over carrying value to 5%.

Our determination of the fair value of the Mining Solutions reporting unit considered further delays and additional costs of construction for our new Mining Solutions facility under construction in Gomez Palacio, Durango, Mexico. The construction-in-process for this facility represents a significant portion of the total carrying value of Mining Solutions, and, in the event that the facility was unable to be completed, the impairment of the related long-lived assets would significantly decrease the carrying value of the reporting unit. As a result, an impairment of the reporting unit's goodwill would become less likely.

Employee Benefits

The amounts recognized in our consolidated financial statements related to pension and other long-term employee benefits plans are determined from actuarial valuations. Inherent in these valuations are assumptions including, but not limited to, the expected returns on plan assets, discount rates at which liabilities are expected to be settled, rates of increase in future compensation levels, and mortality rates. These assumptions are updated annually and are disclosed in "Note 27 – Long-term Employee Benefits" to the *Consolidated Financial Statements*. In accordance with GAAP, actual results that differed from the assumptions are accumulated and amortized over future periods and therefore, affect expense recognized and obligations recorded in future periods.

We use discount rates that are developed by matching the expected cash flows of each benefit plan to various yield curves constructed from a portfolio of high-quality, fixed income instruments provided by the plan's actuary as of the measurement date. As of December 31, 2019, the weighted-average discount rate was 1.4%.

The expected long-term rates of return on plan assets are determined by performing a detailed analysis of historical and expected returns based on the strategic asset allocation of the underlying asset class applicable to each country. We also consider our historical experience with the pension funds' asset performance. The expected long-term rates of return on plan assets are assumptions and not what is expected to be earned in any one particular year. The weighted-average long-term rates of return on plan assets assumptions used for determining our net periodic pension expense for 2019 was 4.1%.

A 50 basis point increase in the discount rate would result in a decrease of $4 million to the net periodic benefit cost for 2020, while a 50 basis point decrease in the discount rate would result in an increase of approximately $5 million. A 50 basis point increase in the expected return on plan assets assumption would result in a decrease of approximately $3 million to the net periodic benefit cost for 2020, while a 50 basis point decrease in the expected return on plan assets assumption would result in an increase of approximately $3 million.

In the fourth quarter of 2019, we, through our wholly-owned subsidiary Chemours Netherlands B.V., completed a settlement transaction related to a significant portion of our Netherlands pension plan. We transferred the future risk and administration associated with the $932 million of inactive participants' vested pension benefits to a third-party asset management company in the Netherlands. The irrevocability of the transaction was contingent upon non-objection by the Dutch National Bank, which was received in October 2019. Following the receipt of non-objection, the responsibility for the associated pension obligation was transferred to the third-party asset management company in December 2019, thereby eliminating our exposure to the pension liabilities and formally effecting the settlement. At the time of settlement, a remeasurement of plan assets and projected benefit obligations was performed, resulting in a $158 million decrease to net pension assets and increase to accumulated other comprehensive loss on the consolidated balance sheet. The cumulative loss associated with the inactive participants' vested pension benefits was then immediately reclassified from accumulated other comprehensive loss and recognized in earnings, resulting in a charge of $380 million recognized in other expense, net in the consolidated statements of operations. At December 31, 2019, the projected benefit obligations associated with the plan's active employees remained on our consolidated balance sheet.

Litigation

We accrue for litigation matters when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated. Litigation liabilities and expenditures included in our consolidated financial statements include litigation matters that are liabilities of DuPont and its subsidiaries, which we may be required to indemnify pursuant to the Separation-related agreements executed prior to the Separation. Disputes between us and DuPont may arise with respect to indemnification of these matters, including disputes based on matters of law or contract interpretation. If, and to the extent these disputes arise, they could materially adversely affect our results of operations. Legal costs such as outside counsel fees and expenses are charged to expense in the period services are received.

Environmental Liabilities and Expenditures

We accrue for environmental remediation costs when it is probable that a liability has been incurred and a reasonable estimate of the liability can be made. Where the available information is sufficient to estimate the amount of liability, that estimate has been used. Where the information is only sufficient to establish a range of probable liability, and no point within the range is more likely than any other, the lower end of the range has been used. Estimated liabilities are determined based on existing remediation laws and technologies and our planned remedial responses, which are derived from in-depth environmental studies, sampling, testing, and other analyses. Inherent uncertainties exist in such evaluations, primarily due to unknown environmental conditions, changing governmental regulations and legal standards regarding liability, and emerging remediation technologies. These accruals are adjusted periodically as remediation efforts progress and as additional technology, regulatory, and legal information become available.

Environmental liabilities and expenditures include claims for matters that are liabilities of DuPont and its subsidiaries, which we may be required to indemnify pursuant to the Separation-related agreements executed prior to the Separation. Accrued liabilities are undiscounted and do not include claims against third parties.

Costs related to environmental remediation are charged to expense in the period that the associated liability is accrued. Other environmental costs are also charged to expense in the period incurred, unless they increase the value of the property or reduce or prevent contamination from future operations, in which case, they are capitalized and amortized.

Environmental Matters

Consistent with our values and our *Environment, Health, Safety, and Corporate Responsibility* policy, we are committed to preventing releases to the environment at our manufacturing sites to keep our people and communities safe, and to be good stewards of the environment. We are also subject to environmental laws and regulations relating to the protection of the environment. We believe that, as a general matter, our policies, standards, and procedures are properly designed to prevent unreasonable risk of harm to people and the environment, and that our handling, manufacture, use, and disposal of hazardous substances are in accordance with applicable environmental laws and regulations.

Environmental Expenditures

We incur costs for pollution abatement activities including waste collection and disposal, installation and maintenance of air pollution controls and waste water treatment, emissions testing and monitoring, and obtaining permits. Annual expenses charged to current operations include environmental operating costs and increases in remediation accruals (further described below), if any, during the period reported.

The charges described in this section include $201 million accrued for costs associated with the proposed Consent Order between us and the NC DEQ, which is further described in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*. These accrued liabilities represent on-site remediation, off-site groundwater remediation, and toxicology studies related to Fayetteville.

Our environmental remediation expenditures are subject to considerable uncertainty and may fluctuate significantly. In the U.S., additional capital expenditures associated with ongoing operations (further described below) are expected to be required over the next decade for treatment, storage, and disposal facilities for solid and hazardous waste and for compliance with the Clean Air Act ("CAA"). Until all CAA regulatory requirements are established and known, considerable uncertainty will remain regarding estimates for our future capital and remediation expenditures.

Environmental Capital Expenditures

For the years ended December 31, 2019, 2018, and 2017, we spent $101 million, $57 million, and $15 million, respectively, on environmental capital projects that were either required by law or necessary to meet our internal environmental objectives. The increases in our environmental capital expenditures for the years ended December 31, 2019 and 2018 when compared with the same period in 2017 were primarily attributable to new capital projects at Fayetteville. We expect further increases in these capital expenditures over the near-term, while in the longer-term, our capital expenditures for environmental matters will vary based on the success of our deployed solutions, changes in our operations, technological advancements, developments in environmental requirements, and stakeholder expectations.

Environmental Remediation

In large part, because of past operations, operations of predecessor companies, or past disposal practices, we, like many other similar companies, have clean-up responsibilities and associated remediation costs, and are subject to claims by other parties, including claims for matters that are liabilities of DuPont and its subsidiaries that we may be required to indemnify pursuant to the separation-related agreements executed prior to the Separation.

We accrue for clean-up activities consistent with the policy described under "Critical Accounting Policies and Estimates" within this *MD&A* and in "Note 3 – Summary of Significant Accounting Policies" to the *Consolidated Financial Statements*. Our environmental liabilities include estimated costs, including certain accruable costs associated with on-site capital projects, related to a number of sites for which it is probable that environmental remediation will be required, whether or not subject to enforcement activities, as well as those obligations that result from environmental laws such as the CERCLA, RCRA, and similar federal, state, local, and foreign laws. These laws require certain investigative, remediation, and restoration activities at sites where we conduct or once conducted operations or at sites where our generated waste was disposed. At December 31, 2019 and 2018, our consolidated balance sheets included environmental remediation liabilities of $406 million and $291 million, respectively, relating to these matters, which, as discussed in further detail below, included $201 million and $75 million, respectively, for Fayetteville.

The following table sets forth the activities in our remediation accruals for the years ended December 31, 2019 and 2018.

(Dollars in millions)	December 31, 2019	December 31, 2018
Balance at January 1,	$ 291	$ 253
Increase in remediation accrual	200	101
Remediation payments	(85)	(63)
Balance at December 31,	$ 406	$ 291

Our estimated liability for environmental remediation covered 211 sites at December 31, 2019 and 2018.

The following table sets forth our estimated environmental liability by site category.

(Dollars in millions)	December 31, 2019		December 31, 2018	
Site category	Number of Sites	Remediation Accrual	Number of Sites	Remediation Accrual
Chemours-owned (1)	25	$ 327	25	$ 204
Multi-party Superfund/non-owned (2)	86	79	86	87
Closed or settled	100	—	100	—
Total sites	211	$ 406	211	$ 291

(1) Includes remediation accrual of divested or sold sites where certain environmental obligations were retained by us in accordance with the related sale agreements.

(2) Sites not owned by us, including sites previously owned by DuPont and sites owned by a third party, where remediation obligations are imposed by Superfund laws such as CERCLA or similar state laws.

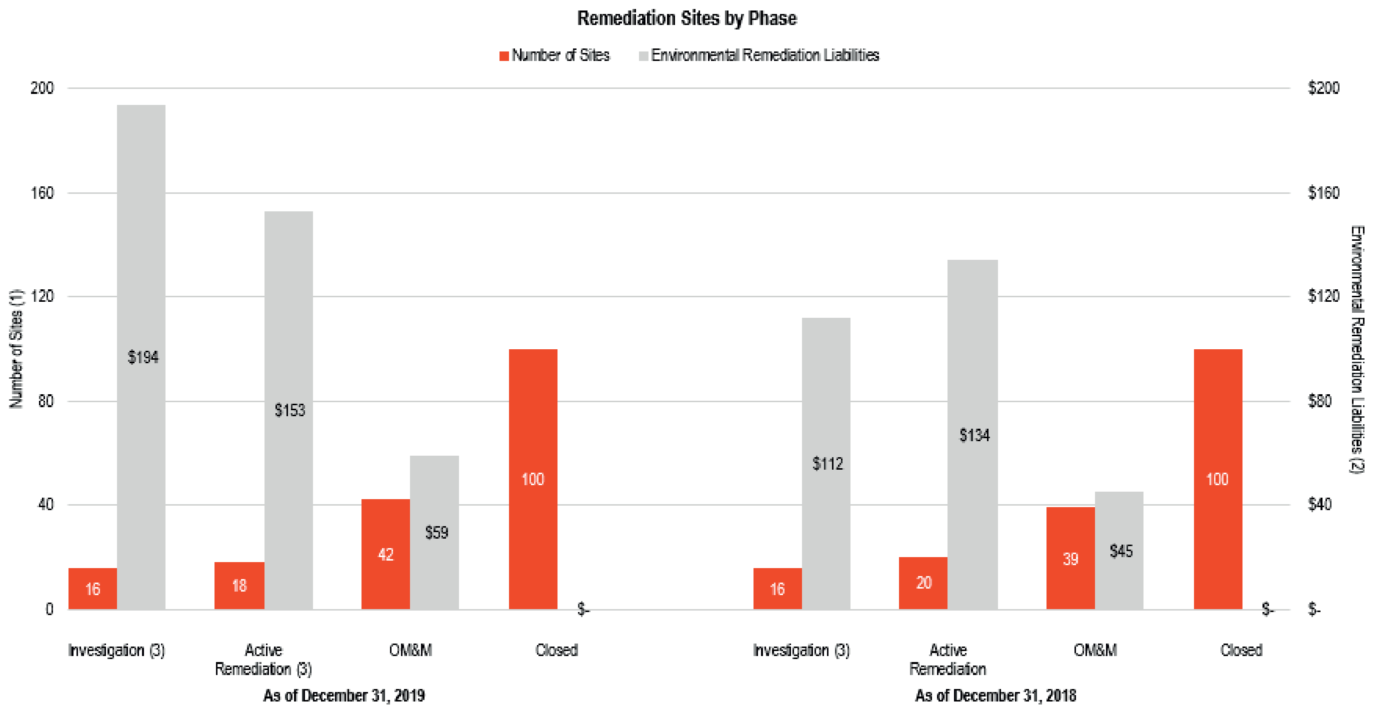
As part of our legacy as a former subsidiary of DuPont, we are cleaning-up historical impacts to soil and groundwater that have occurred in the past at the 25 sites that we own. These operating and former operating sites make up approximately 80% of our remediation liabilities at December 31, 2019.

We were also assigned numerous clean-up obligations from DuPont, which pertain to 86 sites previously owned by DuPont and sites that we or DuPont never owned or operated. We are meeting our obligations to clean up those sites. The majority of these never-owned sites are multi-party Superfund sites that we, through DuPont, have been notified of potential liability under CERCLA or similar state laws and which, in some cases, may represent a small fraction of the total waste that was allegedly disposed of at a site. These sites represent approximately 20% of our remediation liabilities at December 31, 2019. Included in the 86 sites are 36 inactive sites for which there has been no known investigation, clean-up, or monitoring activity, and no remediation obligation is imposed or required; as such, no remediation liabilities are recorded.

The remaining 100 sites, which are Superfund sites and other sites not owned by us, are either already closed or settled, or sites for which we do not believe we have clean-up responsibility based on current information.

With the exception of Fayetteville, our remediation portfolio is relatively mature, with many sites under active clean-up moving towards final completion.

The following graph sets forth the number of remediation sites by site clean-up phase and our remediation liabilities by site clean-up phase as of December 31, 2019 and 2018.



(1) Number of sites does not include the 36 inactive sites for which there has been no known investigation, clean-up, or monitoring activities as of December 31, 2019 and 2018.

(2) Dollars in millions.

(3) As of December 31, 2019, related to Fayetteville, Investigation included $155 million for on-site remediation, and Active Remediation included $46 million for off-site groundwater remediation. As of December 31, 2018, Investigation included $75 million related to Fayetteville.

As remediation efforts progress, sites move from the investigation phase ("Investigation") to the active clean-up phase ("Active Remediation"), and as construction is completed at Active Remediation sites, those sites move to the operation, maintenance, and monitoring ("OM&M"), or closure phase. As final clean-up activities for some significant sites are completed over the next several years, we expect our annual expenses related to these active sites to decline over time. The time frame for a site to go through all phases of remediation (Investigation and Active Remediation) may take about 15 to 20 years, followed by several years of OM&M activities. Remediation activities, including OM&M activities, vary substantially in duration and cost from site to site. These activities, and their associated costs, depend on the mix of unique site characteristics, evolving remediation technologies, and diverse regulatory requirements, as well as the presence or absence of other Potentially Responsible Parties ("PRPs"). In addition, for claims that we may be required to indemnify DuPont pursuant to the separation-related agreements, we and DuPont may have limited available information for certain sites or are in the early stages of discussions with regulators. For these sites, there may be considerable variability between the clean-up activities that are currently being undertaken or planned and the ultimate actions that could be required. Therefore, considerable uncertainty exists with respect to environmental remediation costs, and, under adverse changes in circumstances, although deemed remote, the potential liability may range up to approximately $530 million above the amount accrued at December 31, 2019. In general, uncertainty is greatest and the range of potential liability is widest in the Investigation phase, narrowing over time as regulatory agencies approve site remedial plans. As a result, uncertainty is reduced, and sites ultimately move into OM&M, as needed. As more sites advance from Investigation to Active Remediation to OM&M or closure, the upper end of the range of potential liability is expected to decrease over time.

Some remediation sites will achieve site closure and will require no further action to protect people and the environment and comply with laws and regulations. At certain sites, we expect that there will continue to be some level of remediation activity due to ongoing OM&M of remedial systems. In addition, portfolio changes, such as an acquisition or divestiture, or notification as a PRP for a multi-party Superfund site, could result in additional remediation activity and potentially additional accrual.

Management does not believe that any loss, in excess of amounts accrued, related to remediation activities at any individual site will have a material impact on our financial position or cash flows for any given year, as such obligation can be satisfied or settled over many years.

Significant Environmental Remediation Sites

While there are many remediation sites that contribute to our total accrued environmental remediation liabilities at December 31, 2019 and 2018, the following table sets forth the sites that are the most significant.

(Dollars in millions)	December 31, 2019	December 31, 2018
Chambers Works, Deepwater, New Jersey	$ 20	$ 18
East Chicago, Indiana	17	21
Fayetteville Works, Fayetteville, North Carolina	201	75
Pompton Lakes, New Jersey	43	45
USS Lead, East Chicago, Indiana	13	15
All other sites	112	117
Total accrued environmental remediation	$ 406	$ 291

The five sites listed above represent 72% and 60% of our total accrued environmental remediation liabilities at December 31, 2019 and 2018, respectively. For these five sites, we expect to spend, in the aggregate, $115 million over the next three years. For all other sites, we expect to spend $68 million over the next three years.

Chambers Works, Deepwater, New Jersey

The Chambers Works complex is located on the eastern shore of the Delaware River in Deepwater, Salem County, New Jersey. The site comprises the former Carneys Point Works in the northern area and the Chambers Works manufacturing area in the southern area. Site operations began in 1892 when the former Carneys Point smokeless gunpowder plant was constructed at the northern end of Carneys Point. Site operations began in the manufacturing area around 1914 and included the manufacture of dyes, aromatics, elastomers, chlorofluorocarbons, and tetraethyl lead. We continue to manufacture a variety of fluorochemicals and finished products at Chambers Works. In addition, three tenants operate processes at Chambers Works including steam/electricity generation, industrial gas production, and the manufacture of intermediate chemicals. As a result of over 100 years of continuous industrial activity, site soils and groundwater have been impacted by chemical releases.

In response to identified groundwater contamination, a groundwater interceptor well system (“IWS”) was installed in 1970, which was designed to contain contaminated groundwater and restrict off-site migration. Additional remediation is being completed under a federal RCRA Corrective Action permit. The site has been studied extensively over the years, and more than 25 remedial actions have been completed to date and engineering and institutional controls put in place to ensure protection of people and the environment. In the fourth quarter of 2017, a site perimeter sheet pile barrier intended to more efficiently contain groundwater was completed.

Remaining work beyond continued operation of the IWS and groundwater monitoring includes completion of various targeted studies on site and in adjacent water bodies to close investigation data gaps, as well as selection and implementation of final remedies under RCRA Corrective Action for various solid waste management units and areas of concern not yet addressed through interim measures.

East Chicago, Indiana

East Chicago is a former manufacturing facility that we previously owned in East Chicago, Lake County, Indiana. The approximate 440-acre site is bounded to the south by the east branch of the Grand Calumet River, to the east and north by residential and commercial areas, and to the west by industrial areas, including a former lead processing facility. The inorganic chemicals unit on site produced various chloride, ammonia, and zinc products and inorganic agricultural chemicals beginning in 1892 until 1986. Organic chemical manufacturing began in 1944, consisting primarily of chlorofluorocarbons production. The remaining business was sold to W.R. Grace Company (“Grace”) in early 2000. Approximately 172 acres of the site were never developed and are managed by The Nature Conservancy for habitat preservation.

A comprehensive evaluation of soil and groundwater conditions at the site was performed as part of the RCRA Corrective Action process. Studies of historical site impacts began in 1983 in response to preliminary CERCLA actions undertaken by the U.S. Environmental Protection Agency (“EPA”). The EPA eventually issued an Administrative Order on Consent for the site in 1997. The order specified that remediation work be performed under RCRA Corrective Action authority. Work has proceeded under the RCRA Corrective Action process since that time.

Subsequent investigations included the preparation of initial environmental site assessments and multiple phases of investigation. In 2002, as an interim remedial measure, two 2,000-foot long permeable reactive barrier treatment walls were installed along the northern property boundary to address migration of chemicals in groundwater. Since that time, the investigation process has been completed and approved by the EPA, and the final remedy for the site was issued by the EPA in July 2018.

On June 29, 2018, we sold the East Chicago, Indiana site to a third party for $1 million. In connection with the sale, the buyer agreed to assume all costs associated with environmental remediation activities at the site in excess of $21 million, which will remain our responsibility. At the time of the sale, we had accrued the full $21 million, of which $17 million remained as of December 31, 2019. We will reimburse the buyer through a series of progress payments to be made at defined intervals as certain tasks are completed.

Fayetteville Works, Fayetteville, North Carolina

Fayetteville is located southeast of the City of Fayetteville in Cumberland and Bladen counties, North Carolina. The facility encompasses approximately 2,200 acres, which were purchased by DuPont in 1970, and are bounded to the east by the Cape Fear River and to the west by North Carolina Highway 87. Currently, the site manufactures plastic sheeting, fluorochemicals, and intermediates for plastics manufacturing. A former manufacturing area, which was sold in 1992, produced nylon strapping and elastomeric tape. DuPont sold its Butacite® and SentryGlas® manufacturing units to Kuraray America, Inc. in September 2014. In July 2015, upon our separation from DuPont, we became the owner of the Fayetteville land assets along with fluoromonomers, Nafion® membranes, and the related polymer processing aid manufacturing units. A polyvinyl fluoride resin manufacturing unit remained with DuPont.

Beginning in 1996, several stages of site investigation were conducted under NC DEQ oversight, as required by the facility's hazardous waste permit. In addition, the site has voluntarily agreed to agency requests for additional investigations of the potential release of “PFAS” (perfluoroalkyl and polyfluoroalkyl substances) beginning with “PFOA” (collectively, perfluorooctanoic acids and its salts, including the ammonium salt) in 2006. As a result of detection of the polymerization processing aid hexafluoropropylene oxide dimer acid (“HFPO Dimer Acid,” sometimes referred to as “GenX” or “C3 Dimer Acid”) in on-site groundwater wells during our investigations in 2017, the NC DEQ issued a Notice of Violation (“NOV”) on September 6, 2017 alleging violations of North Carolina water quality statutes and requiring further response. Since that time, and in response to three additional NOVs issued by NC DEQ and pursuant to the Consent Order (as discussed below), we have worked cooperatively with the agency to investigate and address releases of PFAS to on-site and off-site groundwater and surface water.

As discussed in “Note 22 – Commitments and Contingent Liabilities” to the *Consolidated Financial Statements*, as well as “Recent Developments” within this MD&A, we and the NC DEQ have filed a final Consent Order that comprehensively addressed various issues, NOVs, and court filings made by the NC DEQ regarding Fayetteville and resolved litigations filed by the NC DEQ and Cape Fear River Watch, a non-profit organization. In connection with the Consent Order, a thermal oxidizer became fully operational at the site in December 2019 to reduce aerial PFAS emissions from Fayetteville.

In the fourth quarter of 2019, we completed and submitted our Cape Fear River PFAS Loading Reduction Plan - Supplemental Information Report and CAP to NC DEQ. The Supplemental Information Report provides information to support the evaluation of potential remedial options to reduce PFAS loadings to surface waters, including interim alternatives. The CAP describes potential remediation activities to address PFAS in on-site groundwater and surface waters at the site, in accordance with the requirements of the Consent Order and the North Carolina groundwater standards, and builds on the previous submissions to NC DEQ. The NC DEQ has made the CAP available for public review and comment until March 6, 2020.

In the fourth quarter of 2019, based on the Consent Order, CAP, and our plans, we accrued an additional $132 million related to the estimated cost of on-site remediation.

Pompton Lakes, New Jersey

During the 20th century, blasting caps, fuses, and related materials were manufactured at Pompton Lakes, Passaic County, New Jersey. Operating activities at the site were ceased in the mid-1990s. The primary contaminants in the soil and sediments are lead and mercury. Groundwater contaminants include volatile organic compounds. Under the authority of the EPA and the New Jersey Department of Environmental Protection (“NJ DEP”), remedial actions at the site are focused on investigating and cleaning-up the area. Groundwater monitoring at the site is ongoing, and we have installed and continue to install vapor mitigation systems at residences within the groundwater plume. In addition, we are further assessing groundwater conditions. In September 2015, the EPA issued a modification to the site’s RCRA permit that requires us to dredge mercury contamination from a 36-acre area of the lake and remove sediment from two other areas of the lake near the shoreline. The remediation activities commenced when permits and implementation plans were approved in May 2016, and work on the lake dredging project is now complete. In April 2019, Chemours submitted a revised Corrective Measures Study (“CMS”) proposing actions to address on-site soils impacted from past operations that exceed applicable clean-up criteria. That CMS is currently under review by EPA and NJ DEP.

U.S. Smelter and Lead Refinery, Inc., East Chicago, Indiana

The U.S. Smelter and Lead Refinery, Inc. ("USS Lead") Superfund site is located in the Calumet neighborhood of East Chicago, Lake County, Indiana. The site includes the former USS Lead facility along with nearby commercial, municipal, and residential areas. The primary compounds of interest are lead and arsenic which may be found in soils within the impacted area. The EPA is directing and organizing remediation on this site, and we are one of a number of parties working cooperatively with the EPA on the safe and timely completion of this work. DuPont's former East Chicago manufacturing facility was located adjacent to the site, and DuPont assigned responsibility for the site to us in the separation agreement.

The USS Lead Superfund site was listed on the National Priorities List in 2009. To facilitate negotiations with PRPs, the EPA divided the residential part of the USS Lead Superfund site into three zones, referred to as Zone 1, Zone 2, and Zone 3. The division into three zones resulted in Atlantic Richfield Co. ("Atlantic Richfield") and DuPont entering into an agreement in 2014 with the EPA and the State of Indiana to reimburse the EPA's costs to implement clean-up in Zone 1 and Zone 3. More recently, in March 2017, we and three other parties – Atlantic Richfield, DuPont, and the U.S. Metals Refining Co. ("US Metals") – entered into an administrative order on consent to reimburse the EPA's costs to clean-up a portion of Zone 2. In March 2018, the EPA issued a Unilateral Administrative Order for the remainder of the Zone 2 work to five parties, including us, Atlantic Richfield, DuPont, U.S. Metals, and USS Lead Muller Group, and these parties entered into an interim allocation agreement to perform that work. As of the end of 2019, the required work in Zone 3 has been completed, and Zone 2 is nearly complete. There is uncertainty as to whether these parties will be able to agree on a final allocation for Zone 2 and/or the other Zones, and whether any additional PRPs may be identified.

The environmental accrual for USS Lead continues to include completion of the remaining obligations under the 2012 Record of Decision ("ROD") and Statement of Work, which principally encompasses completion of Zone 1. The EPA released a proposed amendment to the 2012 ROD for a portion of Zone 1 in December 2018 (following its August 2018 Feasibility Study Addendum), with its recommended option based on future residential use. However, the proposed amendment was sent out for public comment with the EPA's statement that the remedy basis and cost may change based on community input on future land use. The EPA's final decision was expected in 2019, but has not yet been released. We expect that our future costs for Zone 1 will be contingent on this remedy decision, as well as any final allocation between PRPs.

New Jersey Department of Environmental Protection Directives and Litigation

In March 2019, the NJ DEP issued two Directives and filed four lawsuits against Chemours and other defendants. Further discussion related to these matters is included in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*.

Climate Change

In 2018, we issued our inaugural Corporate Responsibility Commitment ("CRC") Report, which expresses our corporate responsibility commitment – an extension of our growth strategy – as 10 ambitious goals targeted for completion by 2030. Built on the pillars of Inspired People, Shared Planet, and an Evolved Portfolio, our Shared Planet pillar underlines our commitment to deliver essential solutions responsibly, without causing harm to the Earth. With a focus on the responsible treatment of climate, water, and waste, our Shared Planet goals are comprised of the following:

- Reduce greenhouse gas ("GHG") emissions intensity by 60%;
- Advance our plan to become carbon positive by 2050;
- Reduce air and water process emissions of fluorinated organic chemicals by 99% or more; and,
- Reduce our landfill volume intensity by 70%.

We are committed to improving our resource efficiency, to acting on opportunities to reduce our GHG emissions, to enhancing the eco-efficiency of our supply chain, and to encouraging our employees to reduce their own environmental footprints. We understand that maintaining safe, sustainable operations has an impact on us, our communities, the environment, and our collective future. We continue to invest in R&D to develop safer, cleaner, and more efficient products and processes that help our customers and consumers reduce both their GHGs and their overall environmental footprint. We value collaboration to drive change and commit to working with policymakers, our value chain, and other organizations to encourage collective action for reducing GHGs.

PFOA

See our discussion under the heading "PFOA" in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements*.

GenX

On June 26, 2019 the Member States Committee of the European Chemicals Agency ("ECHA") voted to list HFPO Dimer Acid as a Substance of Very High Concern. The vote was based on Article 57(f) – equivalent level of concern having probable serious effects to the environment. This identification does not impose immediate regulatory restriction or obligations, but may lead to a future authorization or restriction of the substance. On September 24, 2019, Chemours filed an application with the EU Court of Justice for the annulment of the decision of ECHA to list HFPO Dimer Acid as a Substance of Very High Concern.

Delaware Chancery Court Lawsuit

In May 2019, we filed a lawsuit in Delaware Chancery Court ("Chancery Court") against DowDuPont, Inc., Corteva, Inc., and DuPont concerning DuPont's contention that it is entitled to unlimited indemnity from us for specified liabilities that DuPont assigned to us in the spin-off. The lawsuit requests that the Chancery Court enter a declaratory judgment limiting DuPont's indemnification rights against us and the transfer of liabilities to us to the actual "high-end (maximum) realistic exposures" it stated in connection with the spin-off, or, in the alternative, requiring the return of the approximate $4 billion dividend DuPont extracted from us in connection with the spin-off. In response, DuPont has filed a Motion to Dismiss the lawsuit seeking to have the dispute heard in a non-public arbitration rather than the Chancery Court. Many of the potential litigation liabilities discussed in "Note 22 – Commitments and Contingent Liabilities" to the *Consolidated Financial Statements* are at issue in the lawsuit.

Non-GAAP Financial Measures

We prepare our consolidated financial statements in accordance with GAAP. To supplement our financial information presented in accordance with GAAP, we provide the following non-GAAP financial measures – Adjusted EBITDA, Adjusted Net Income, Adjusted Earnings per Share ("EPS"), Free Cash Flows ("FCF"), and Return on Invested Capital ("ROIC") – in order to clarify and provide investors with a better understanding of our performance when analyzing changes in our underlying business between reporting periods and provide for greater transparency with respect to supplemental information used by management in its financial and operational decision-making. We utilize Adjusted EBITDA as the primary measure of segment profitability used by our CODM.

Adjusted EBITDA is defined as income (loss) before income taxes, excluding the following:

- interest expense, depreciation, and amortization;
- non-operating pension and other post-retirement employee benefit costs, which represents the components of net periodic pension (income) costs excluding the service cost component;
- exchange (gains) losses included in other income (expense), net;
- restructuring, asset-related, and other charges;
- asset impairments;
- (gains) losses on sales of business or assets; and,
- other items not considered indicative of our ongoing operational performance and expected to occur infrequently.

Adjusted Net Income is defined as our net income or loss, adjusted for items excluded from Adjusted EBITDA, except interest expense, depreciation, amortization, and certain provision for (benefit from) income tax amounts. Adjusted EPS is presented on a diluted basis and is calculated by dividing Adjusted Net Income by the weighted-average number of our common shares outstanding, accounting for the dilutive impact of our stock-based compensation awards. FCF is defined as our cash flows provided by (used for) operating activities, less purchases of property, plant, and equipment as shown in our consolidated statements of cash flows. ROIC is defined as Adjusted Earnings before Interest and Taxes ("EBIT"), divided by the average of our invested capital, which amounts to net debt plus equity.

We believe the presentation of these non-GAAP financial measures, when used in conjunction with GAAP financial measures, is a useful financial analysis tool that can assist investors in assessing our operating performance and underlying prospects. This analysis should not be considered in isolation or as a substitute for analysis of our results as reported under GAAP. In the future, we may incur expenses similar to those eliminated in this presentation. Our presentation of Adjusted EBITDA, Adjusted Net Income, Adjusted EPS, FCF, and ROIC should not be construed as an inference that our future results will be unaffected by unusual or infrequently occurring items. The non-GAAP financial measures we use may be defined differently from measures with the same or similar names used by other companies. This analysis, as well as the other information provided in this Annual Report on Form 10-K, should be read in conjunction with the *Consolidated Financial Statements* and notes thereto included in this report.

The following table sets forth a reconciliation of Adjusted EBITDA, Adjusted Net Income, and Adjusted EPS to our net income (loss) attributable to Chemours for the years ended December 31, 2019 and 2018.

	Year Ended December 31,	
(Dollars in millions, except per share amounts)	**2019**	**2018**
Net (loss) income attributable to Chemours	$ (52)	$ 995
Non-operating pension and other post-retirement employee benefit cost (income) (1)	368	(27)
Exchange losses (gains), net	2	(1)
Restructuring, asset-related, and other charges (2)	87	49
Loss on extinguishment of debt	—	38
Gain on sales of assets and businesses (3)	(10)	(45)
Transaction costs (4)	3	9
Legal and environmental charges (5)	175	82
Other charges	—	1
Adjustments made to income taxes (6)	—	(41)
Benefit from income taxes relating to reconciling items (7)	(154)	(26)
Adjusted Net Income	419	1,034
Net income attributable to non-controlling interests	—	1
Interest expense, net	208	195
Depreciation and amortization	311	284
All remaining provision for income taxes	82	226
Adjusted EBITDA	$ 1,020	$ 1,740
Weighted-average number of common shares outstanding - basic	164,816,839	176,968,554
Dilutive effect of our employee compensation plans (8)	2,428,184	5,603,467
Weighted-average number of common shares outstanding - diluted (8)	167,245,023	182,572,021
Per share data		
Basic (loss) earnings per share of common stock	$ (0.32)	$ 5.62
Diluted (loss) earnings per share of common stock (8)	(0.32)	5.45
Adjusted basic earnings per share of common stock	2.54	5.85
Adjusted diluted earnings per share of common stock (8)	2.51	5.67

(1) The year ended December 31, 2019 includes a $380 million settlement loss related to a significant portion of our Netherlands pension plan, specific to the vested pension benefits of the inactive participants. See “Note 27 – Long-term Employee Benefits” to the *Consolidated Financial Statements* for further details.

(2) Includes restructuring, asset-related, and other charges, which are discussed in further detail in “Note 7 – Restructuring, Asset-related, and Other Charges” to the *Consolidated Financial Statements*.

(3) The year ended December 31, 2019 included a non-cash gain of $9 million related to the sale of the Company’s Repauno, New Jersey site. The year ended December 31, 2018 included gains of $3 million and $42 million associated with the sales of our East Chicago, Indiana and Linden, New Jersey sites, respectively.

(4) Includes costs associated with our debt transactions, as well as accounting, legal, and bankers’ transaction costs incurred in connection with our strategic initiatives.

(5) Legal charges pertains to litigation settlements, PFOA drinking water treatment accruals, and other legal charges. Environmental charges pertains to estimated liabilities associated with on-site remediation, off-site groundwater remediation, and toxicology studies related to Fayetteville. The year ended December 31, 2019 included $168 million in additional charges for the approved final Consent Order associated with certain matters at Fayetteville. The year ended December 31, 2018 included $63 million in additional charges for the estimated liability associated with Fayetteville. See “Note 22 – Commitments and Contingent Liabilities” to the *Consolidated Financial Statements* for further detail.

(6) Includes the removal of certain discrete income tax impacts within our provision for income taxes, such as the benefit from windfalls on our share-based payments, historical valuation allowance adjustments, unrealized gains and losses on foreign exchange rate changes, and other discrete income tax items.

(7) The income tax impacts included in this caption are determined using the applicable rates in the taxing jurisdictions in which income or expense occurred and represents both current and deferred income tax expense or benefit based on the nature of the non-GAAP financial measure.

(8) In periods where the Company incurs a net loss, the impact of potentially dilutive securities is excluded from the calculation of EPS under GAAP, as its inclusion would have an anti-dilutive effect. As such, with respect to the GAAP measure of diluted EPS, the impact of potentially dilutive securities is excluded from our calculation for the year ended December 31, 2019. With respect to the non-GAAP measure of adjusted diluted EPS, the impact of potentially dilutive securities is included in our calculation for both of the periods presented above, as Adjusted Net Income was in a net income position for the years ended December 31, 2019 and 2018.

The following table sets forth a reconciliation of FCF to our cash flows provided by operating activities for the years ended December 31, 2019 and 2018.

	Year Ended December 31,	
(Dollars in millions)	2019	2018
Cash flows provided by operating activities	$ 650	$ 1,140
Less: Purchases of property, plant, and equipment	(481)	(498)
Free Cash Flows	$ 169	$ 642

The following table sets forth a reconciliation of invested capital, net, a component of ROIC, to our total debt, equity, and cash and cash equivalents amounts for the years ended December 31, 2019 and 2018.

	Year Ended December 31,	
(Dollars in millions)	2019	2018
Adjusted EBITDA (1)	$ 1,020	$ 1,740
Less: Depreciation and amortization	(311)	(284)
Adjusted EBIT	709	1,456
Total debt	4,160	3,972
Total equity	695	1,020
Less: Cash and cash equivalents	(943)	(1,201)
Invested capital, net	$ 3,912	$ 3,791
Average invested capital (2)	$ 4,102	$ 3,717
Return on Invested Capital	17%	39%

(1) See the preceding tables for a reconciliation of Adjusted EBITDA to net income (loss) attributable to Chemours for the years ended December 31, 2019 and 2018.

(2) Average invested capital is based on a five-quarter trailing average of invested capital, net.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to changes in foreign currency exchange rates because of our global operations. As a result, we have assets, liabilities, and cash flows denominated in a variety of foreign currencies. We are also exposed to changes in the prices of certain commodities that we use in production. Changes in these rates and commodity prices may have an impact on our future cash flows and earnings. We manage these risks through normal operating and financing activities and, when deemed appropriate, through the use of derivative financial instruments. We do not enter into derivative financial instruments for trading or speculative purposes.

By using derivative financial instruments, we are subject to credit and market risk. The fair values of the derivative financial instruments are determined by using valuation models whose inputs are derived using market observable inputs, and reflects the asset or liability position as of the end of each reporting period. When the fair value of a derivative contract is positive, the counterparty owes us, thus creating a receivable risk for us. We are exposed to counterparty credit risk in the event of non-performance by counterparties to our derivative agreements. We minimize counterparty credit (or repayment) risk by entering into transactions with major financial institutions of investment grade credit ratings.

Foreign Currency Risks

We enter into foreign currency forward contracts to minimize the volatility in our earnings related to foreign exchange gains and losses resulting from the remeasurement of our monetary assets and liabilities that are denominated in non-functional currencies, and any gains and losses from the foreign currency forward contracts are intended to be offset by any gains or losses from the remeasurement of the underlying monetary assets and liabilities. These derivatives are stand-alone and, except as described below, have not been designated as a hedge. At December 31, 2019, we had 16 foreign currency forward contracts outstanding, with an aggregate gross notional U.S. dollar equivalent of $530 million, the fair value of which amounted to less than $1 million. At December 31, 2018, we had 20 foreign currency forward contracts outstanding, with an aggregate gross notional U.S. dollar equivalent of $503 million, the fair value of which amounted to less than $1 million. We recognized a net loss of $2 million, and net gains of $3 million and $4 million for the years ended December 31, 2019, 2018, and 2017, respectively, within other income (expense), net related to our non-designated foreign currency forward contracts.

We enter into certain of our qualifying foreign currency forward contracts under a cash flow hedge program to mitigate the risks associated with fluctuations in the euro against the U.S. dollar for forecasted U.S. dollar-denominated inventory purchases in certain of our international subsidiaries that use the euro as their functional currency. At December 31, 2019, we had 150 foreign currency forward contracts outstanding under our cash flow hedge program with an aggregate notional U.S. dollar equivalent of $124 million, the fair value of which amounted to $1 million of net unrealized gain. At December 31, 2018, we had 75 foreign currency forward contracts outstanding under our cash flow hedge program with an aggregate notional U.S. dollar equivalent of $143 million, the fair value of which amounted to $3 million of net unrealized gain. We recognized pre-tax gains of $6 million and $10 million for the years ended December 31, 2019 and 2018, respectively, on our cash flow hedge within accumulated other comprehensive loss. For the years ended December 31, 2019 and 2018, $10 million and $4 million of gain was reclassified to the cost of goods sold from accumulated other comprehensive loss, respectively.

We designated our euro-denominated debt as a hedge of our net investment in certain of our international subsidiaries that use the euro as their functional currency in order to reduce the volatility in stockholders' equity caused by changes in foreign currency exchange rates of the euro with respect to the U.S. dollar. We recognized pre-tax gains of $20 million and $32 million, and a pre-tax loss of $86 million on our net investment hedge within accumulated other comprehensive loss for the years ended December 31, 2019, 2018, and 2017, respectively.

Our risk management programs and the underlying exposures are closely correlated, such that the potential loss in value for the risk management portfolio described above would be largely offset by the changes in the value of the underlying exposures. See "Note 26 – Financial Instruments" to the *Consolidated Financial Statements* for further information.

Concentration of Credit Risk

Our sales are not dependent on any single customer. At December 31, 2019 and 2018, one individual customer balance represented approximately 5% and 8% of our total outstanding accounts and notes receivable balance, respectively. Any credit risk associated with our accounts and notes receivable balance is representative of the geographic, industry, and customer diversity associated with our global businesses. As a result of our customer base being widely dispersed, we do not believe our exposure to credit-related losses related to our business as of December 31, 2019 and 2018 was material.

We also maintain strong credit controls in evaluating and granting customer credit. As a result, we may require that customers provide some type of financial guarantee in certain circumstances. The length of terms for customer credit varies by industry and region.

Commodities Risk

A portion of our products and raw materials are commodities whose prices fluctuate as market supply and demand fundamentals change. Accordingly, product margins and the level of our profitability tend to fluctuate with changes in the business cycle. We try to protect against such instability through various business strategies. These include provisions in sales contracts allowing us to pass on higher raw materials costs through timely price increases and formula price contracts to transfer or share commodity price risk. We did not have any commodity derivative financial instruments in place as of December 31, 2019 and 2018.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The financial statements and supplementary data required by this *Item 8 – Financial Statements and Supplementary Data* is incorporated by reference herein as set forth in *Item 15(a)(1) – Consolidated Financial Statements*.

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

None.

Item 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

We maintain disclosure controls and procedures designed to provide reasonable assurance that the information required to be disclosed in our reports filed or submitted under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the rules and forms of the SEC. These controls and procedures also provide reasonable assurance that information required to be disclosed in such reports is accumulated and communicated to management, including our CEO and CFO, to allow timely decisions regarding required disclosures.

As of December 31, 2019, our CEO and CFO, together with management, conducted an evaluation of the effectiveness of our disclosure controls and procedures as defined in Rule 13a-15(e) under the Exchange Act. Based on that evaluation, the CEO and CFO have concluded that these disclosure controls and procedures are effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting that occurred during the year ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

We have completed an evaluation of our internal control over financial reporting and have concluded that our internal control over financial reporting was effective as of December 31, 2019 (see "Management's Report on Internal Control over Financial Reporting" on page F-2 to the *Consolidated Financial Statements*).

Item 9B. OTHER INFORMATION

None.

PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE

Except for information concerning executive officers, which is included in Part I of this Annual Report on Form 10-K under the caption "Information About Our Executive Officers," the information about our directors required by this *Item 10 – Directors, Executive Officers, and Corporate Governance* is contained under the caption "Proposal 1 – Election of Directors" in the definitive proxy statement for our 2020 annual meeting of stockholders (the "2020 Proxy Statement"), which we anticipate filing with the SEC within 120 days after the end of the fiscal year to which this report relates, and is incorporated herein by reference.

Information regarding our audit committee, code of ethics, and compliance with Section 16(a) of the Exchange Act is contained in the 2020 Proxy Statement under the captions "Corporate Governance," "Board Structure and Committee Composition," and "Section 16(a) Beneficial Ownership Reporting Compliance" and is incorporated herein by reference.

Item 11. EXECUTIVE COMPENSATION

The information required by this *Item 11 – Executive Compensation* is contained in the 2020 Proxy Statement under the captions "Executive Compensation," "Director Compensation," "Compensation Committee Report," and "Compensation Committee Interlocks, and Insider Participation" and is incorporated herein by reference.

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

The information required by this *Item 12 – Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters* and not otherwise set forth below is contained in the 2020 Proxy Statement under the caption "Security Ownership of Certain Beneficial Owners and Management" and is incorporated herein by reference.

Securities authorized for issuance under equity compensation plans

(Shares in thousands)	December 31, 2019		
Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants, and Rights (1)	Weighted-average Exercise Price of Outstanding Options, Warrants, and Rights (2)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (3)
Equity compensation plans approved by security holders	7,100	$ 20.92	13,900

(1) Includes the approximate number of outstanding stock options, restricted stock units ("RSUs"), and performance share units ("PSUs").

(2) Represents the weighted-average exercise price of outstanding stock options only. RSUs and PSUs do not have associated exercise prices.

(3) Reflects the approximate shares available for issuance pursuant to The Chemours Company 2017 Equity and Incentive Plan (the "2017 Plan"), which was approved by our stockholders on April 26, 2017 and replaces The Chemours Company Equity and Incentive Plan. The maximum number of shares of stock reserved for the grant or settlement of awards under the 2017 Plan is 19,000,000.

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

The information required by this *Item 13 – Certain Relationships and Related Transactions, and Director Independence* is contained in the 2020 Proxy Statement under the captions "Director Independence" and "Certain Relationships and Transactions" and is incorporated herein by reference.

Item 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this *Item 14 – Principal Accounting Fees and Services* is contained in the 2020 Proxy Statement under the captions "Proposal 3 – Ratification of Selection of Independent Registered Public Accounting Firm," "Fees Paid to Independent Registered Public Accounting Firm," and "Audit Committee's Pre-approval Policies and Procedures" and is incorporated herein by reference.

PART IV

Item 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a)(1) Consolidated Financial Statements

See the “Index to the *Consolidated Financial Statements*” commencing on page F-1 of this Annual Report on Form 10-K.

(a)(2) Financial Statement Schedule

Schedules not listed above have been omitted because they are not required, not applicable, or the required information is otherwise included.

(a)(3) Exhibits

See the “Exhibit Index” beginning on page 64 of this Annual Report on Form 10-K.

Item 16. FORM 10-K SUMMARY

None.

EXHIBIT INDEX

Exhibit Number	Description
2.1	Separation Agreement by and between E. I. du Pont de Nemours and Company and the Chemours Company (incorporated by reference to Exhibit 2 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on July 1, 2015).
2.1(1)	Amendment No. 1, dated August 24, 2017, to the Separation Agreement, dated as of July 1, 2015, by and between E. I. du Pont de Nemours and Company and The Chemours Company (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on August 25, 2017).
3.1	Company's Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on July 1, 2015).
3.2	Company's Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on July 1, 2015).
4.1	Indenture, dated May 12, 2015 by and among The Chemours Company, The Guarantors party thereto and U.S. Bank National Association, as Trustee, Elavon Financial Services Limited, as Registrar and Transfer Agent for the Euro Notes (incorporated by reference to Exhibit 10.7 to the Company's Amendment No. 3 to Form 10, as filed with the U.S. Securities and Exchange Commission on May 13, 2015).
4.1(1)	First Supplemental Indenture, dated May 12, 2015, by and among The Chemours Company, the Guarantors party thereto and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 10.8 to the Company's Amendment No. 3 to Form 10, as filed with the U.S. Securities and Exchange Commission on May 13, 2015).
4.1(2)	Second Supplemental Indenture, dated May 12, 2015, by and among The Chemours Company, the Guarantors party thereto and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 10.9 to the Company's Amendment No. 3 to Form 10, as filed with the U.S. Securities and Exchange Commission on May 13, 2015).
4.1(3)	Third Supplemental Indenture, dated May 12, 2015, by and among The Chemours Company, the Guarantors party thereto and U.S. Bank National Association, as Trustee, Elavon Financial Services Limited, UK Branch, as Paying Agent for the Euro Notes and Elavon Financial Services Limited, as Registrar and Transfer Agent for the Euro Notes (incorporated by reference to Exhibit 10.10 to the Company's Amendment No. 3 to Form 10, as filed with the U.S. Securities and Exchange Commission on May 13, 2015).
4.1(4)	Fourth Supplemental Indenture, dated as of June 6, 2018, among The Chemours Company, the Guarantors named therein, U.S. Bank National Association, as trustee, Elavon Financial Services DAC, UK Branch, as paying agent, and Elavon Financial Services DAC, as registrar and transfer agent (incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on June 6, 2018).
4.1(5)	Specimen 6.625% Notes due 2023 (included in Exhibit 4.1(1)).
4.1(6)	Specimen 7.000% Notes due 2025 (included in Exhibit 4.1(2)).
4.1(7)	Specimen 6.125% Notes due 2023 (included in Exhibit 4.1(3)).
4.2	Indenture (for senior debt securities), dated as of May 23, 2017, by and between The Chemours Company and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on May 23, 2017).
4.2(1)	First Supplemental Indenture, dated as of May 23, 2017, by and among The Chemours Company, the guarantors named therein and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on May 23, 2017).
4.2(2)	Second Supplemental Indenture, dated as of June 6, 2018, among The Chemours Company, the Guarantors named therein, U.S. Bank National Association, as trustee, Elavon Financial Services DAC, UK Branch, as paying agent, and Elavon Financial Services DAC, as registrar and transfer agent (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on June 6, 2018).
4.2(3)	Specimen 5.375% Senior Note due 2027 (incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on May 23, 2017).
4.2(4)	Specimen 4.000% Senior Note Due 2026 (included in Exhibit 4.2(2)).
4.3	Description of common stock.
10.1	Second Amended and Restated Transition Services Agreement by and between E. I. du Pont de Nemours and Company and The Chemours Company (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on July 1, 2015).
10.2	Tax Matters Agreement by and between E. I. du Pont de Nemours and Company and The Chemours Company (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on July 1, 2015).
10.3	Employee Matters Agreement by and between E. I. du Pont de Nemours and Company and The Chemours Company (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on July 1, 2015).
10.4	Third Amended and Restated Intellectual Property Cross-License Agreement by and among E. I. du Pont de Nemours and Company, The Chemours Company FC and The Chemours Company TT, LLC (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on July 1, 2015).
10.14	Amended and Restated Credit Agreement, dated as of April 3, 2018, among The Chemours Company, the Lenders and Issuing Banks party thereto and JPMorgan Chase Bank, N.A., as Administrative Agent (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on April 3, 2018).
10.16*	The Chemours Company Equity and Incentive Plan (incorporated by reference to Exhibit 4.1 to the Company's Form S-8 (File No. 333-205391, as filed with the U.S. Securities and Exchange Commission on July 1, 2015).
10.17*	The Chemours Company Retirement Savings Restoration Plan (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on July 1, 2015).

Exhibit Number	Description
10.18*	The Chemours Company Management Deferred Compensation Plan (incorporated by reference to Exhibit 4.1 to the Company's Form S-8 (File No. 333-205393), as filed with the U.S. Securities and Exchange Commission on July 1, 2015).
10.19(1)*	The Chemours Company Stock Accumulation and Deferred Compensation Plan for Directors (incorporated by reference to Exhibit 4.1 to the Company's Form S-8 (File No. 333-205392), as filed with the U.S. Securities and Exchange Commission on July 1, 2015).
10.19(2)*	The Chemours Company Stock Accumulation and Deferred Compensation Plan for Directors (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q, as filed with the U.S. Securities and Exchange Commission on May 4, 2018).
10.20*	The Chemours Company Senior Executive Severance Plan (incorporated by reference to Exhibit 10.20 to the company's Amendment No. 3 to Form 10, as filed with the U.S. Securities and Exchange Commission on May 13, 2015).
10.21*	Form of Option Award Terms under the Company's Equity and Incentive Plan (incorporated by reference to Exhibit 10.21 to the company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2015).
10.22*	Form of Restricted Stock Unit Terms under the Company's Equity and Incentive Plan (incorporated by reference to Exhibit 10.22 to the company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2015).
10.23*	Form of Stock Appreciation Right Terms under the Company's Equity and Incentive Plan (incorporated by reference to Exhibit 10.23 to the company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2015).
10.24(1)*	Form of Restricted Stock Unit Terms for Non-Employee Directors under the Company's Equity Incentive Plan (incorporated by reference to Exhibit 10.24 to the company's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2015).
10.24(2)*	Form of Deferred Stock Unit Terms for Non-Employee Directors under the Company's Equity and Incentive Plan (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q, as filed with the U.S. Securities and Exchange Commission on May 4, 2018).
10.25*	Form of Performance-Based Restricted Stock Unit Terms for August 2015 (incorporated by reference to Exhibit 10.25 to the company's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2015).
10.26*	Form of Performance Share Unit Award Terms under the Company's Equity and Incentive Plan (incorporated by reference to Exhibit 10.26 to the company's Annual Report on Form 10-K for the year ended December 31, 2015).
10.27*	Form of Cash Performance Award Terms under the Company's Equity and Incentive Plan (incorporated by reference to Exhibit 10.27 to the company's Annual Report on Form 10-K for the year ended December 31, 2015).
10.28*	Form of Indemnification Agreement for officers and directors (incorporated by reference to Exhibit 10.28 to the company's Annual Report on Form 10-K for the year ended December 31, 2015).
10.30	Letter Agreement dated January 28, 2016 by and between The Chemours Company and E. I. du Pont de Nemours and Company (incorporated by reference to Item 10.2 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on February 23, 2016).
10.31*	Form of Option Award Terms under the Company's Equity Incentive Plan for grantees located in the U.S. (incorporated by reference to Exhibit 10.31 to the Company's Annual Report on Form 10-K for the year ended December 31, 2016).
10.32*	Form of Option Award Terms under the Company's Equity Incentive Plan for grantees located outside the U.S. (incorporated by reference to Exhibit 10.32 to the Company's Annual Report on Form 10-K for the year ended December 31, 2016).
10.33*	Form of Award Terms of Time-Vested Restricted Stock Units under the Company's Equity Incentive Plan for grantees located in the U.S. (incorporated by reference to Exhibit 10.33 to the Company's Annual Report on Form 10-K for the year ended December 31, 2016).
10.34*	Form of Award Terms of Time-Vested Restricted Stock Units under the Company's Equity Incentive Plan for grantees located outside the U.S. (incorporated by reference to Exhibit 10.34 to the Company's Annual Report on Form 10-K for the year ended December 31, 2016).
10.35*	Form of Award Terms of Performance Share Units under the Company's Equity Incentive Plan (incorporated by reference to Exhibit 10.35 to the Company's Annual Report on Form 10-K for the year ended December 31, 2016).
10.36*	Separation Agreement and Release between Paul Kirsch and the Company effective October 31, 2019, dated October 3, 2019.
10.37*	The Chemours Company 2017 Equity and Incentive Plan (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, as filed with the U.S. Securities and Exchange Commission on May 1, 2017).
21	Subsidiaries of the Registrant.
23	Consent of Independent Registered Public Accounting Firm.
31.1	Rule 13a-14(a)/15d-14(a) Certification of the Company's Principal Executive Officer.
31.2	Rule 13a-14(a)/15d-14(a) Certification of the Company's Principal Financial Officer.
32.1	Section 1350 Certification of the company's Principal Executive Officer. The information contained in this Exhibit shall not be deemed filed with the Securities and Exchange Commission nor incorporated by reference in any registration statement filed by the registrant under the Securities Act of 1933, as amended.
32.2	Section 1350 Certification of the company's Principal Financial Officer. The information contained in this Exhibit shall not be deemed filed with the Securities and Exchange Commission nor incorporated by reference in any registration statement filed by the registrant under the Securities Act of 1933, as amended.
95	Mine Safety Disclosures.
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.

Exhibit Number	Description
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.
104	The cover page from the Company's Annual Report on Form 10-K for the year ended December 31, 2019, which has been formatted in Inline XBRL and included within Exhibit 101.

* Management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements 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.

THE CHEMOURS COMPANY
(Registrant)

Date: February 14, 2020

By: /s/ Sameer Ralhan
Sameer Ralhan
Senior Vice President, Chief Financial Officer and Treasurer
(As Duly Authorized Officer and Principal Financial Officer)

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 in the capacities and on the dates indicated:

Signature	Title(s)	Date
/s/ Mark P. Vergnano Mark P. Vergnano	President, Chief Executive Officer, and Director (Principal Executive Officer)	February 14, 2020
/s/ Sameer Ralhan Sameer Ralhan	Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer)	February 14, 2020
/s/ Matthew S. Abbott Matthew S. Abbott	Vice President and Controller (Principal Accounting Officer)	February 14, 2020
/s/ Richard H. Brown Richard H. Brown	Chairman of the Board	February 14, 2020
/s/ Curtis V. Anastasio Curtis V. Anastasio	Director	February 14, 2020
/s/ Bradley J. Bell Bradley J. Bell	Director	February 14, 2020
/s/ Mary B. Cranston Mary B. Cranston	Director	February 14, 2020
/s/ Curtis J. Crawford Curtis J. Crawford	Director	February 14, 2020
/s/ Dawn L. Farrell Dawn L. Farrell	Director	February 14, 2020
/s/ Erin N. Kane Erin N. Kane	Director	February 14, 2020
/s/ Sean D. Keohane Sean D. Keohane	Director	February 14, 2020

The Chemours Company

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The Chemours Company

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934. The 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. The 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 authorization of management and directors of the Company; and,

(iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisitions, uses, or dispositions 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.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2019, based on criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control - Integrated Framework* (2013). Based on its assessment and those criteria, management concluded that the Company maintained effective internal control over financial reporting as of December 31, 2019.

PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited the effectiveness of the Company's internal control over financial reporting as of December 31, 2019, as stated in its report, which is presented on the following page.

/s/ Mark P. Vergnano
Mark P. Vergnano
President and
Chief Executive Officer

/s/ Sameer Ralhan
Sameer Ralhan
Senior Vice President,
Chief Financial Officer and Treasurer

February 14, 2020

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of The Chemours Company

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of The Chemours Company and its subsidiaries (the "Company") as of December 31, 2019 and 2018, and the related consolidated statements of operations, of comprehensive income (loss), of stockholders' equity and of cash flows for each of the three years in the period ended December 31, 2019, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2019, 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, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019 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, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 3 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in 2019.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. 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.

Critical Audit Matters

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

Accrued Liabilities Associated with the Fayetteville Works Site

As described in Note 22 to the consolidated financial statements, the Company is cooperating with a variety of ongoing inquiries and investigations from federal, state, and local authorities, regulators, and other governmental entities with respect to the discharge of hexafluoropropylene oxide dimer acid ("HFPO Dimer Acid," sometimes referred to as "GenX" or "C3 Dimer Acid") and other perfluorinated and polyfluorinated compounds ("PFAS") from the Company's Fayetteville Works site in North Carolina ("Fayetteville") into the Cape Fear River, site surface water, groundwater, and air emissions. The Company's accruals for these off-site and on-site remedial activities as of December 31, 2019 were $201 million. The Company's estimated liability for off-site replacement drinking water supplies is based on management's assessment of the current facts and circumstances for this matter, which is subject to various assumptions that include the number of affected surrounding properties, response rates to the Company's offer, the type of water treatment systems selected, the cost of the selected water treatment systems, and any related operation, maintenance, and monitoring ("OM&M") requirements, and other charges contemplated by the Consent Order with the North Carolina Department of Environmental Quality ("Consent Order"). The Company's estimated liability for the on-site remediation activities that are probable and estimable is based on the Corrective Action Plan ("CAP") and management's assessment of the current facts and circumstances, which are subject to various assumptions including the transport pathways (being pathways by which PFAS reaches the Cape Fear River) which will require remedial actions, the types of site surface water and on-site remedies and treatment systems selected and implemented, the estimated cost of such potential remedies and treatment systems, and any related OM&M requirements, and other charges contemplated by the Consent Order and CAP.

The principal considerations for our determination that performing procedures relating to liabilities associated with Fayetteville is a critical audit matter are there was significant judgment by management to estimate the ultimate costs expected to be incurred under environmental regulations, the Consent Order, and the CAP which in turn led to significant auditor judgment, subjectivity and effort in performing procedures to assess management's judgments, including assumptions related to the number of affected surrounding properties, the type of water treatment systems selected, the cost of the selected water treatment systems, transport pathways which will require remedial actions, the types of site surface water and on-site remedies and treatment systems selected and implemented, and the estimated cost of such potential remedies and treatment systems and any related OM&M requirements. Additionally, the audit effort involved the use of professionals with specialized skill and knowledge to assist in performing these procedures and evaluating the audit evidence obtained.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's determination and valuation of the liabilities related to Fayetteville, as well as the related financial statement disclosures. These procedures also included, among others, (i) testing the reasonableness of management's assumptions used to estimate the ultimate costs, including the number of affected surrounding properties, the type and cost of water treatment systems selected, transport pathways which will require remedial actions, the types of site surface water and on-site remedies and treatment systems selected and implemented, and the estimated cost of such potential remedies and treatment systems and any related OM&M requirements, (ii) obtaining and evaluating responses to letters of audit inquiry from legal counsel, and (iii) evaluating the sufficiency of the Company's disclosures related to the matter. Professionals with specialized skill and knowledge were used to assist us in evaluating the estimated costs resulting from the Consent Order and CAP.

Goodwill Impairment Assessment - Mining Solutions and Fluoropolymers Reporting Units

As described in Notes 3 and 15 to the consolidated financial statements, the Company's consolidated goodwill balance was $153 million as of December 31, 2019, of which the goodwill associated with the Mining Solutions and Fluoropolymers reporting units was $51 million and $56 million, respectively. Management tests its goodwill for impairment at least annually on October 1; however, these tests are performed more frequently when events or changes in circumstances indicate that the asset may be impaired. As previously disclosed by management, in addition to the annual impairment test performed on October 1, management determined trigger events occurred during 2019 that required certain reporting units' goodwill to be tested for impairment prior to the annual test. An impairment exists when the carrying value of a reporting unit exceeds its fair value. When performing a quantitative impairment assessment, management weights the results of an income-based valuation technique, the discounted cash flows method, and a market-based valuation technique, the guideline public companies method, to determine the reporting units' fair values. Such techniques require significant judgment and assumptions by management relating to short and long-term revenue growth rates, gross margins, discount rates, market multiples, and prospective financial information surrounding future reporting unit cash flows.

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessments related to the Mining Solutions and Fluoropolymers reporting units is a critical audit matter are there was significant judgment by management when developing the fair value measurements of the reporting units. This in turn led to a high degree of auditor effort in performing procedures to evaluate the significant assumptions used in management's interim and annual impairment assessments, including short and long-term revenue growth rates, gross margins, discount rates, and market multiples. In addition, the audit effort involved the use of professionals with specialized skill and knowledge to assist in performing these procedures and evaluating the audit evidence obtained.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's goodwill impairment assessments, including controls over the valuation of the Company's reporting units. These procedures also included, among others, testing management's process for developing the fair value estimates; evaluating the appropriateness of the discounted cash flow models and the guideline public companies models; testing the completeness, accuracy, and relevance of underlying data used in the models; and evaluating the significant assumptions used by management, including short and long-term revenue growth rates, gross margins, discount rates, and market multiples. Evaluating management's assumptions related to short and long-term revenue growth rates, gross margins, discount rates, and market multiples involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the respective reporting unit, (ii) the consistency with external market and industry data, and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in the evaluation of the Company's discounted cash flow models, the guideline public companies models, and certain significant assumptions.

/s/ PricewaterhouseCoopers LLP

Philadelphia, Pennsylvania
February 14, 2020

We have served as the Company's auditor since 2014.

The Chemours Company
Consolidated Statements of Operations
(Dollars in millions, except per share amounts)

	Year Ended December 31,		
	2019	2018	2017
Net sales	$ 5,526	$ 6,638	$ 6,183
Cost of goods sold	4,463	4,667	4,438
Gross profit	1,063	1,971	1,745
Selling, general, and administrative expense	548	657	626
Research and development expense	80	82	81
Restructuring, asset-related, and other charges	87	49	57
Total other operating expenses	715	788	764
Equity in earnings of affiliates	29	43	33
Interest expense, net	(208)	(195)	(214)
Loss on extinguishment of debt	—	(38)	(1)
Other (expense) income, net	(293)	162	113
(Loss) income before income taxes	(124)	1,155	912
(Benefit from) provision for income taxes	(72)	159	165
Net (loss) income	(52)	996	747
Less: Net income attributable to non-controlling interests	—	1	1
Net (loss) income attributable to Chemours	$ (52)	$ 995	$ 746
Per share data			
Basic (loss) earnings per share of common stock	$ (0.32)	$ 5.62	$ 4.04
Diluted (loss) earnings per share of common stock	(0.32)	5.45	3.91

See accompanying notes to the consolidated financial statements.

The Chemours Company
Consolidated Statements of Comprehensive Income (Loss)
(Dollars in millions)

	Year Ended December 31,								
	2019			2018			2017		
	Pre-tax	Tax	After-tax	Pre-tax	Tax	After-tax	Pre-tax	Tax	After-tax
Net (loss) income	$ (124)	$ 72	$ (52)	$ 1,155	$ (159)	$ 996	$ 912	$ (165)	$ 747
Other comprehensive income (loss):									
Hedging activities:									
Unrealized gain (loss) on net investment hedge	20	(5)	15	32	(8)	24	(86)	24	(62)
Unrealized gain on cash flow hedge	6	(1)	5	10	(1)	9	—	—	—
Reclassifications to net income - cash flow hedge	(10)	1	(9)	(4)	1	(3)	—	—	—
Hedging activities, net	16	(5)	11	38	(8)	30	(86)	24	(62)
Cumulative translation adjustment	2	—	2	(75)	—	(75)	200	—	200
Defined benefit plans:									
Additions to accumulated other comprehensive loss:									
Net (loss) gain	(144)	31	(113)	(115)	29	(86)	24	(5)	19
Prior service benefit	5	(1)	4	—	—	—	—	—	—
Effect of foreign exchange rates	7	—	7	8	—	8	(38)	—	(38)
Reclassifications to net income:									
Amortization of prior service gain	(2)	—	(2)	(2)	—	(2)	(2)	—	(2)
Amortization of actuarial loss	18	(4)	14	16	(4)	12	24	(6)	18
Settlement loss	383	(91)	292	—	—	—	—	—	—
Defined benefit plans, net	267	(65)	202	(93)	25	(68)	8	(11)	(3)
Other comprehensive income (loss)	285	(70)	215	(130)	17	(113)	122	13	135
Cumulative effect of adopting ASU No. 2018-02	—	—	—	—	(9)	(9)	—	—	—
Comprehensive income	161	2	163	1,025	(151)	874	1,034	(152)	882
Less: Comprehensive income attributable to non-controlling interests	—	—	—	1	—	1	1	—	1
Comprehensive income attributable to Chemours	$ 161	$ 2	$ 163	$ 1,024	$ (151)	$ 873	$ 1,033	$ (152)	$ 881

See accompanying notes to the consolidated financial statements.

The Chemours Company
Consolidated Balance Sheets
(Dollars in millions, except per share amounts)

	December 31,	
	2019	2018
Assets		
Current assets:		
Cash and cash equivalents	$ 943	$ 1,201
Accounts and notes receivable, net	674	861
Inventories	1,079	1,147
Prepaid expenses and other	81	84
Total current assets	2,777	3,293
Property, plant, and equipment	9,413	8,992
Less: Accumulated depreciation	(5,854)	(5,701)
Property, plant, and equipment, net	3,559	3,291
Operating lease right-of-use assets	294	—
Goodwill and other intangible assets, net	174	181
Investments in affiliates	162	160
Other assets	292	437
Total assets	$ 7,258	$ 7,362
Liabilities		
Current liabilities:		
Accounts payable	$ 923	$ 1,137
Short-term and current maturities of long-term debt	134	13
Other accrued liabilities	484	559
Total current liabilities	1,541	1,709
Long-term debt, net	4,026	3,959
Operating lease liabilities	245	—
Deferred income taxes	118	217
Other liabilities	633	457
Total liabilities	6,563	6,342
Commitments and contingent liabilities		
Equity		
Common stock (par value $0.01 per share; 810,000,000 shares authorized; 188,893,478 shares issued and 163,574,243 shares outstanding at December 31, 2019; 187,204,567 shares issued and 170,780,474 shares outstanding at December 31, 2018)	2	2
Treasury stock, at cost (25,319,235 shares at December 31, 2019; 16,424,093 shares at December 31, 2018)	(1,072)	(750)
Additional paid-in capital	859	860
Retained earnings	1,249	1,466
Accumulated other comprehensive loss	(349)	(564)
Total Chemours stockholders' equity	689	1,014
Non-controlling interests	6	6
Total equity	695	1,020
Total liabilities and equity	$ 7,258	$ 7,362

See accompanying notes to the consolidated financial statements.

The Chemours Company
Consolidated Statements of Stockholders' Equity
(Dollars in millions, except per share amounts)

	Common Stock		Treasury Stock						
	Shares	Amount	Shares	Amount	Additional Paid-in Capital	(Accumulated Deficit) Retained Earnings	Accumulated Other Comprehensive (Loss) Income	Non-controlling Interests	Total Equity
Balance at January 1, 2017	182,600,533	$ 2	—	$ —	$ 789	$ (114)	$ (577)	$ 4	$ 104
Common stock issued - compensation plans	569,263	—	—	—	—	—	—	—	—
Exercise of stock options, net	2,173,238	—	—	—	31	—	—	—	31
Purchases of treasury stock, at cost	—	—	2,386,406	(116)	—	—	—	—	(116)
Stock-based compensation expense	—	—	—	—	29	—	—	—	29
Cancellation of unissued stock awards withheld to cover taxes	—	—	—	—	(12)	—	—	—	(12)
Net income	—	—	—	—	—	746	—	1	747
Dividends ($0.29 per share)	—	—	—	—	—	(53)	—	—	(53)
Other comprehensive income	—	—	—	—	—	—	135	—	135
Balance at December 31, 2017	185,343,034	2	2,386,406	(116)	837	579	(442)	5	865
Common stock issued - compensation plans	783,346	—	—	—	—	—	—	—	—
Exercise of stock options, net	1,078,187	—	—	—	16	—	—	—	16
Purchases of treasury stock, at cost	—	—	14,050,098	(634)	—	—	—	—	(634)
Shares issued under employee stock purchase plan	—	—	(12,411)	—	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	24	—	—	—	24
Cancellation of unissued stock awards withheld to cover taxes	—	—	—	—	(17)	—	—	—	(17)
Cumulative effect of adopting ASU No. 2018-02	—	—	—	—	—	9	(9)	—	—
Net income	—	—	—	—	—	995	—	1	996
Dividends ($0.67 per share)	—	—	—	—	—	(117)	—	—	(117)
Other comprehensive loss	—	—	—	—	—	—	(113)	—	(113)
Balance at December 31, 2018	187,204,567	2	16,424,093	(750)	860	1,466	(564)	6	1,020
Common stock issued - compensation plans	1,098,542	—	—	—	1	(1)	—	—	—
Exercise of stock options, net	590,369	—	—	—	9	—	—	—	9
Purchases of treasury stock, at cost	—	—	8,895,142	(322)	—	—	—	—	(322)
Stock-based compensation expense	—	—	—	—	19	—	—	—	19
Cancellation of unissued stock awards withheld to cover taxes	—	—	—	—	(30)	—	—	—	(30)
Net loss	—	—	—	—	—	(52)	—	—	(52)
Dividends ($1.00 per share)	—	—	—	—	—	(164)	—	—	(164)
Other comprehensive income	—	—	—	—	—	—	215	—	215
Balance at December 31, 2019	188,893,478	$ 2	25,319,235	$ (1,072)	$ 859	$ 1,249	$ (349)	$ 6	$ 695

See accompanying notes to the consolidated financial statements.

The Chemours Company
Consolidated Statements of Cash Flows
(Dollars in millions)

	Year Ended December 31,		
	2019	2018	2017
Cash flows from operating activities			
Net (loss) income	$ (52)	$ 996	$ 747
Adjustments to reconcile net income to cash provided by (used for) operating activities:			
Depreciation and amortization	311	284	273
Gain on sales of assets and businesses	(10)	(45)	(22)
Equity in earnings of affiliates, net	(3)	18	(33)
Loss on extinguishment of debt	—	38	1
Amortization of debt issuance costs and issue discounts	9	11	13
Deferred tax (benefit) provision	(165)	23	83
Asset-related charges	43	4	3
Stock-based compensation expense	19	24	29
Net periodic pension cost (income)	381	(18)	(22)
Defined benefit plan contributions	(19)	(15)	(38)
Other operating charges and credits, net	(2)	(7)	12
Decrease (increase) in operating assets:			
Accounts and notes receivable, net	191	47	(88)
Inventories and other operating assets	116	(284)	(146)
(Decrease) increase in operating liabilities:			
Accounts payable and other operating liabilities	(169)	64	(172)
Cash provided by operating activities	650	1,140	640
Cash flows from investing activities			
Purchases of property, plant, and equipment	(481)	(498)	(411)
Acquisition of business, net	(10)	(37)	—
Proceeds from sales of assets and businesses, net	9	46	39
Proceeds from life insurance policies	1	—	—
Foreign exchange contract settlements, net	(2)	2	2
Cash used for investing activities	(483)	(487)	(370)
Cash flows from financing activities			
Proceeds from issuance of debt, net	—	520	495
Proceeds from revolving loan	150	—	—
Repayments on revolving loan	(150)	—	—
Proceeds from accounts receivable securitization facility	128	—	—
Debt repayments	(37)	(679)	(27)
Payments related to extinguishment of debt	—	(29)	(1)
Payments of debt issuance costs	—	(12)	(6)
Payments on finance leases	(3)	—	—
Purchases of treasury stock, at cost	(322)	(644)	(106)
Proceeds from exercised stock options, net	9	16	31
Payments related to tax withholdings on vested stock awards	(30)	(17)	(12)
Payments of dividends	(164)	(148)	(22)
Cash (used for) provided by financing activities	(419)	(993)	352
Effect of exchange rate changes on cash and cash equivalents	(6)	(15)	32
(Decrease) increase in cash and cash equivalents	(258)	(355)	654
Cash and cash equivalents at January 1,	1,201	1,556	902
Cash and cash equivalents at December 31,	$ 943	$ 1,201	$ 1,556
Supplemental cash flows information			
Cash paid during the year for:			
Interest, net of amounts capitalized	$ 204	$ 206	$ 208
Income taxes, net of refunds	85	75	79
Non-cash investing and financing activities:			
Changes in property, plant, and equipment included in accounts payable	$ 85	$ 37	$ (14)
Obligations incurred under build-to-suit lease arrangement	40	47	8
Purchases of treasury stock not settled by year-end	—	—	10
Non-cash financing arrangements	11	—	—
Deferred payments related to acquisition of business	15	—	—
Dividends accrued but not yet paid	—	—	31

See accompanying notes to the consolidated financial statements.

Note 1. Background and Description of the Business

The Chemours Company ("Chemours," or the "Company") is a leading, global provider of performance chemicals that are key inputs in end-products and processes in a variety of industries. The Company delivers customized solutions with a wide range of industrial and specialty chemicals products for markets, including plastics and coatings, refrigeration and air conditioning, general industrial, electronics, mining, and oil refining. The Company's principal products include refrigerants, industrial fluoropolymer resins, sodium cyanide, performance chemicals and intermediates, and titanium dioxide ("TiO_2") pigment. Chemours manages and reports its operating results through three reportable segments: Fluoroproducts, Chemical Solutions, and Titanium Technologies. The Fluoroproducts segment is a leading, global provider of fluoroproducts, including refrigerants and industrial fluoropolymer resins. The Chemical Solutions segment is a leading, North American provider of industrial chemicals used in gold production, industrial, and consumer applications. The Titanium Technologies segment is a leading, global producer of TiO_2 pigment, a premium white pigment used to deliver whiteness, brightness, opacity, and protections in a variety of applications.

Chemours has manufacturing facilities, sales centers, administrative offices, and warehouses located throughout the world. Chemours' operations are primarily located in the U.S., Canada, Mexico, Brazil, the Netherlands, Belgium, China, Taiwan, Japan, Switzerland, Singapore, Hong Kong, India, and France. At December 31, 2019, the Company operated 30 major production facilities globally, of which, 20 were dedicated to Fluoroproducts, one was dedicated to Chemical Solutions, seven were dedicated to Titanium Technologies, and two supported multiple segments.

Chemours began operating as an independent company on July 1, 2015 (the "Separation Date") after separating from E.I. DuPont de Nemours and Company ("DuPont") (the "Separation"). The Separation was completed pursuant to a separation agreement and other agreements with DuPont, including an employee matters agreement, a tax matters agreement, a transition services agreement, and an intellectual property cross-license agreement. These agreements govern the relationship between Chemours and DuPont following the Separation and provided for the allocation of various assets, liabilities, rights, and obligations at the Separation Date. On August 31, 2017, DuPont completed a merger with The Dow Chemical Company ("Dow"). Following their merger, DuPont and Dow engaged in a series of reorganization steps and, in 2019, separated into three publicly-traded companies named Dow Inc., DuPont de Nemours, Inc., and Corteva, Inc. ("Corteva").

Unless the context otherwise requires, references herein to "The Chemours Company," "Chemours," "the Company," "our Company," "we," "us," and "our" refer to The Chemours Company and its consolidated subsidiaries. References herein to "DuPont" refer to E. I. du Pont de Nemours and Company, which is now a subsidiary of Corteva.

Note 2. Basis of Presentation

The accompanying consolidated financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("GAAP"). In the opinion of management, all adjustments (consisting of normal, recurring adjustments) considered necessary for a fair presentation of the Company's financial position and results of operations have been included for the periods presented herein. The notes that follow are an integral part of the Company's consolidated financial statements.

Certain prior period amounts have been reclassified to conform to the current period presentation, the effect of which, was not material to the Company's consolidated financial statements.

Note 3. Summary of Significant Accounting Policies

Preparation of Financial Statements

The consolidated financial statements have been prepared in conformity with GAAP, which requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenues and expenses during the reporting period. Management's estimates are based on historical experiences, facts, and circumstances available at the time and various other assumptions that management believes are reasonable. Actual results could differ from those estimates.

Principles of Consolidation

The consolidated financial statements include the accounts of Chemours and its subsidiaries, as well as entities in which a controlling interest is maintained. For those consolidated subsidiaries in which the Company's ownership is less than 100%, the outside shareholders' interests are shown as non-controlling interests. Investments in companies in which Chemours, directly or indirectly, owns 20% to 50% of the voting stock, or has the ability to exercise significant influence over the operating and financial policies of the investee, are accounted for using the equity method of accounting. As a result, Chemours' share of the earnings or losses of such equity affiliates is included in the consolidated statements of operations, and Chemours' share of such equity affiliates' equity is included in the consolidated balance sheets.

The Company assesses the requirements related to the consolidation of any variable interest entity ("VIE"), including a qualitative assessment of power and economics that considers which entity has the power to direct the activities that most significantly impact the VIE's economic performance, and has the right to receive any benefits or the obligation to absorb any losses of the VIE. No such VIE was consolidated by the Company for the periods presented.

All intercompany accounts and transactions were eliminated in the preparation of the accompanying consolidated financial statements.

Revenue Recognition

Chemours recognizes revenue using a five-step model resulting in revenue being recognized as performance obligations within a contract have been satisfied. The steps within that model include: (i) identifying the existence of a contract with a customer; (ii) identifying the performance obligations within the contract; (iii) determining the contract's transaction price; (iv) allocating the transaction price to the contract's performance obligations; and, (v) recognizing revenue as the contract's performance obligations are satisfied. A contract with a customer exists when: (i) the Company enters into an enforceable agreement that defines each party's rights regarding the goods or services to be transferred, and the related payment terms; (ii) the agreement has commercial substance; and, (iii) it is probable that the Company will collect the consideration to which it is entitled to in the exchange. A performance obligation is a promise in a contract to transfer a distinct good or service, or a series of distinct goods or services to a customer. The transaction price is the customary amount of consideration that the Company expects to be entitled to in exchange for a transfer of the promised goods or services to a customer, excluding any amounts collected by the Company on behalf of third parties (e.g., sales and use taxes). Judgment is required to apply the principles-based, five-step model for revenue recognition. Management is required to make certain estimates and assumptions about the Company's contracts with its customers, including, among others, the nature and extent of its performance obligations, its transaction price amounts and any allocations thereof, the critical events which constitute satisfaction of its performance obligations, and when control of any promised goods or services is transferred to its customers.

The Company's revenue from contracts with customers is reflected in the consolidated statements of operations as net sales, the vast majority of which represents product sales that consist of a single performance obligation. Product sales to customers are made under a purchase order ("PO"), or in certain cases, in accordance with the terms of a master services agreement ("MSA") or similar arrangement, which documents the rights and obligations of each party to the contract. When a customer submits a PO for product or requests product under an MSA, a contract for a specific quantity of distinct goods at a specified price is created, and the Company's performance obligation under the contract is satisfied when control of the product is transferred to the customer, which is indicated by shipment of the product and the transfer of title and the risk of loss to the customer. Revenue is recognized on consignment sales when control transfers to the customer, generally at the point of customer usage of the product. The transaction price for product sales is generally the amount specified in the PO or in the request under an MSA; however, as is common in Chemours' industry, the Company offers variable consideration in the form of rebates, volume discounts, early payment discounts, pricing based on formulas or indices, price matching, and guarantees to certain customers. Such amounts are included in the Company's estimated transaction price using either the expected value method or the most-likely amount, depending on the nature of the variable consideration included in the contract. The Company regularly assesses its customers' creditworthiness, and product sales are made based on established credit limits. Payment terms for the Company's invoices are typically less than 90 days.

The Company also licenses the right to access certain of its trademarks to customers under specified terms and conditions in certain arrangements, which is recognized as a component of net sales in the consolidated statements of operations. Under such arrangements, the Company may receive a royalty payment for a trademark license that is entered into on a stand-alone basis or incorporated into an overall product sales arrangement. Royalty income is generally based on customer sales and recognized under the sales-based exception as the customer sale occurs. When minimum guaranteed royalty amounts are included in the transaction price, the Company recognizes royalty income ratably over the license period for the minimum amount. When there is no consideration specified for the use of the Company's trademark, the entire transaction price is recognized in connection with the transfer of control of product. Royalty income resulting from the right to use the Company's technology is considered outside the scope of revenue recognition under GAAP as it is not a part of the Company's ongoing major or central activities, and is recognized as a component of other income (expense), net in the consolidated statements of operations in accordance with agreed-upon terms at the point or points in time that performance obligations are satisfied.

Consistent with the fact that the vast majority of the Company's payment terms are less than 90 days from the point at which control of the promised goods or services is transferred, no adjustments have been made for the effects of a significant financing component. Additionally, the Company has elected to recognize the incremental costs associated with obtaining contracts as an expense when incurred if the amortization period of the assets that the Company would have recognized is one year or less. Amounts billed to customers for shipping and handling fees are considered a fulfillment cost and are included in net sales, and the costs incurred by the Company for the delivery of goods are classified as a component of the cost of goods sold in the consolidated statements of operations.

Research and Development Expense

Research and development ("R&D") costs are expensed as incurred. R&D expenses include costs (primarily consisting of employee costs, materials, contract services, research agreements, and other external spend) relating to the discovery and development of new products, enhancement of existing products, and regulatory approval of new and existing products.

Provision for (Benefit from) Income Taxes

The provision for (benefit from) income taxes is determined using the asset and liability approach of accounting for income taxes. Under this approach, deferred taxes represent the future tax consequences expected to occur when the reported amounts of assets and liabilities are recovered or paid. The provision for (benefit from) income taxes represents income taxes paid or payable for the current year, plus the change in deferred taxes during the year. Deferred taxes result from differences between the financial and tax bases of Chemours' assets and liabilities and are adjusted for changes in tax rates and tax laws when changes are enacted. The Company's deferred tax assets and liabilities are presented on a net basis by jurisdictional filing group. Net deferred tax assets are presented as a component of other assets, while net deferred tax liabilities are presented as a component of deferred income taxes on the Company's consolidated balance sheets. Valuation allowances are recorded to reduce deferred tax assets when it is more-likely-than-not that a tax benefit will not be realized.

Chemours recognizes income tax positions that meet the more-likely-than-not threshold and accrues any interest related to unrecognized income tax positions as a component of other income (expense), net in the consolidated statements of operations. Income tax-related penalties are included in the provision for (benefit from) income taxes.

Earnings Per Share

Chemours presents both basic earnings per share and diluted earnings per share. Basic earnings per share excludes dilution and is computed by dividing the total net income (loss) attributable to Chemours by the weighted-average number of shares outstanding for the period. Diluted earnings per share reflects the dilution that could occur if the Company's outstanding stock-based compensation awards, including any unvested restricted shares, were vested and exercised, thereby resulting in the issuance of common stock as determined under the treasury stock method. In periods where the Company incurs a net loss, stock-based compensation awards are excluded from the calculation of earnings per share as their inclusion would have an anti-dilutive effect.

Cash and Cash Equivalents

Cash and cash equivalents generally include cash, time deposits, or highly-liquid investments with original maturities of three months or less.

Accounts and Notes Receivable and Allowance for Doubtful Accounts

Accounts and notes receivables are recognized net of an allowance for doubtful accounts. The allowance for doubtful accounts reflects the best estimate of losses inherent in Chemours' accounts and notes receivable portfolio, which is determined on the basis of historical experience, specific allowances for known troubled accounts, and other available evidence. Accounts and notes receivable are written-off when management determines that they are uncollectible.

Inventories

Chemours' U.S. inventories are valued at the lower of cost or market, as inventories held at substantially all U.S. locations are valued using the last-in, first-out ("LIFO") method. Chemours' non-U.S. inventories are valued at the lower of cost or net realizable value, as inventories held outside the U.S. are valued using the average cost method. The elements of cost in inventories include raw materials, direct labor, and manufacturing overhead. Stores and supplies are valued at the lower of cost or net realizable value. Cost is generally determined by the average cost method.

Property, Plant, and Equipment

Property, plant, and equipment is carried at cost and is depreciated using the straight-line method. Substantially all equipment and buildings are depreciated over useful lives ranging from 15 to 25 years. Capitalizable costs associated with computer software for internal use are amortized on a straight-line basis over five to seven years. When assets are surrendered, retired, sold, or otherwise disposed of, their gross carrying values and related accumulated depreciation are removed from the consolidated balance sheets and are included in the determination of any gain or loss on such disposals.

Repair and maintenance costs that materially add to the value of the asset or prolong its useful life are capitalized and depreciated based on their extension to the asset's useful life. Capitalized repair and maintenance costs are recorded on the consolidated balance sheets as a component of other assets.

Impairment of Long-lived Assets

Chemours evaluates the carrying value of its long-lived assets to be held and used when events or changes in circumstances indicate the carrying value may not be recoverable. For the purposes of recognition or measurement of an impairment charge, the assessment is performed on the asset or asset group at the lowest level for which identifiable cash flows are largely independent of the cash flows of other groups of assets and liabilities. To determine the level at which the assessment is performed, Chemours considers factors such as revenue dependency, shared costs, and the extent of vertical integration. The carrying value of a long-lived asset is considered impaired when the total projected undiscounted cash flows from the use and eventual disposition of the asset or asset group are separately identifiable and are less than its carrying value. In that event, a loss is recognized based on the amount by which the carrying value exceeds the fair value of the long-lived asset. The fair value methodology used is an estimate of fair market value, which is made based on prices of similar assets or other valuation methodologies, including present value techniques. Long-lived assets to be disposed of by means other than sale are classified as held for use until their disposal. Long-lived assets to be disposed of by sale are classified as held for sale and are reported at the lower of carrying amount or fair market value, less the estimated cost to sell. Depreciation is discontinued for any long-lived assets classified as held for sale.

Goodwill and Other Intangible Assets

The excess of the purchase price over the estimated fair value of the net assets acquired in a business combination, including any identified intangible assets, is recorded as goodwill. Chemours tests its goodwill for impairment at least annually on October 1; however, these tests are performed more frequently when events or changes in circumstances indicate that the asset may be impaired. Goodwill is evaluated for impairment at the reporting unit level, which is defined as an operating segment, or one level below an operating segment. A reporting unit is the level at which discrete financial information is available and reviewed by business management on a regular basis. An impairment exists when the carrying value of a reporting unit exceeds its fair value. The amount of impairment loss recognized in the consolidated statements of operations is equal to the excess of a reporting unit's carrying value over its fair value, which is limited to the total amount of goodwill allocated to the reporting unit.

Chemours has the option to first qualitatively assess whether it is more-likely-than-not that an impairment exists for a reporting unit. Such qualitative factors include, among other things, prevailing macroeconomic conditions, industry and market conditions, changes in costs associated with raw materials, labor, or other inputs, the Company's overall financial performance, and certain other entity-specific events that impact Chemours' reporting units. When performing a quantitative test, the Company weights the results of an income-based valuation technique, the discounted cash flows method, and a market-based valuation technique, the guideline public companies method, to determine its reporting units' fair values.

Definite-lived intangible assets, such as purchased and licensed technology, patents, trademarks, and customer lists, are amortized over their estimated useful lives, generally for periods ranging from five to 20 years. The reasonableness of the useful lives of these assets is periodically evaluated.

Asset Retirement Obligations

Chemours records its asset retirement obligations at their fair value at the time the liability is incurred. Fair value is measured using the expected future cash outflows discounted at Chemours' credit-adjusted, risk-free interest rate, which is considered to be a Level 3 input within the fair value hierarchy. Accretion expense is recognized as an operating expense within the cost of goods sold in the consolidated statements of operations using the credit-adjusted, risk-free interest rate in effect when the liability was recognized. The associated asset retirement costs are capitalized as part of the carrying amount of the long-lived asset and are depreciated over the estimated remaining useful life of the asset, generally for periods ranging from two to 25 years.

Insurance

Chemours insures for certain risks where permitted by law or regulation, including workers' compensation, vehicle liability, and employee-related benefits. Liabilities associated with these risks are estimated in part by considering any historical claims experience, demographic factors, and other actuarial assumptions. For certain other risks, the Company uses a combination of third-party insurance and self-insurance, reflecting its comprehensive review of relevant risks. A receivable for an insurance recovery is generally recognized when the loss has occurred and collection is considered probable.

Litigation

Chemours accrues for legal matters when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated. Litigation-related liabilities and expenditures included in the consolidated financial statements include legal matters that are liabilities of DuPont and its subsidiaries, which Chemours may be required to indemnify pursuant to the Separation-related agreements executed prior to the Separation. Legal costs, such as outside counsel fees and expenses, are charged to expense in the period that services are rendered.

Environmental Liabilities and Expenditures

Chemours accrues for environmental remediation matters when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated. Where the available information is only sufficient to establish a range of probable liability, and no point within the range is more likely than any other, the lower end of the range has been used.

Estimated liabilities are determined based on existing remediation laws and technologies and our planned remedial responses, which are derived from in-depth environmental studies, sampling, testing, and analyses. Inherent uncertainties exist in such evaluations, primarily due to unknown environmental conditions, changing governmental regulations and legal standards regarding liability, and emerging remediation technologies. These accruals are adjusted periodically as remediation efforts progress and as additional technological, regulatory, and legal information becomes available.

Environmental liabilities and expenditures include claims for matters that are liabilities of DuPont and its subsidiaries, which Chemours may be required to indemnify pursuant to the Separation-related agreements executed prior to the Separation. Accrued liabilities are undiscounted and do not include claims against third parties, and are included in other accrued liabilities and other liabilities on the consolidated balance sheets.

Costs related to environmental remediation are charged to expense in the period that the associated liability is accrued and are reflected as a component of the cost of goods sold in the consolidated statements of operations. Other environmental costs are also charged to expense in the period incurred, unless they extend the useful life of the property, increase the property's capacity, and/or reduce or prevent contamination from future operations, in which case they are capitalized and amortized.

Treasury Stock

Chemours accounts for repurchases of the Company's common stock as treasury stock using the cost method, whereby the entire cost of the acquired common stock is recorded as treasury stock.

Stock-based Compensation

Chemours' stock-based compensation consists of stock options, restricted stock units ("RSUs"), and performance share units ("PSUs") awarded to employees and non-employee directors. Stock options and PSUs are measured at their fair value on the grant date or date of modification, as applicable. RSUs are measured at the stock price on the grant date or date of modification, as applicable. The Company recognizes compensation expense on a straight-line basis over the requisite service and/or performance period, as applicable. Forfeitures of awards are accounted as a reduction in stock-based compensation expense in the period such awards are forfeited.

Derivatives

In the ordinary course of business, Chemours enters into contractual arrangements (i.e., derivatives) to reduce its exposure to foreign currency risks. The Company has established a derivative program to be utilized for financial risk management, which currently includes the following risk management strategies: (i) foreign currency forward contracts, which are used to minimize the volatility in the Company's earnings related to foreign exchange gains and losses resulting from the remeasurement of its monetary assets and liabilities that are denominated in non-functional currencies; (ii) foreign currency forward contracts, which are used to mitigate the risks associated with fluctuations in the euro against the U.S. dollar for forecasted U.S. dollar-denominated inventory purchases in certain of the Company's international subsidiaries that use the euro as their functional currency; and, (iii) euro-denominated debt, which is used to reduce the volatility in stockholders' equity resulting from changes in foreign currency exchange rates of the euro with respect to the U.S. dollar for certain of the Company's international subsidiaries that use the euro as their functional currency. The Company's derivative program reflects varying levels of exposure coverage and time horizons based on an assessment of risk. The derivative program operates within Chemours' financial risk management policies and guidelines, and the Company does not enter into derivative financial instruments for trading or speculative purposes.

The Company's foreign currency forward contracts that are used as a net monetary assets and liabilities hedge are not part of a cash flow hedge program or a fair value hedge program, and have not been designated as a hedge. For these instruments, any gains and losses resulting from the revaluation of derivative assets and liabilities are recognized in other income (expense), net in the consolidated statements of operations during the period in which they occurred, and any such gains or losses are intended to be offset by any gains or losses on the underlying asset or liability. For the Company's foreign currency forward contracts that have been designated under a cash flow hedge program, any gains and losses resulting from the revaluation of derivative assets and liabilities are recognized as a component of accumulated other comprehensive loss on the consolidated balance sheets during the period in which they occurred, and are reclassified to the cost of goods sold in the consolidated statements of operations during the period in which the underlying transactions affect earnings, or when it becomes probable that the forecasted transactions will not occur. Changes due to remeasurement of the Company's euro-denominated debt instruments, which are designated as a net investment hedge, are included in accumulated other comprehensive loss on the consolidated balance sheets. Chemours' uses the spot method to evaluate the effectiveness of its net investment hedge.

Derivative assets and liabilities are reported on a gross basis on the consolidated balance sheets.

Foreign Currency Translation

Chemours identifies its separate and distinct foreign entities and groups them into two categories: (i) extensions of the parent (U.S. dollar functional currency); and, (ii) self-contained (local functional currency). If a foreign entity does not align with either category, factors are evaluated, and a judgment is made to determine the functional currency. Chemours changes the functional currency of its separate and distinct foreign entities only when significant changes in economic facts and circumstances clearly indicate that the functional currency has changed.

During the periods covered by the consolidated financial statements, part of Chemours' business operated within foreign entities. For foreign entities where the U.S. dollar is the functional currency, all foreign currency-denominated asset and liability amounts are remeasured into U.S. dollars at end-of-period exchange rates, with the exception of inventories, prepaid expenses, property, plant, and equipment, goodwill, and other intangible assets. These aforementioned assets are remeasured at historical exchange rates. Foreign currency-denominated revenue and expense amounts are measured at exchange rates in effect during the period, with the exception of expenses related to any 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 other income (expense), net in the consolidated statements of operations in the period in which they occurred.

For foreign entities where the local currency is the functional currency, assets and liabilities denominated in local currencies are translated into U.S. dollars at end-of-period exchange rates, and the resulting translation adjustments are reported as a component of accumulated other comprehensive loss on the consolidated balance sheets. Assets and liabilities denominated in currencies other than the functional currency are remeasured into the functional currency prior to translation into U.S. dollars, and the resulting exchange gains or losses are included in other income (expense), net in the consolidated statements of operations in the period in which they occurred. Revenues and expenses are translated into U.S. dollars at average exchange rates in effect during the period.

Defined Benefit Plans

Due to local regulations outside of the U.S., Chemours has defined benefit plans covering certain of its employees. The benefits of these plans, which primarily relate to pension, are accrued over the employees' service periods. The Company uses actuarial methods and assumptions in the valuation of its defined benefit obligations and the determination of any net periodic pension income or expense. Any differences between actual and expected results, or changes in the value of defined benefit obligations and plan assets, if any, are not recognized in earnings as they occur. Rather, they are systematically recognized over subsequent periods.

Fair Value Measurement

Fair value is defined as the exit price, the price that would be received to sell an asset or transfer a liability in an orderly transaction between market participants at the measurement date. Under the accounting for fair value measurements and disclosures, a fair value hierarchy was established to prioritize the valuation inputs used to measure fair value. The hierarchy gives highest priority to unadjusted, quoted prices in active markets for identical assets and liabilities (i.e., Level 1 measurements) and lowest priority to unobservable inputs (i.e., Level 3 measurements). A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

Chemours applies the following valuation hierarchy in measuring the fair values of its assets and liabilities:

Level 1 – Quoted prices in active markets for identical assets and liabilities;

Level 2 – Significant other observable inputs (e.g., quoted prices for similar items in active markets, quoted prices for identical or similar items in markets that are not active, inputs other than quoted prices that are observable, such as interest rate and yield curves, and market-corroborated inputs); and,

Level 3 – Unobservable inputs for the asset or liability, which are valued based on management's estimates of assumptions that market participants would use in pricing the asset or liability.

Recent Accounting Pronouncements

Accounting Guidance Issued and Not Yet Adopted

Measurement of Credit Losses on Financial Instruments

In June 2016, the Financial Accounting Standards Board ("FASB") issued ASU No. 2016-13, *Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* ("ASU No. 2016-13"). The amendments in this update affect loans, debt securities, trade receivables, and any other financial assets that have the contractual right to receive cash, which, for the Company, primarily consists of accounts and notes receivable, net. ASU No. 2016-13 requires an entity to recognize expected credit losses rather than incurred losses for financial assets. For public entities, the amendments are effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years, and early adoption is permitted. The Company does not expect the impact of adopting this guidance to be material to its financial position, results of operations, and cash flows.

Recently Adopted Accounting Guidance

Leases

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)* ("ASU No. 2016-02"), which supersedes the leases requirements in Topic 840. The core principle of ASU No. 2016-02 is that a lessee should recognize on the balance sheet the lease assets and lease liabilities that arise from all lease arrangements with terms greater than 12 months. Recognition of these lease assets and lease liabilities represents a change from previous GAAP, which did not require lease assets and lease liabilities to be recognized for operating leases.

The Company adopted ASU No. 2016-02 on January 1, 2019 using the modified retrospective transition method, which did not require the Company to adjust comparative periods. Operating leases are included in operating lease right-of-use assets, other accrued liabilities, and operating lease liabilities on the consolidated balance sheets. Finance leases are included in property, plant, and equipment, net, short-term and current maturities of long-term debt, and long-term debt, net, on the consolidated balance sheets. The Company's lease assets and lease liabilities are recognized on the lease commencement date in an amount that represents the present value of future lease payments. The Company's incremental borrowing rate, which is based on information available at the adoption date for existing leases and the commencement date for leases commencing after the adoption date, is used to determine the present value of lease payments.

The most significant impact of the Company's adoption of ASU No. 2016-02 was the recognition of $333 of operating lease right-of-use assets and $349 of operating lease liabilities on its consolidated balance sheets at January 1, 2019. Operating lease right-of-use assets were reduced by $16 due to a tenant improvement allowance on a lease of office space. The Company's adoption of ASU No. 2016-02 did not have any impact to the Company's consolidated statements of operations, or its consolidated statements of cash flows. Further, there was no impact on the Company's covenant compliance under its current debt agreements as a result of the adoption of ASU No. 2016-02.

The Company elected the package of practical expedients included in this guidance, which allowed it to not reassess: (i) whether any expired or existing contracts contain leases; (ii) the lease classification for any expired or existing leases; and, (iii) the initial direct costs for existing leases. The Company combines lease components with non-lease components for all classes of assets, except for certain manufacturing facilities. The Company also elected the practical expedient to not assess whether existing or expired land easements contain a lease.

The Company does not recognize short-term leases on its consolidated balance sheets, and will recognize those lease payments in the consolidated statements of operations on a straight-line basis over the lease term. Certain leases contain variable payments which are based on usage or operating costs, such as utilities and maintenance. These payments are not included in the measurement of the right-of-use asset or lease liability due to uncertainty of the payment amount and are recorded as lease expense in the period incurred. Leases with the options to extend their term or terminate early are reflected in the lease term when it is reasonably certain that the Company will exercise such options.

Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract

In August 2018, the FASB issued ASU No. 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* ("ASU No. 2018-15"), which aligns the requirements for capitalizing implementation costs incurred in a cloud computing arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. Pursuant to the amendments, the Company, when acting as a customer to a cloud computing arrangement that is a service contract, is required to follow the guidance in Subtopic 350-40 to determine the implementation costs to capitalize as an asset related to the service contract and the costs to expense. Upon adoption, the Company had the option to elect whether it applies the amendments under ASU No. 2018-15 retrospectively, or prospectively to all implementation costs incurred after the date of adoption. The Company adopted ASU No. 2018-15 on January 1, 2019 using the prospective adoption method, the effect of which, was not material to its financial position, results of operations, or cash flows for the year ended December 31, 2019.

Changes to Disclosure Requirements for Defined Benefit Plans

In August 2018, the FASB issued ASU No. 2018-14, *Compensation –Retirement Benefits – Defined Benefit Plans – General (Subtopic 715-20): Disclosure Framework – Changes to the Disclosure Requirements for Defined Benefit Plans* ("ASU No. 2018-14"). This update 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 or other postretirement plans. The Company adopted ASU No. 2018-14 on December 31, 2019 using retrospective application, the effect of which, was not material to its financial statement disclosures.

Note 4. Acquisitions and Divestitures

Divestiture of Methylamines and Methylamides

In December 2019, the Company entered into an asset purchase agreement with Belle Chemical Company ("Belle"), a subsidiary of Cornerstone Chemical Company, whereby Belle agreed to acquire the Methylamines and Methylamides business of Chemours' Chemical Solutions segment for a negligible purchase price, subject to customary working capital and other adjustments, but not to exceed a loss on sale of $2. The Company completed the sale and, in December 2019, subsequent to working capital adjustments, received cash proceeds of $2. Prior to the completion of the sale, in the second half of 2019, the Company recorded accelerated depreciation of $34, which was recorded as a component of restructuring, asset-related, and other charges in the consolidated statements of operations. Upon completion of the sale, the Company also recorded an additional pre-tax loss on sale of $2, net of a benefit from working capital adjustments, in other expense, net in the consolidated statements of operations.

Acquisition of Southern Ionics Minerals, LLC.

In August 2019, the Company, through its wholly-owned subsidiary, The Chemours Company FC, LLC, entered into a Membership Interest Purchase Agreement to acquire all of the outstanding stock of Southern Ionics Minerals, LLC ("SIM"), for an estimated total consideration of approximately $25, which included customary working capital and other adjustments made within a specified time period. SIM is a privately-held minerals exploration, mining, and manufacturing company headquartered in Jacksonville, Florida. SIM mines and processes titanium and zirconium mineral sands, and this acquisition expands Chemours' flexibility and scalability to internally source ore in the Company's Titanium Technologies segment. The aggregate purchase price of $25 included an upfront payment of $10, an additional installment payment of $10, and contingent considerations with an estimated fair value of $5. The Company accounted for the acquisition of SIM as a business combination, and as such, all assets acquired and liabilities assumed were recorded at their estimated fair values.

The purchase consideration has been primarily assigned to the property, plant, and equipment of the acquired business, and there is no goodwill associated with the transaction. These amounts were subject to further adjustment during the applicable measurement period as additional information was obtained, including the finalization of a third-party appraisal. The Company completed its assessment during the fourth quarter of 2019, and no subsequent adjustments were made to these amounts.

The Company's consolidated financial statements include SIM's results of operations from August 1, 2019, the date of acquisition, through December 31, 2019. Net sales and net income (loss) attributable to Chemours contributed by SIM during this period were not material to the Company's or its Titanium Technologies segment's results of operations. Acquisition-related expenses amounted to less than $1 for the year ended December 31, 2019 and are included as a component of selling, general, and administrative expense in the consolidated statements of operations.

Acquisition of ICOR International, Inc.

In April 2018, the Company, through its wholly-owned subsidiary, The Chemours Company FC, LLC, entered into a Stock Purchase Agreement ("SPA") to acquire all of the outstanding stock of ICOR International, Inc. ("ICOR"), a closely-held private company that produces, sells, and distributes replacement refrigerant gases for use in commercial, industrial, and automotive refrigerant applications. Pursuant to the terms of the SPA, the Company paid $37 in total consideration at closing in the all-cash acquisition, which included customary working capital and other adjustments made within a specified time period. The acquisition of ICOR complements the Company's existing portfolio of product offerings within the Fluoroproducts segment, as well as provides the Company with access to ICOR's established customer base and assembled workforce.

The Company accounted for the acquisition of ICOR as a business combination, and as such, all assets acquired and liabilities assumed were recorded at their estimated fair values. The excess of the consideration transferred over the fair value of the identifiable net assets acquired was recorded as goodwill within the Fluoroproducts segment, which represents the expected future benefits arising from the assembled workforce and other synergies to be realized from the acquisition of ICOR. The Company elected to treat the acquisition of ICOR as an asset acquisition under the Internal Revenue Code, and as such, expects that all of the related goodwill will be deductible for federal income tax purposes.

The following table sets forth the Company's fair value estimates of the assets acquired and liabilities assumed in the acquisition of ICOR, which were finalized during the fourth quarter of 2018.

	Fair Value At Acquisition Date	Measurement Period Adjustments	Adjusted Fair Value	Weighted-average Useful Life (in Years)
Assets acquired:				
Accounts receivable - trade	$ 4	$ —	$ 4	
Inventories	8	—	8	
Property, plant, and equipment	1	—	1	
Identifiable intangible asset:				
Customer relationships (1)	20	2	22	5
Total assets acquired	33	2	35	
Liabilities assumed:				
Accounts payable	1	—	1	
Other accrued liabilities	1	—	1	
Total liabilities assumed	2	—	2	
Total identifiable net assets acquired	31	2	33	
Goodwill (1)	6	(2)	4	
Net assets acquired	$ 37	$ —	$ 37	

(1) During the third quarter of 2018, the Company recorded a measurement period adjustment to its customer relationships based on an ongoing analysis associated with the preparation of a third-party appraisal.

The fair value of ICOR's customer relationships was determined using the excess earnings method, which is a discounted cash flows approach. This method takes into account significant unobservable inputs and is a Level 3 fair value measurement within the fair value hierarchy. The use of this valuation methodology requires management to make various assumptions, including, but not limited to, assumptions about future profitability, cash flows, and discount rates applicable to the acquired business and, where applicable, market participants. These assumptions are based on management's best estimates and include considerations related to management's knowledge and experience, historical trends, general economic conditions, and other situational factors.

The Company's consolidated financial statements include ICOR's results of operations from April 2, 2018, the date of acquisition, through December 31, 2018, as well as the year ended December 31, 2019. Net sales and net income (loss) attributable to Chemours contributed by ICOR during these periods were not material to the Company's or its Fluoroproducts segment's results of operations. Acquisition-related expenses amounted to less than $1 at December 31, 2018, and are included as a component of selling, general, and administrative expense in the consolidated statements of operations.

Sale of Land in Linden, New Jersey

In March 2016, the Company entered into an agreement to sell a 210-acre plot of land that formerly housed a DuPont manufacturing site located in Linden, New Jersey. The land was assigned to Chemours in connection with its separation from DuPont, and the Company completed the sale in March 2018 for a gain of $42 and net cash proceeds of $39. As part of the sales agreement, the buyer agreed to assume certain costs associated with ongoing environmental remediation activities at the site amounting to $3, which have been reflected as a component of prepaid expenses and other on the consolidated balance sheets. Chemours remains responsible for certain other ongoing environmental remediation activities at the site, which were previously accrued as a component of other liabilities on the consolidated balance sheets.

Note 5. Net Sales

Disaggregation of Net Sales

The following table sets forth a disaggregation of the Company's net sales by geographic region and segment and product group for the years ended December 31, 2019 and 2018.

	Year Ended December 31,	
	2019	2018
Net sales by geographic region (1)		
North America:		
Fluoroproducts	$ 1,104	$ 1,143
Chemical Solutions	313	341
Titanium Technologies	727	894
Total North America	2,144	2,378
Asia Pacific:		
Fluoroproducts	673	675
Chemical Solutions	61	81
Titanium Technologies	809	964
Total Asia Pacific	1,543	1,720
Europe, the Middle East, and Africa:		
Fluoroproducts	666	825
Chemical Solutions	23	18
Titanium Technologies	474	842
Total Europe, the Middle East, and Africa	1,163	1,685
Latin America (2):		
Fluoroproducts	205	219
Chemical Solutions	136	162
Titanium Technologies	335	474
Total Latin America	676	855
Total net sales	$ 5,526	$ 6,638
Net sales by segment and product group		
Fluoroproducts:		
Fluorochemicals	$ 1,318	$ 1,497
Fluoropolymers	1,330	1,365
Chemical Solutions:		
Mining solutions	268	289
Performance chemicals and intermediates	265	313
Titanium Technologies:		
Titanium dioxide and other minerals	2,345	3,174
Total net sales	$ 5,526	$ 6,638

(1) Net sales are attributable to countries based on customer location.

(2) Latin America includes Mexico.

Substantially all of the Company's net sales are derived from goods and services transferred at a point in time.

Contract Balances

The Company's assets and liabilities from contracts with customers constitute accounts receivable - trade, deferred revenue, and customer rebates. An amount for accounts receivable - trade is recorded when the right to consideration under a contract becomes unconditional. An amount for deferred revenue is recorded when consideration is received prior to the conclusion that a contract exists, or when a customer transfers consideration prior to the Company satisfying its performance obligations under a contract. Customer rebates represent an expected refund liability to a customer based on a contract. In contracts with customers where a rebate is offered, it is generally applied retroactively based on the achievement of a certain sales threshold. As revenue is recognized, the Company estimates whether or not the sales threshold will be achieved to determine the amount of variable consideration to include in the transaction price.

The following table sets forth the Company's contract balances from contracts with customers at December 31, 2019 and 2018.

	Year Ended December 31,	
	2019	2018
Accounts receivable - trade, net (1)	$ 602	$ 790
Customer rebates	72	79

(1) Accounts receivable - trade, net includes trade notes receivable of less than $1 and $2 at December 31, 2019 and 2018, respectively, and is net of allowances for doubtful accounts of $5 at December 31, 2019 and 2018. Such allowances are equal to the estimated uncollectible amounts.

The Company's deferred revenue balances at December 31, 2019 and 2018 were not significant. Additionally, changes in the Company's deferred revenue balances resulting from additions for advance payments and deductions for amounts recognized in net sales during the years ended December 31, 2019 and 2018, were not significant. For the years ended December 31, 2019 and 2018, the amount of revenue recognized from performance obligations satisfied in prior periods (e.g., due to changes in transaction price) was not significant.

There were no other contract asset balances or capitalized costs associated with obtaining or fulfilling customer contracts at December 31, 2019 and 2018.

Remaining Performance Obligations

Certain of the Company's MSA or other arrangements contain take-or-pay clauses, whereby customers are required to purchase a fixed minimum quantity of product during a specified period, or pay the Company for such orders, even if not requested by the customer. The Company considers these take-or-pay clauses to be an enforceable contract, and as such, the legally-enforceable minimum amounts under such an arrangement are considered to be outstanding performance obligations on contracts with an original expected duration greater than one year. At December 31, 2019 and 2018, Chemours had $83 and $119 of remaining performance obligations, respectively. The Company expects to recognize approximately 69% of its remaining performance obligations as revenue in 2020, an approximate additional 16% in 2021, and the balance thereafter. The Company applies the practical expedient and does not include remaining performance obligations that have original expected durations of one year or less, or amounts for variable consideration allocated to wholly-unsatisfied performance obligations or wholly-unsatisfied distinct goods that form part of a single performance obligation, if any. Amounts for contract renewals that are not yet exercised by December 31, 2019 and 2018 are also excluded.

Note 6. Research and Development Expense

The following table sets forth the Company's R&D expense by segment for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Fluoroproducts	$ 48	$ 50	$ 48
Chemical Solutions	2	2	3
Titanium Technologies	29	28	29
Corporate and Other	1	2	1
Total research and development expense	$ 80	$ 82	$ 81

Note 7. Restructuring, Asset-related, and Other Charges

The following table sets forth the components of the Company's restructuring, asset-related, and other charges by category for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Restructuring and other charges:			
Employee separation charges	$ 21	$ 14	$ 23
Decommissioning and other charges	23	31	33
Total restructuring and other charges	44	45	56
Asset-related charges (1)	43	4	1
Total restructuring, asset-related, and other charges	$ 87	$ 49	$ 57

(1) Asset-related charges for the year ended December 31, 2019 included $34 for accelerated depreciation in connection with the Company's exit of the Methylamines and Methylamides business at its Belle, West Virginia manufacturing plant, and $9 for accelerated depreciation in connection with its closure of the titanium tetrachloride production line at its New Johnsonville, Tennessee manufacturing plant. Asset-related charges for the year ended December 31, 2018 included $4 for a pre-tax goodwill impairment charge in the Company's Chemical Solutions segment.

The following table sets forth the impacts of the Company's restructuring programs to segment earnings for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Restructuring and other charges:			
Plant and product line closures:			
Fluoroproducts	$ —	$ —	$ 3
Chemical Solutions	2	4	17
Titanium Technologies	—	—	4
Corporate and Other	18	9	—
Total plant and product line closures	20	13	24
2017 Restructuring Program:			
Fluoroproducts	2	9	—
Chemical Solutions	—	2	—
Titanium Technologies	1	1	—
Corporate and Other	—	15	32
Total 2017 Restructuring Program	3	27	32
2018 Restructuring Program:			
Corporate and Other	(1)	5	—
Total 2018 Restructuring Program	(1)	5	—
2019 Restructuring Program:			
Fluoroproducts	7	—	—
Chemical Solutions	1	—	—
Titanium Technologies	5	—	—
Corporate and Other	9	—	—
Total 2019 Restructuring Program	22	—	—
Total restructuring and other charges	44	45	56
Asset-related charges:			
Chemical Solutions	34	4	—
Titanium Technologies	9	—	—
Corporate and Other	—	—	1
Total asset-related charges	43	4	1
Total restructuring, asset-related, and other charges	$ 87	$ 49	$ 57

Plant and Product Line Closures

Fluoroproducts

In August 2015, in an effort to improve the profitability of the Company's Fluoroproducts segment, management approved the closure of certain production lines in the segment's U.S. manufacturing plants. For the year ended December 31, 2017, the Company recorded additional decommissioning and dismantling-related charges of $3 for certain of these production lines. At December 31, 2017, the Company had substantially completed all actions related to the restructuring activities for certain of its production lines, which amounted to $17 in the aggregate, excluding asset-related charges.

Chemical Solutions

In the fourth quarter of 2015, the Company announced its completion of the strategic review of its Reactive Metals Solutions ("RMS") business and the decision to stop production at its Niagara Falls, New York manufacturing plant. The Company recorded additional decommissioning and dismantling-related charges of $2, $4, and $17 for the years ended December 31, 2019, 2018, and 2017, respectively. The Company expects to incur approximately $5 in additional restructuring charges for similar activities through 2021. As of December 31, 2019, the Company incurred, in the aggregate, $37 in restructuring charges related to these activities, excluding asset-related charges.

In the third quarter of 2019, in an effort to improve the profitability of the Company's Chemical Solutions segment, the Company announced plans to exit its Methylamines and Methylamides business at its Belle, West Virginia manufacturing plant, which culminated in the completed exit and sale of the business in the fourth quarter of 2019. As a result, for the year ended December 31, 2019, the Company recorded accelerated depreciation of $34. We do not expect to incur additional charges related to the exit of the Methylamines and Methylamides business. Refer to "Note 4 – Acquisitions and Divestitures" for further details.

Titanium Technologies

In August 2015, the Company announced the closure of its Edge Moor, Delaware manufacturing plant. The Edge Moor plant produced TiO_2 pigment for use in the paper industry and certain other applications where demand had steadily declined, resulting in under-used capacity at the plant. In addition, the Company permanently closed one under-used TiO_2 pigment production line at its New Johnsonville, Tennessee plant. The Company stopped production at its Edge Moor plant in September 2015, and immediately began decommissioning the plant. For the year ended December 31, 2017, the Company recorded additional decommissioning and dismantling-related charges of $4. The Company completed these activities in 2017, which amounted to $60 in the aggregate, excluding asset-related charges. The Company sold the land where the plant was located for $10 in the first quarter of 2017.

In December 2019, in an effort to improve the profitability of the Company's Titanium Technologies segment, management approved the discontinuation of the titanium tetrachloride production line at the Company's New Johnsonville, Tennessee site. For the year ended December 31, 2019, the Company recorded accelerated depreciation of $9. The Company does not expect to incur material decommissioning and dismantling-related charges related to the discontinuation of this production line.

Corporate and Other

In the first quarter of 2018, the Company began a project to demolish and remove several dormant, unused buildings at its Chambers Works site in Deepwater, New Jersey, which were assigned to Chemours in connection with its separation from DuPont and never used in Chemours' operations. For the years ended December 31, 2019 and 2018, the Company incurred $18 and $9, respectively, in decommissioning and dismantling-related charges associated with these efforts. The Company expects to incur approximately $6 in additional restructuring charges related to its Chambers Works site through the end of 2021. As of December 31, 2019, the Company incurred, in the aggregate, $27 in restructuring charges related to these activities.

2017 Restructuring Program

In 2017, the Company announced certain restructuring activities designed to further the cost savings and productivity improvements outlined under management's transformation plan. These activities include, among other efforts: (i) outsourcing and further centralizing certain business process activities; (ii) consolidating existing, outsourced third-party information technology ("IT") providers; and, (iii) implementing various upgrades to the Company's current IT infrastructure. In connection with these corporate function efforts, the Company recorded $3, $18, and $14 in restructuring-related charges for years ended December 31, 2019, 2018, and 2017, respectively.

In 2017, the Company also announced a voluntary separation program ("VSP") for certain eligible U.S. employees in an effort to better manage the anticipated future changes to its workforce. Employees who volunteered for and were accepted under the VSP were entitled to receive certain financial incentives above the Company's customary involuntary termination benefits to end their employment with Chemours after providing a mutually agreed-upon service period. Approximately 300 employees separated from the Company through the end of 2018. An accrual representing the majority of these termination benefits, amounting to $18, was recognized in the fourth quarter of 2017. The remaining $9 of incremental, one-time financial incentives under the VSP were recognized over the period each participating employee continued to provide service to Chemours.

The Company recorded charges of $3, $27, and $32 for the years ended December 31, 2019, 2018, and 2017, respectively, for its 2017 program. The cumulative amount incurred, in the aggregate, for the Company's 2017 program amounted to $62 at December 31, 2019. The Company has substantially completed all actions related to this program.

2018 Restructuring Program

In the fourth quarter of 2018, management initiated a restructuring program of the Company's corporate functions and recorded the related estimated severance costs of $5. The Company has substantially completed all actions related to this program.

2019 Restructuring Program

In the third quarter of 2019, management initiated a severance program of the Company's corporate functions and businesses. For the year ended December 31, 2019, the Company recorded the related estimated severance costs of $22, which it believes to be substantially complete for this program. The majority of employees separated from the Company during the fourth quarter of 2019, and the majority of the associated payments will be made by the end of 2020.

The following table sets forth the change in the Company's employee separation-related liabilities associated with its restructuring programs for the years ended December 31, 2019 and 2018.

	Chemical Solutions Site Closures	Titanium Technologies Site Closures	2015 Global Restructuring Program	2017 Restructuring Program	2018 Restructuring Program	2019 Restructuring Program	Total
Balance at January 1, 2018	$ 2	$ 1	$ 1	$ 23	$ —	$ —	$ 27
Charges to income	—	—	—	9	5	—	14
Payments	(2)	(1)	—	(22)	—	—	(25)
Balance at December 31, 2018	—	—	1	10	5	—	16
(Credits) charges to income	—	—	(1)	—	(1)	22	20
Payments	—	—	—	(9)	(4)	(8)	(21)
Balance at December 31, 2019	$ —	$ —	$ —	$ 1	$ —	$ 14	$ 15

At December 31, 2019 and 2018, there were no significant outstanding liabilities related to the Company's decommissioning and other restructuring-related charges.

Note 8. Other Income (Expense), Net

The following table sets forth the components of the Company's other income (expense), net for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Leasing, contract services, and miscellaneous income (1)	$ 51	$ 79	$ 30
Royalty income (2)	16	10	24
Gain on sales of assets and businesses (3)	10	45	22
Exchange (losses) gains, net (4)	(2)	1	3
Non-operating pension and other post-retirement employee benefit (loss) income (5)	(368)	27	34
Total other (expense) income, net	$ (293)	$ 162	$ 113

(1) Leasing, contract services, and miscellaneous income includes European Union fluorinated greenhouse gas quota authorization sales of $41, $67, and $15 for the years ended December 31, 2019, 2018, and 2017, respectively.

(2) Royalty income for the years ended December 31, 2019 and 2018 is primarily from technology licensing. Royalty income for the year ended December 31, 2017 is primarily from technology and trademark licensing.

(3) For the year ended December 31, 2019, gain on sale includes a $9 non-cash gain associated with the sale of the Company's Repauno, New Jersey site. For the year ended December 31, 2018, gain on sale includes a $3 gain and a $42 gain associated with the sales of the Company's East Chicago, Indiana and Linden, New Jersey sites, respectively. For the year ended December 31, 2017, gain on sale includes a gain of $13 associated with the sale of the Company's land in Repauno, New Jersey that was previously deferred and realized upon meeting certain milestones, and a $12 gain associated with the sale of the Company's Edge Moor, Delaware plant site, net of certain losses on other disposals.

(4) Exchange gains (losses), net includes gains (losses) on the Company's foreign currency forward contracts that have not been designated as a cash flow hedge.

(5) The year ended December 31, 2019 includes a $380 settlement loss related to a significant portion of the Company's Netherlands pension plan, specific to the vested pension benefits of the inactive participants. See "Note 27 – Long-term Employee Benefits" for further details.

Note 9. Income Taxes

The following table sets forth the components of the Company's provision for (benefit from) income taxes for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Current tax expense (benefit):			
U.S. federal	$ 13	$ 23	$ (8)
U.S. state and local	(1)	4	1
International	79	110	89
Total current tax expense	91	137	82
Deferred tax expense (benefit):			
U.S. federal	(77)	20	60
U.S. state and local	(5)	3	6
International	(81)	(1)	17
Total deferred tax (benefit) expense	(163)	22	83
Total (benefit from) provision for income taxes	$ (72)	$ 159	$ 165

The following table sets forth the components of the Company's deferred tax assets and liabilities at December 31, 2019 and 2018.

	December 31,	
	2019	2018
Deferred tax assets:		
Environmental and other liabilities	$ 99	$ 80
Accrued litigation	37	28
Stock-based compensation and accrued employee benefits	29	28
Other assets and other accrued liabilities	6	8
Tax attribute carryforwards	96	29
Operating lease liability	75	—
Foreign tax credit carryforwards	18	18
Total deferred tax assets	360	191
Less: Valuation allowance	(10)	(2)
Total deferred tax assets, net	350	189
Deferred tax liabilities:		
Pension and other liabilities	(7)	(35)
Property, plant, and equipment	(320)	(313)
Operating lease asset	(71)	—
Inventories and other assets	(30)	(12)
Total deferred tax liabilities	(428)	(360)
Deferred tax liability, net	$ (78)	$ (171)

The following table sets forth an analysis of the Company's effective tax rates for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,					
	2019		2018		2017	
	$	%	$	%	$	%
Statutory U.S. federal income tax rate	$ (26)	21.0%	$ 243	21.0%	$ 319	35.0%
State income taxes, net of federal benefit	(7)	5.6%	7	0.6%	7	0.7%
Lower effective tax rate on international operations, net	(28)	22.7%	(44)	(3.8)%	(149)	(16.3)%
Depletion	(5)	4.0%	(6)	(0.5)%	(8)	(0.9)%
Exchange (gains) losses	(7)	5.6%	(4)	(0.3)%	5	0.6%
Provision to return and other adjustments	(4)	3.2%	(9)	(0.8)%	6	0.6%
Valuation allowance	8	(6.5)%	(15)	(1.3)%	(33)	(3.6)%
Net impact of U.S. tax reform	—	— %	(10)	(0.9)%	39	4.3%
Stock-based compensation	(14)	11.4%	(14)	(1.2)%	(20)	(2.2)%
Executive compensation limitation	9	(7.3)%	4	0.3%	6	0.7%
R&D credit	(6)	4.8%	(5)	(0.4)%	(1)	(0.1)%
Uncertain tax positions	7	(5.6)%	2	0.2%	(6)	(0.7)%
Other, net	1	(0.8)%	10	0.9%	—	— %
Total effective tax rate	$ (72)	58.1%	$ 159	13.8%	$ 165	18.1%

The following table sets forth the Company's income (loss) before income taxes for its U.S. and international operations for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
U.S. operations (including exports)	$ (375)	$ 114	$ (306)
International operations	251	1,041	1,218
Total (loss) income before income taxes	$ (124)	$ 1,155	$ 912

U.S. Tax Reform

With respect to U.S. tax reform, while management has completed its analysis within the applicable measurement period, pursuant to Staff Accounting Bulletin No. 118 as issued by the SEC, the Company accounts for the tax impacts of new provisions based on interpretation of existing statutory law, including proposed regulations issued by the U.S. Treasury and the Internal Revenue Service ("IRS"). While there can be no assurances as to the effect of any final regulations on the Company's provision for (benefit from) income taxes, management will continue to evaluate the impacts as any issued regulations become final and adjust our estimates, as appropriate.

At December 31, 2019, management believed that sufficient liquidity was available in the U.S. As a result, the Company is indefinitely reinvested with respect to the historical unremitted pre-2018 Earnings and Profits ("E&P") of its foreign subsidiaries, which was approximately $440 at December 31, 2019. Management asserts that it is indefinitely reinvested with respect to current year earnings from certain foreign subsidiaries, and therefore, has not recorded deferred tax liabilities with respect to those earnings. At December 31, 2019, deferred tax liabilities for foreign subsidiaries that are not indefinitely reinvested were not material to the Company's consolidated financial statements. The potential tax implications of the repatriation of unremitted earnings are driven by the facts at the time of distribution; however, due to U.S. tax reform and the U.S. Transition Tax, the incremental cost to repatriate earnings is not expected to be material if a distribution is made in the future as there are minimal foreign withholding taxes in the applicable foreign jurisdictions.

Other Matters

For the year ended December 31, 2019, the Company recorded $5 of valuation allowance on certain foreign subsidiary earnings and $3 of valuation allowance on certain foreign tax credits.

Under the tax laws of various jurisdictions in which the Company operates, deductions or credits that cannot be fully utilized for tax purposes during the current year may be carried forward or back, subject to statutory limitations, to reduce taxable income or taxes payable in future or prior years. At December 31, 2019, the Company's U.S federal and state tax losses amounted to $13, which substantially expire between 2036 and 2038. The Company also had U.S. foreign tax credit carryforwards of $18, which expire in 2026, and $24 in R&D tax credits, which expire between 2035 and 2039. Lastly, the Company had foreign net operating losses of $3, which expire between 2026 and 2029.

Each year, Chemours and/or its subsidiaries file income tax returns in the U.S. federal jurisdiction and various states and non-U.S. jurisdictions.

The following table sets forth the Company's significant jurisdictions' tax returns that are subject to examination by their respective taxing authorities for the open years listed.

Jurisdiction	Open Years
China	2015 through 2019
India	2015 through 2019
Mexico	2013 through 2019
Netherlands	2015 through 2019
Singapore	2015 through 2019
Switzerland	2015 through 2019
Taiwan	2015 through 2019
U.S.	2015 through 2019

Positions challenged by the taxing authorities may be settled or appealed by Chemours and/or DuPont in accordance with the tax matters agreement. As a result, income tax uncertainties are recognized in the Company's consolidated financial statements in accordance with accounting for income taxes, when applicable.

The following table sets forth the change in the Company's unrecognized tax benefits for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Balance at January 1,	$ 2	$ —	$ 6
Gross amounts of decreases in unrecognized tax benefits as a result of adjustments to tax provisions taken during the prior period	—	—	(6)
Gross amounts of increases in unrecognized tax benefits as a result of tax positions taken during the current period	7	2	—
Reduction to unrecognized tax benefits as a result of a lapse of the applicable statute of limitations	—	—	—
Balance at December 31,	$ 9	$ 2	$ —
Total unrecognized tax benefits, if recognized, that would impact the effective tax rate	$ 9	$ 2	$ —
Total amount of interest and penalties recognized in the consolidated statements of operations	—	—	—
Total amount of interest and penalties recognized in the consolidated balance sheets	—	—	—

The following table sets forth a rollforward of the Company's deferred tax asset valuation allowance for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Balance at January 1,	$ 2	$ 17	$ 50
Net charges to income tax expense	8	—	—
Release of valuation allowance	—	(15)	(33)
Balance at December 31,	$ 10	$ 2	$ 17

Note 10. Earnings Per Share of Common Stock

The following table sets forth the reconciliations of the numerators and denominators for the Company's basic and diluted earnings per share calculations for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Numerator:			
Net (loss) income attributable to Chemours	$ (52)	$ 995	$ 746
Denominator:			
Weighted-average number of common shares outstanding - basic	164,816,839	176,968,554	184,844,106
Dilutive effect of the Company's employee compensation plans (1)	—	5,603,467	6,139,885
Weighted-average number of common shares outstanding - diluted (1)	164,816,839	182,572,021	190,983,991
Basic (loss) earnings per share of common stock	$ (0.32)	$ 5.62	$ 4.04
Diluted (loss) earnings per share of common stock (1)	(0.32)	5.45	3.91

(1) In periods where the Company incurs a net loss, the impact of potentially dilutive securities is excluded from the calculation of earnings per share as its inclusion would have an anti-dilutive effect.

The following table sets forth the average number of stock options that were anti-dilutive and, therefore, were not included in the Company's diluted earnings per share calculations for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Average number of stock options	2,206,609	393,016	43,072

Note 11. Accounts and Notes Receivable, Net

The following table sets forth the components of the Company's accounts and notes receivable, net at December 31, 2019 and 2018.

	December 31,	
	2019	2018
Accounts receivable - trade, net (1)	$ 602	$ 790
VAT, GST, and other taxes (2)	59	56
Other receivables (3)	13	15
Total accounts and notes receivable, net	$ 674	$ 861

(1) Accounts receivable - trade, net includes trade notes receivable of less than $1 and $2 at December 31, 2019 and 2018, respectively, and is net of allowances for doubtful accounts of $5 at December 31, 2019 and 2018. Such allowances are equal to the estimated uncollectible amounts.

(2) Value added tax ("VAT") and goods and services tax ("GST") for various jurisdictions.

(3) Other receivables consist of derivative instruments, advances, and other deposits.

Accounts and notes receivable are carried at amounts that approximate fair value. Bad debt expense amounted to less than $1 for the years ended December 31, 2019 and 2018, and $1 for the year ended December 31, 2017.

Note 12. Inventories

The following table sets forth the components of the Company's inventories at December 31, 2019 and 2018.

	December 31,	
	2019	2018
Finished products	$ 589	$ 701
Semi-finished products	189	195
Raw materials, stores, and supplies	559	476
Inventories before LIFO adjustment	1,337	1,372
Less: Adjustment of inventories to LIFO basis	(258)	(225)
Total inventories	$ 1,079	$ 1,147

Inventory values, before LIFO adjustment, are generally determined by the average cost method, which approximates current cost. Inventories are valued under the LIFO method at substantially all of the Company's U.S. locations, which comprised $674 and $622 (or 50% and 45%) of inventories before the LIFO adjustments at December 31, 2019 and 2018, respectively. The remainder of the Company's inventory held in international locations and certain U.S. locations is valued under the average cost method.

Note 13. Property, Plant, and Equipment, Net

The following table sets forth the components of the Company's property, plant, and equipment, net at December 31, 2019 and 2018.

	December 31,	
	2019	2018
Equipment	$ 7,595	$ 7,344
Buildings (1)	1,174	914
Construction-in-progress	493	579
Land	115	119
Mineral rights	36	36
Property, plant, and equipment	9,413	8,992
Less: Accumulated depreciation	(5,854)	(5,701)
Total property, plant, and equipment, net	$ 3,559	$ 3,291

(1) At December 31, 2019, buildings includes $95 in connection with the financed portion of the Chemours Discovery Hub, which was considered a build-to-suit lease asset of $55 at December 31, 2018. Refer to note "Note 14 – Leases" for further details.

Property, plant, and equipment, net included gross assets under finance leases of $68 and $7 at December 31, 2019 and 2018, respectively. In the second quarter of 2019, a subsidiary of the Company renegotiated the terms of an existing Fluoroproducts supply contract with Changshu 3F Zhonghao New Chemical Materials Co., Ltd., a related party and equity method investee, to improve the long-term supply security and competitiveness relative to not-in-kind competition of its low global warming potential foam offering. The renegotiated supply contract resulted in the recognition of a finance lease asset and a corresponding finance lease liability, both of which amounted to $62.

Interest expense capitalized as part of property, plant, and equipment, net amounted to $10, $17, and $9 for the years ended December 31, 2019, 2018, and 2017, respectively.

Depreciation expense amounted to $304, $276, and $269 for the years ended December 31, 2019, 2018, and 2017, respectively.

Note 14. Leases

The Company leases certain office space, equipment, railcars, tanks, barges, tow boats, and warehouses. Leases with an initial term of 12 months or less are not recorded on the consolidated balance sheets, and lease expense is recognized over the term of these leases on a straight-line basis. The Company's leases have remaining terms of up to 17 years. Some leases of equipment contain immaterial amounts of residual value guarantees.

The following table sets forth the Company's lease assets and lease liabilities and their balance sheet location at December 31, 2019.

	Balance Sheet Location	December 31, 2019
Lease assets:		
Operating lease right-of-use assets	Operating lease right-of-use assets	$ 294
Finance lease assets	Property, plant, and equipment, net (Note 13)	58
Total lease assets		$ 352
Lease liabilities:		
Current:		
Operating lease liabilities	Other accrued liabilities (Note 19)	$ 66
Finance lease liabilities	Short-term and current maturities of long-term debt (Note 20)	5
Total current lease liabilities		71
Non-current:		
Operating lease liabilities	Operating lease liabilities	245
Finance lease liabilities	Long-term debt, net (Note 20)	54
Total non-current lease liabilities		299
Total lease liabilities		$ 370

The following table sets forth the components of the Company's lease cost for the year ended December 31, 2019.

	Year Ended December 31, 2019
Operating lease cost	$ 99
Short-term lease cost	5
Variable lease cost	16
Finance lease cost:	
Amortization of lease assets	5
Interest on lease liabilities	2
Total lease cost	$ 127

The following table sets forth the cash flows related to the Company's leases for the year ended December 31, 2019.

	Year Ended December 31, 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	$ 101
Operating cash flows from finance leases	2
Financing cash flows from finance leases	3
Non-cash lease liabilities activity:	
Leased assets obtained in exchange for new operating lease liabilities	$ 48
Leased assets obtained in exchange for new finance lease liabilities	62

The following table sets forth the weighted-average term and weighted-average discount rate for the Company's leases at December 31, 2019.

	December 31, 2019
Weighted-average remaining lease term (years):	
Operating leases	8.5
Finance leases	9.2
Weighted-average discount rate:	
Operating leases	5.10%
Finance leases	5.90%

The following table sets forth the Company's lease liabilities' maturities for the next five years and thereafter.

	As of December 31, 2019		
	Operating Leases	Finance Leases	Total
2020	$ 82	$ 9	$ 91
2021	66	8	74
2022	49	8	57
2023	35	8	43
2024	29	8	37
Thereafter	118	35	153
Total lease payments	379	76	455
Less: Imputed interest	68	17	85
Present value of lease liabilities	$ 311	$ 59	$ 370

Prior to the adoption of ASU No. 2016-02, the following table set forth the Company's lease liabilities' maturities for the subsequent five years and thereafter.

	As of December 31, 2018		
	Operating Leases	Finance Leases	Total
2019	$ 92	$ —	$ 92
2020	70	2	72
2021	59	—	59
2022	42	—	42
2023	27	—	27
Thereafter	134	—	134
Total lease payments	$ 424	$ 2	$ 426

The Chemours Discovery Hub

In October 2017, Chemours executed a build-to-suit lease agreement to construct a new 312,000-square-foot research and development facility on the Science, Technology, and Advanced Research campus of the University of Delaware ("UD") in Newark, Delaware ("Chemours Discovery Hub"). Chemours was deemed to be the owner for accounting purposes during construction of the facility. Construction was completed in the fourth quarter of 2019, and, upon its completion, Chemours evaluated whether a sale occurred for purposes of sale-leaseback accounting treatment. The Company determined that this transaction did not qualify for sale-leaseback accounting, and, as a result, the leasing arrangement is considered to be a financing transaction. At completion of the construction, the build-to-suit lease liability was reclassified as a financing obligation within long-term debt, net, and the build-to-suit lease asset was capitalized in property, plant and equipment, net. At December 31, 2019, a financing obligation of $95 and property, plant, and equipment of $95 are recorded on the Company's consolidated balance sheet.

The following table sets forth the Company's minimum future payments due for the next five years and thereafter related to the Chemours Discovery Hub financing obligation.

	December 31, 2019
2020	$ 6
2021	7
2022	7
2023	7
2024	7
Thereafter	160
Total payments	$ 194

Note 15. Goodwill and Other Intangible Assets, Net

Goodwill

The following table sets forth the changes in the carrying amount of the Company's goodwill by segment for the years ended December 31, 2019 and 2018.

	December 31,	
	2019	2018
Fluoroproducts:		
Balance at January 1,	$ 89	$ 85
Acquisition of business	—	4
Balance at December 31,	89	89
Chemical Solutions:		
Balance at January 1,	51	55
Goodwill impairment	—	(4)
Balance at December 31,	51	51
Titanium Technologies:		
Balance at January 1,	13	13
Balance at December 31,	13	13
Total goodwill	$ 153	$ 153

Chemours consists of three operating segments: Fluoroproducts, Chemical Solutions, and Titanium Technologies. The Company defines its reporting units as one level below these operating segments, with the exception of the Titanium Technologies segment, which is both an operating segment and a reporting unit. The Company tested the goodwill balances attributable to each of its reporting units for potential impairment on October 1, 2019 and 2018, the dates of Chemours' annual goodwill assessment, and concluded that $4 of goodwill associated with the Performance Chemicals and Intermediates reporting unit in the Chemical Solutions segment was impaired at October 1, 2018. No further goodwill impairments were recorded for the years ended December 31, 2019 and 2018, as the fair values of the Company's other reporting units that carry goodwill exceeded each respective reporting unit's carrying amount on October 1, 2019 and 2018.

The total accumulated impairment losses included in the Company's goodwill balance at December 31, 2019 and 2018 amounted to $4.

Other Intangible Assets, Net

The following table sets forth the gross carrying amounts and accumulated amortization of the Company's other intangible assets by major class at December 31, 2019 and 2018.

	December 31, 2019			December 31, 2018		
	Cost	Accumulated Amortization	Net	Cost	Accumulated Amortization	Net
Customer lists	$ 9	$ (8)	$ 1	$ 9	$ (8)	$ 1
Customer relationships	22	(8)	14	22	(3)	19
Patents	19	(19)	—	19	(19)	—
Purchased trademarks	5	(3)	2	5	(3)	2
Purchased and licensed technology	3	(3)	—	3	(3)	—
Other (1)	10	(6)	4	10	(4)	6
Total other intangible assets, net	$ 68	$ (47)	$ 21	$ 68	$ (40)	$ 28

(1) Represents non-cash favorable supply contracts acquired in connection with the sale of the Sulfur business and recognized during the third quarter of 2016 based on the present value of the difference between their contractual cash flows and estimated cash flows had the contracts been executed at a determinable market price. These contract intangibles will be amortized to cost of goods sold over the remaining life of the supply contracts through 2021.

The aggregate pre-tax amortization expense for definite-lived intangible assets was $7, $6, and $4 for the years ended December 31, 2019, 2018, and 2017, respectively. The estimated aggregate pre-tax amortization expense for 2020, 2021, 2022, 2023, and 2024 is $7, $7, $5, $1, and less than $1, respectively. Definite-lived intangible assets are amortized over their estimated useful lives, generally for periods ranging from five to 20 years. The reasonableness of the useful lives of these assets is periodically evaluated. The Company does not have any indefinite-lived intangible assets.

Note 16. Investments in Affiliates

The Company holds investments in companies where it, directly or indirectly, owns 20% to 50% of the voting stock, or has the ability to exercise significant influence over the operating and financial policies of the investee.

The following table sets forth the carrying value, jurisdiction, and ownership percentages of the Company's investments in affiliates at December 31, 2019 and 2018.

		December 31, 2019		December 31, 2018	
Investee	Jurisdiction	Carrying Value	Ownership	Carrying Value	Ownership
Chemours-Mitsui Fluorochemicals Company, Ltd.	Japan	$ 96	50.0%	$ 94	50.0%
The Chemours Chenguang Fluoromaterials Company Limited	China	33	50.0%	36	50.0%
Changshu 3F Zhonghao New Chemical Materials Co., Ltd.	China	33	10.0%	30	10.0%
		$ 162		$ 160	

The following table sets forth the changes in the Company's investments in affiliates for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Balance at January 1,	$ 160	$ 173	$ 136
Equity in earnings of affiliates	29	43	33
Dividends	(28)	(58)	—
Currency translation and other	1	2	4
Balance at December 31,	$ 162	$ 160	$ 173

The Company engages in transactions with its equity method investees in the ordinary course of business. For the years ended December 31, 2019, 2018, and 2017, net sales to the Company's equity method investees amounted to $135, $143, and $99, respectively, and purchases from the Company's equity method investees amounted to $249, $125, and $87, respectively.

Note 17. Other Assets

The following table sets forth the components of the Company's other assets at December 31, 2019 and 2018.

	December 31,	
	2019	2018
Capitalized repair and maintenance costs	$ 148	$ 178
Pension assets (1)	59	174
Deferred income taxes	40	46
Miscellaneous	45	39
Total other assets	$ 292	$ 437

(1) Pension assets represent the funded status of certain of the Company's long-term employee benefit plans. During the year ended December 31, 2019, pension assets decreased primarily due to the Company's settlement of a significant portion of the Netherlands pension plan, specific to the vested pension benefits of the inactive participants. See "Note 27 – Long-term Employees Benefits" for further details.

Note 18. Accounts Payable

The following table sets forth the components of the Company's accounts payable at December 31, 2019 and 2018.

	December 31,	
	2019	2018
Trade payables	$ 901	$ 1,111
VAT and other payables	22	26
Total accounts payable	$ 923	$ 1,137

Note 19. Other Accrued Liabilities

The following table sets forth the components of the Company's other accrued liabilities at December 31, 2019 and 2018.

	December 31,	
	2019	2018
Compensation and other employee-related costs	$ 52	$ 108
Employee separation costs (1)	15	16
Accrued litigation (2)	10	11
Environmental remediation (2)	74	139
Income taxes	65	87
Customer rebates	72	79
Deferred revenue	7	6
Accrued interest	21	21
Operating lease liabilities (3)	66	—
Miscellaneous (4)	102	92
Total other accrued liabilities	$ 484	$ 559

(1) Represents the current portion of accrued employee separation costs related to the Company's restructuring activities.

(2) Represents the current portions of environmental remediation and accrued litigation, which are discussed further in "Note 22 – Commitments and Contingent Liabilities." With respect to the Company's ongoing matters at Fayetteville, environmental remediation includes $20 and $75 at December 31, 2019 and 2018, respectively.

(3) Represents the current portion of the Company's operating lease liabilities, which is discussed further in "Note 3 – Summary of Significant Accounting Policies" and "Note 14 – Leases."

(4) Miscellaneous primarily includes accrued utility expenses, property taxes, an accrued indemnification liability, the current portion of the Company's asset retirement obligations, and other miscellaneous expenses.

Note 20. Debt

The following table sets forth the components of the Company's debt at December 31, 2019 and 2018.

	December 31,	
	2019	2018
Senior secured term loans:		
Tranche B-2 U.S. dollar term loan due May 2025	$ 884	$ 893
Tranche B-2 euro term loan due May 2025 (€344 at December 31, 2019 and €347 at December 31, 2018)	383	396
Senior unsecured notes:		
6.625% due May 2023	908	908
7.000% due May 2025	750	750
4.000% due May 2026 (€450 at December 31, 2019 and 2018)	501	513
5.375% due May 2027	500	500
Securitization Facility	110	—
Finance lease liabilities	59	2
Financing obligation (1)	95	55
Other	6	—
Total debt	4,196	4,017
Less: Unamortized issue discounts	(8)	(10)
Less: Unamortized debt issuance costs	(28)	(35)
Less: Short-term and current maturities of long-term debt	(134)	(13)
Total long-term debt, net	$ 4,026	$ 3,959

(1) At December 31, 2019, financing obligation includes $95 in connection with the financed portion of the Chemours Discovery Hub, which was considered a build-to-suit lease liability of $55 at December 31, 2018. Refer to "Note 14 – Leases" for further details.

Senior Secured Credit Facilities

On April 3, 2018, the Company amended and restated its credit agreement ("Credit Agreement") that provides for a seven-year, senior secured term loan facility and a five-year, $800 senior secured revolving credit facility ("Revolving Credit Facility") (collectively, the "Senior Secured Credit Facilities"). The Senior Secured Credit Facilities are subject to a springing maturity in the event that the senior unsecured notes due in May 2023 are not redeemed, repaid, modified, and/or refinanced within the 91-day period prior to their maturity date.

The senior secured term loan facility under the Senior Secured Credit Facilities provides for a class of term loans, denominated in U.S. dollars, in an aggregate principal amount of $900 ("Dollar Term Loan") and a class of term loans, denominated in euros, in an aggregate principal amount of €350 ("Euro Term Loan") (collectively, the "Term Loans"). The Dollar Term Loan bears a variable interest rate equal to, at the election of the Company, adjusted LIBOR plus 1.75% or adjusted base rate plus 0.75%, subject to an adjusted LIBOR or an adjusted base rate floor of 0.00% or 1.00%, respectively. The Euro Term Loan bears a variable interest rate equal to adjusted EURIBOR plus 2.00%, subject to an adjusted EURIBOR floor of 0.50%. The Term Loans will mature on April 3, 2025, and are subject to acceleration in certain circumstances.

The proceeds of any loans made under the Revolving Credit Facility can be used for working capital needs and other general corporate purposes, including permitted acquisitions, as defined in the Credit Agreement. The Revolving Credit Facility bears a variable interest rate range based on the Company's total net leverage ratio, as defined in the Credit Agreement, between (i) a 0.25% and a 1.00% spread for adjusted base rate loans, and (ii) a 1.25% and a 2.00% spread for LIBOR and EURIBOR loans. In addition, the Company is required to pay a commitment fee on the average daily unused amount of the Revolving Credit Facility within an interest rate range based on its total net leverage ratio, between 0.10% and 0.25%. The Revolving Credit Facility will mature on April 3, 2023, and is subject to acceleration in certain circumstances.

During the year ended December 31, 2019, the Company borrowed and subsequently repaid $150 under the Revolving Credit Facility. There were no borrowings outstanding under the Revolving Credit Facility at December 31, 2019 and 2018. Issued and outstanding letters of credit under the Revolving Credit Facility amounted to $103 and $104 at December 31, 2019 and 2018, respectively. At December 31, 2019, the effective interest rates on the Dollar Term Loan and the Euro Term Loan were 3.6% and 2.5%, respectively, and commitment fees on the Revolving Credit Facility were assessed at a rate of 0.20% per annum. In connection with the issuance of the Senior Secured Credit Facilities, the Company incurred a loss on debt extinguishment of $3 for the year ended December 31, 2018.

Under the Credit Agreement, solely with respect to the Revolving Credit Facility, the Company is required to maintain a senior secured net leverage ratio not to exceed 2.00 to 1.00 in each quarter, through the date of maturity. In addition, the Credit Agreement contains customary affirmative and negative covenants that, among other things, limit or restrict the Company's and its subsidiaries' ability, subject to certain exceptions, to incur additional indebtedness or liens, pay dividends, and engage in certain transactions, including mergers, acquisitions, asset sales, or investments, outside of specified carve-outs. The Credit Agreement also contains customary representations and warranties and events of default. The Company was in compliance with its debt covenants at December 31, 2019 and 2018.

The Company's obligations under the Senior Secured Credit Facilities are guaranteed on a senior secured basis by all of its material domestic subsidiaries, which are also guarantors of the Company's outstanding notes, subject to certain exceptions. The obligations under the Senior Secured Credit Facilities are also, subject to certain exceptions, secured by a first priority lien on substantially all of the Company's assets and substantially all of the assets of its wholly-owned, material domestic subsidiaries, including 100% of the stock of certain of its domestic subsidiaries and 65% of the stock of certain of its foreign subsidiaries.

Senior Unsecured Notes

Senior Unsecured Notes due May 2023 and May 2025

On May 12, 2015, Chemours issued an aggregate principal amount of $2,503 in senior unsecured notes consisting of an aggregate principal amount of $1,350 6.625% senior unsecured notes due May 2023, denominated in U.S. dollars (the "2023 Dollar Notes"), an aggregate principal amount of €360 6.125% senior unsecured notes due May 2023, denominated in euros (the "2023 Euro Notes"), and an aggregate principal amount of $750 7.000% senior unsecured notes due May 2025, denominated in U.S dollars (the "2025 Notes") (collectively, the "Original Notes"). The Original Notes required or require, as applicable, payment of principal at maturity and payments of interest semi-annually in cash and in arrears on May 15 and November 15 of each year. The proceeds from the Original Notes were issued to fund a cash distribution to DuPont in connection with the Separation. As discussed in more detail below, the Company purchased or redeemed, as applicable, all of the outstanding 2023 Euro Notes and a $250 aggregate principal amount of the 2023 Dollar Notes during the year ended December 31, 2018.

The Original Notes were or are, as applicable, fully and unconditionally guaranteed, jointly and severally, on a senior unsecured unsubordinated basis, by each of Chemours' existing and future direct or indirect domestic restricted subsidiaries that (i) incurs or guarantees indebtedness under the Senior Secured Credit Facilities, or (ii) guarantees certain other indebtedness of the Company or any guarantor in an aggregate principal amount in excess of $75. The Original Notes were or are, as applicable, unsecured and unsubordinated by Chemours and its guarantor subsidiaries. The Original Notes ranked or rank, as applicable, equally in right of payment to all of Chemours' existing and future unsecured unsubordinated debt and senior in right of payment to all of its existing and future debt that is by its terms expressly subordinated in right of payment to the Original Notes. The Original Notes were or are, as applicable, subordinated to indebtedness under the Senior Secured Credit Facilities as well as any future secured debt to the extent of the value of the assets securing such debt.

Pursuant to the terms of the indenture governing the Original Notes, the Company was or is, as applicable, obligated to offer to purchase the Original Notes at a price of (i) 101% of their principal amount, together with accrued and unpaid interest, if any, up to, but not including, the date of purchase, upon the occurrence of certain change of control events, and (ii) 100% of their principal amount, together with accrued and unpaid interest, if any, up to, but not including, the date of purchase, with the proceeds from certain asset dispositions. These restrictions and prohibitions were or are, as applicable, subject to certain qualifications and exceptions set forth in the indenture governing the Original Notes, including without limitation, reinvestment rights with respect to the proceeds of asset dispositions.

Chemours is permitted to currently redeem some or all of the 2023 Dollar Notes at specified redemption prices, and may redeem some or all of the 2025 Notes on or after May 15, 2020 at specified redemption prices. Chemours may also redeem some or all of the 2023 Dollar Notes or the 2025 Notes by means other than a redemption, including tender offer or open market purchases. Pursuant to the terms of the tax matters agreement entered into at the time of the Separation, the Company's ability to pre-pay, pay down, redeem, retire, or otherwise acquire the 2025 Notes is limited in the absence of obtaining certain tax opinions.

Senior Unsecured Notes Due May 2027

On May 23, 2017, Chemours issued a $500 aggregate principal amount of 5.375% senior unsecured notes due May 2027 (the "2027 Notes"). The 2027 Notes require payment of principal at maturity and interest semi-annually in cash and in arrears on May 15 and November 15 of each year. The Company received proceeds of $489, net of an original issue discount of $5 and underwriting fees and other related expenses of $6, which are deferred and amortized to interest expense using the effective interest method over the term of the 2027 Notes. A portion of the net proceeds from the 2027 Notes was used to pay the $335 accrued for the global settlement of the multi-district "PFOA MDL Settlement," as discussed in "Note 22 – Commitments and Contingent Liabilities." The remaining proceeds from the 2027 Notes were available for general corporate purposes.

The 2027 Notes are fully and unconditionally guaranteed, jointly and severally, on a senior unsecured unsubordinated basis by each of Chemours' existing and future direct and indirect domestic restricted subsidiaries that (i) incurs or guarantees indebtedness under the Senior Secured Credit Facilities, or (ii) guarantees certain other indebtedness of Chemours or any guarantor in an aggregate principal amount in excess of $100. The guarantees of the 2027 Notes will rank equally with all other senior indebtedness of the guarantors. The 2027 Notes rank equally in right of payment to all of Chemours' existing and future unsecured unsubordinated debt and are senior in right of payment to all of its existing and future debt that is by its terms expressly subordinated in right of payment to the 2027 Notes. The 2027 Notes are subordinated to indebtedness under the Senior Secured Credit Facilities as well as any future secured debt to the extent of the value of the assets securing such debt, and structurally subordinated to the liabilities of any non-guarantor subsidiaries.

Pursuant to the terms of the indenture governing the 2027 Notes, Chemours may redeem the 2027 Notes, in whole or in part, at an amount equal to 100% of the aggregate principal amount plus a specified "make-whole" premium and accrued and unpaid interest, if any, to the date of purchase prior to February 15, 2027. Chemours may also redeem some or all of the 2027 Notes by means other than a redemption, including tender offer and open market repurchases. Chemours is obligated to offer to purchase the 2027 Notes at a price of 101% of the principal amount, together with accrued and unpaid interest, if any, up to, but not including, the date of purchase, upon the occurrence of certain change of control events.

Senior Unsecured Notes due May 2026

On June 6, 2018, the Company issued an aggregate principal amount of €450 4.000% senior unsecured notes due May 2026, denominated in euros (the "2026 Euro Notes"). The 2026 Euro Notes are fully and unconditionally guaranteed, jointly and severally, on a senior unsecured unsubordinated basis, by each of the Company's existing and future direct and indirect domestic restricted subsidiaries that (i) incurs or guarantees indebtedness under the Senior Secured Credit Facilities, or (ii) guarantees certain other indebtedness of the Company or any guarantor in an aggregate principal amount in excess of $100. The 2026 Euro Notes require payment of principal at maturity and payments of interest semi-annually in cash and in arrears on May 15 and November 15 of each year.

Pursuant to the terms of the indenture governing the 2026 Euro Notes, the Company is obligated to offer to purchase the 2026 Euro Notes at a price of 101% of the principal amount, together with accrued and unpaid interest, if any, up to, but not including, the date of purchase, upon the occurrence of certain change of control events. Prior to May 15, 2021, the Company may redeem the 2026 Euro Notes (i) in whole or in part, at an amount equal to 100% of the aggregate principal amount plus a specified “make-whole” premium, and (ii) on one or more occasions, up to 35% of the aggregate principal amount of the notes, with the net cash proceeds of one or more equity offerings at a price equal to 104% of the principal amounts of such notes, plus accrued and unpaid interest, if any, up to, but excluding, the redemption date. The guarantees of the 2026 Euro Notes will rank equally with all other senior indebtedness of the guarantors. The 2026 Euro Notes rank equally in right of payment to all of the Company’s existing and future unsecured unsubordinated debt and are senior in right of payment to all of its existing and future debt that is, by its terms, expressly subordinated in right of payment to the 2026 Euro Notes. The 2026 Euro Notes are subordinated to indebtedness under the Senior Secured Credit Facilities, as well as any future secured debt to the extent of the value of the assets securing such debt, and are structurally subordinated to the liabilities of any non-guarantor subsidiaries.

The Company received net proceeds of €445 from the offering of the 2026 Euro Notes, which, together with cash on hand, were used to purchase or redeem, as the case may be, all of the outstanding 2023 Euro Notes and a $250 aggregate principal amount of the 2023 Dollar Notes pursuant to the Tender Offers (defined below) and the redemption of the 2023 Euro Notes, as well as pay for any fees and expenses in connection therewith. In connection with the concurrent redemption of the 2023 Euro Notes and issuance of the 2026 Euro Notes, the Company incurred a loss on extinguishment of $35 for the year ended December 31, 2018.

2023 Notes Tender Offers and Redemption of the 2023 Euro Notes

On May 21, 2018, the Company commenced two all-cash tender offers to purchase: (i) up to $250 of the outstanding 2023 Dollar Notes, for a purchase price of $1,052.50 per $1,000.00 of principal amount through an early tender deadline of June 4, 2018, and $1,022.50 per $1,000.00 of principal amount thereafter, through June 18, 2018, the tender expiration date, plus any accrued and unpaid interest thereon (the “Dollar Tender Offer”); and, (ii) any and all of the outstanding 2023 Euro Notes (collectively, the “2023 Notes”), for a purchase price of €1,048.75 per €1,000.00 of principal amount through an early tender deadline of June 4, 2018, and €1,018.75 per €1,000.00 of principal amount thereafter, through June 18, 2018, the tender expiration date, plus any accrued and unpaid interest thereon (the “Euro Tender Offer”) (collectively, the “Tender Offers”).

The Company completed the Dollar Tender Offer on June 6, 2018 for an aggregate purchase price of $264, inclusive of an early participation premium of $13 and accrued interest of $1. The Company completed the Euro Tender Offer on June 8, 2018 for an aggregate purchase price of €310, inclusive of an early participation premium of €14 and accrued interest of €1. In connection with the Euro Tender Offer, the Company received consents from the holders of a majority of the aggregate principal amount of the 2023 Euro Notes to amend certain provisions of the indenture governing the 2023 Euro Notes, thereby allowing the Company to call and redeem the remaining 2023 Euro Notes outstanding upon two business days’ notice to the noteholders. On June 8, 2018, the Company completed the redemption of the remaining outstanding 2023 Euro Notes that were not purchased pursuant to the Euro Tender Offer. The Tender Offers and the redemption of the 2023 Euro Notes were funded with the proceeds from the offering of the 2026 Euro Notes and cash on hand.

Accounts Receivable Securitization Facility

On July 12, 2019, the Company, through a wholly-owned special purpose entity (“SPE”), executed an agreement with a bank for an accounts receivable securitization facility (“Securitization Facility”) for the purpose of enhancing the Company’s liquidity. Under the Securitization Facility, certain of the Company’s subsidiaries will sell their accounts receivable to the SPE, which is a non-guarantor subsidiary. In turn, the SPE may transfer undivided ownership interests in such receivables to the bank in exchange for cash. The Securitization Facility permits the SPE to borrow up to a total of $125, with an option to increase to $200. The bank has a first priority security interest in all receivables held by the SPE, and the SPE has not granted a security interest to anyone else. At December 31, 2019, receivables held by the SPE totaled $176.

Because the SPE maintains effective control over the accounts receivable, transfers of the ownership interests to the bank do not meet the criteria to account for the transfers as true sales. As a result, the Company accounted for the transfers under the Securitization Facility as collateralized borrowings. Cash received from the bank is a short-term obligation of the Company, which is fully-collateralized by all receivables held by the SPE. The Securitization Facility is subject to interest charges against both the amount of outstanding borrowings and the amount of available but undrawn commitments. The Securitization Facility bears a variable interest rate on outstanding borrowings and a fixed commitment fee on the average daily undrawn amount. During the year ended December 31, 2019, the weighted average interest rate on the outstanding borrowings under the Securitization Facility was 2.0%. Borrowings under the Securitization Facility are classified in its consolidated balance sheets as a component of its current liabilities due to the short-term nature of the obligation. Borrowings and repayments under the Securitization Facility amounted to $128 and $18, respectively. Net borrowings of $110 remained outstanding as of December 31, 2019.

Other

During the third quarter of 2019, the Company entered into a financing arrangement, by which an external financing company funded certain of the Company's annual insurance premiums for $11. During the year ended December 31, 2019, the Company made payments of $5 to the financing company, and the remaining $6 is to be repaid within the next twelve months.

Maturities

The Company has required quarterly principal payments related to the Senior Secured Credit Facilities equivalent to 1.00% per annum through December 2024, with the balance due at maturity. Also, following the end of each fiscal year commencing on the year ended December 31, 2019, on an annual basis, the Company is required to make additional principal payments depending on leverage levels, as defined in the amended and restated credit agreement, equivalent to up to 50% of excess cash flows based on certain leverage targets with step-downs to 25% and 0% as actual leverage decreases to below a 3.50 to 1.00 leverage target.

The following table sets forth the Company's debt principal maturities for the next five years and thereafter.

	Year Ended December 31,
2020	$ 122
2021	13
2022	13
2023	921
2024	13
Thereafter (1)	2,954
Total principal maturities on debt	$ 4,036

(1) The Senior Secured Credit Facilities are subject to a springing maturity in the event that the senior unsecured notes due in May 2023 are not redeemed, repaid, modified, and/or refinanced within the 91-day period prior to their maturity date

Debt Fair Value

The following table sets forth the estimated fair values of the Company's senior debt issues, which are based on quotes received from third-party brokers, and are classified as Level 2 financial instruments in the fair value hierarchy. The carrying value of the Securitization Facility approximates its fair value based on its short-term nature and maturity.

	December 31, 2019		December 31, 2018	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Senior secured term loans:				
Tranche B-2 U.S. dollar term loan due May 2025	$ 884	$ 865	$ 893	$ 862
Tranche B-2 euro term loan due May 2025 (€344 at December 31, 2019 and €347 at December 31, 2018)	383	378	396	394
Senior unsecured notes:				
6.625% due May 2023	908	917	908	918
7.000% due May 2025	750	755	750	761
4.000% due May 2026 (€450 at December 31, 2019 and 2018)	501	455	513	487
5.375% due May 2027	500	450	500	454
Securitization Facility	110	110	—	—
Total senior debt	4,036	$ 3,930	3,960	$ 3,876
Less: Unamortized issue discounts	(8)		(10)	
Less: Unamortized debt issuance costs	(28)		(35)	
Total senior debt, net	$ 4,000		$ 3,915	

Note 21. Other Liabilities

The following table sets forth the components of the Company's other liabilities at December 31, 2019 and 2018.

	December 31,	
	2019	2018
Environmental remediation (1)	$ 332	$ 152
Employee-related costs (2)	113	130
Accrued litigation (1)	50	53
Asset retirement obligations	54	51
Deferred revenue	8	7
Miscellaneous (3)	76	64
Total other liabilities	$ 633	$ 457

(1) Represents the long-term portions of environmental remediation and accrued litigation, which are discussed further in "Note 22 – Commitments and Contingent Liabilities." With respect to the Company's ongoing matters at Fayetteville, environmental remediation includes $181 at December 31, 2019. There were no amounts included in other liabilities for such matters at December 31, 2018.

(2) Employee-related costs primarily represent liabilities associated with the Company's long-term employee benefit plans.

(3) Miscellaneous primarily includes an accrued indemnification liability of $41 and $46 at December 31, 2019 and 2018, respectively.

Note 22. Commitments and Contingent Liabilities

Asset Retirement Obligations

Chemours has recorded asset retirement obligations, which are inclusive of costs related to closure, reclamation, and removal for mining operations in the production of TiO_2 in the Titanium Technologies segment; cap, cover, and post-closure maintenance of landfills in all segments; and, shipment and disposal of stored waste in all segments.

The following table sets forth the activity in the Company's asset retirement obligations for the years ended December 31, 2019 and 2018.

	Year Ended December 31,	
	2019	2018
Balance at January 1,	$ 57	$ 48
Accretion expense	7	10
Settlements and payments	(3)	(1)
Balance at December 31,	$ 61	$ 57
Current portion	$ 7	$ 6
Non-current portion	54	51

Litigation Overview

In addition to the matters discussed below, the Company and certain of its subsidiaries, from time to time, are subject to various lawsuits, claims, assessments, and proceedings with respect to product liability, intellectual property, personal injury, commercial, contractual, employment, governmental, environmental, anti-trust, and other such matters that arise in the ordinary course of business. In addition, Chemours, by virtue of its status as a subsidiary of DuPont prior to the separation, is subject to or required, under the separation-related agreements executed prior to the separation, to indemnify DuPont against various pending legal proceedings. It is not possible to predict the outcomes of these various lawsuits, claims, assessments, or proceedings. Except as noted below, while management believes it is reasonably possible that Chemours could incur losses in excess of the amounts accrued, if any, for the aforementioned proceedings, it does not believe any such loss would have a material impact on the Company's consolidated financial position, results of operations, or cash flows. Additional disputes between Chemours and DuPont may also arise with respect to indemnification matters, including disputes based on matters of law or contract interpretation. If and to the extent these disputes arise, they could materially adversely affect Chemours.

The Company accrues for litigation matters when it is probable that a liability has been incurred, and the amount of the liability can be reasonably estimated. Legal costs such as outside counsel fees and expenses are recognized in the period in which the expense was incurred. Management believes the Company's litigation accruals are appropriate based on the facts and circumstances for each matter, which are discussed in further detail below.

The following table sets forth the components of the Company's accrued litigation at December 31, 2019 and 2018.

	December 31, 2019	December 31, 2018
Asbestos	$ 34	$ 37
PFOA	20	22
All other matters	6	5
Total accrued litigation	$ 60	$ 64

The following table sets forth the current and long-term components of the Company's accrued litigation and their balance sheet locations at December 31, 2019 and 2018.

	Balance Sheet Location	December 31, 2019	December 31, 2018
Accrued Litigation:			
Current accrued litigation	Other accrued liabilities (Note 19)	$ 10	$ 11
Long-term accrued litigation	Other liabilities (Note 21)	50	53
Total accrued litigation		$ 60	$ 64

Fayetteville Works, Fayetteville, North Carolina

For information regarding the Company's ongoing litigation and environmental remediation matters at its Fayetteville Works site in Fayetteville, North Carolina ("Fayetteville"), refer to "Fayetteville Works, Fayetteville, North Carolina" under the "Environmental Overview" within this "Note 22 – Commitments and Contingent Liabilities".

Asbestos

In the Separation, DuPont assigned its asbestos docket to Chemours. At December 31, 2019 and 2018, there were approximately 1,100 and 1,300 lawsuits pending against DuPont alleging personal injury from exposure to asbestos. These cases are pending in state and federal court in numerous jurisdictions in the U.S. and are individually set for trial. A small number of cases are pending outside of the U.S. Most of the actions were brought by contractors who worked at sites between the 1950s and the 1990s. A small number of cases involve similar allegations by DuPont employees or household members of contractors or DuPont employees. Finally, certain lawsuits allege personal injury as a result of exposure to DuPont products.

At December 31, 2019 and 2018, Chemours had an accrual of $34 and $37 related to these matters, respectively.

Benzene

In the Separation, DuPont assigned its benzene docket to Chemours. At December 31, 2019 and 2018 there were 16 and 19 cases pending against DuPont alleging benzene-related illnesses, respectively. These cases consist of premises matters involving contractors and deceased former employees who claim exposure to benzene while working at DuPont sites primarily in the 1960s through the 1980s, and product liability claims based on alleged exposure to benzene found in trace amounts in aromatic hydrocarbon solvents used to manufacture DuPont products such as paints, thinners, and reducers.

Management believes that a loss is reasonably possible as to the docket as a whole; however, given the evaluation of each benzene matter is highly fact-driven and impacted by disease, exposure, and other factors, a range of such losses cannot be reasonably estimated at this time.

PFOA

Chemours does not, and has never, used "PFOA" (collectively, perfluorooctanoic acids and its salts, including the ammonium salt) as a polymer processing aid and/or sold it as a commercial product. Prior to the Separation, the performance chemicals segment of DuPont made PFOA at Fayetteville and used PFOA as a processing aid in the manufacture of fluoropolymers and fluoroelastomers at certain sites, including: Washington Works, Parkersburg, West Virginia; Chambers Works, Deepwater, New Jersey; Dordrecht Works, Netherlands; Changshu Works, China; and, Shimizu, Japan. These sites are now owned and/or operated by Chemours.

At December 31, 2019 and 2018, Chemours maintained accruals of $20 and $22, respectively, related to PFOA matters under the Leach Settlement as discussed below. These accruals relate to DuPont's obligations under agreements with the U.S. Environmental Protection Agency ("EPA") and voluntary commitments to the New Jersey Department of Environmental Protection ("NJ DEP"). These obligations and voluntary commitments include surveying, sampling, and testing drinking water in and around certain Company 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 state or the national health advisory. The Company will continue to work with the EPA and other authorities regarding the extent of work that may be required with respect to these matters.

Leach Settlement

In 2004, DuPont settled a class action captioned *Leach v. DuPont*, filed in West Virginia state court, alleging that approximately 80,000 residents living near the Washington Works facility had suffered, or may suffer, deleterious health effects from exposure to PFOA in drinking water. Among the settlement terms, DuPont funded a series of health studies by an independent science panel of experts ("C8 Science Panel") to evaluate available scientific evidence on whether any probable link exists, as defined in the settlement agreement, between exposure to PFOA and disease.

The C8 Science Panel found probable links, as defined in the settlement agreement, between exposure to PFOA and pregnancy-induced hypertension, including preeclampsia, kidney cancer, testicular cancer, thyroid disease, ulcerative colitis, and diagnosed high cholesterol. Under the terms of the settlement, DuPont is obligated to fund up to $235 for a medical monitoring program for eligible class members and pay the administrative costs associated with the program, including class counsel fees. The court-appointed Director of Medical Monitoring implemented the program and testing is ongoing with associated payments to service providers disbursed from an escrow account which the Company replenishes pursuant to the settlement agreement. As of December 31, 2019, approximately $1.7 has been disbursed from escrow related to medical monitoring. While it is reasonably possible that the Company will incur additional costs related to the medical monitoring program, such costs cannot be reasonably estimated due to uncertainties surrounding the level of participation by eligible class members and the scope of testing.

In addition, under the Leach settlement agreement, DuPont must continue to provide water treatment designed to reduce the level of PFOA in water to six area water districts and private well users. At separation, this obligation was assigned to Chemours, and $20 and $22 was accrued for these matters at December 31, 2019 and 2018, respectively.

PFOA Leach Class Personal Injury

Further, under the Leach settlement, class members may pursue personal injury claims against DuPont only for those diseases for which the C8 Science Panel determined a probable link exists. Approximately 3,500 lawsuits were subsequently filed in various federal and state courts in Ohio and West Virginia and consolidated in multi-district litigation ("MDL") in Ohio federal court. These were resolved in March 2017 when DuPont entered into an agreement settling all MDL cases and claims, including all filed and unfiled personal injury cases and claims that were part of the plaintiffs' counsel's claims inventory, as well as cases tried to a jury verdict ("MDL Settlement") for $670.7 in cash, with half paid by Chemours, and half paid by DuPont.

Concurrently with the MDL Settlement, DuPont and Chemours agreed to a limited sharing of potential future PFOA costs (indemnifiable losses, as defined in the separation agreement between DuPont and Chemours) for a period of five years. During that five-year period, Chemours will annually pay future PFOA costs up to $25 and, if such amount is exceeded, DuPont will pay any excess amount up to the next $25 (which payment will not be subject to indemnification by Chemours), with Chemours annually bearing any further excess costs under the terms of the separation agreement. After the five-year period, this limited sharing agreement will expire, and Chemours' indemnification obligations under the separation agreement will continue unchanged. Chemours has also agreed that it will not contest its indemnification obligations to DuPont under the separation agreement for PFOA costs on the basis of defenses generally applicable to the indemnification provisions under the separation agreement, including defenses relating to punitive damages, fines or penalties, or attorneys' fees, and waives any such defenses with respect to PFOA costs. Chemours has, however, retained other defenses, including as to whether any particular PFOA claim is within the scope of the indemnification provisions of the separation agreement.

While all MDL lawsuits were dismissed or resolved through the MDL Settlement, the MDL Settlement did not resolve PFOA personal injury claims of plaintiffs who did not have cases or claims in the MDL or personal injury claims based on diseases first diagnosed after February 11, 2017. Since the resolution of the MDL, approximately 61 personal injury cases have been filed and are pending in West Virginia or Ohio courts alleging status as a Leach class member. These cases are consolidated before the MDL court. A two-plaintiff trial commenced in January 2020, and a six-plaintiff trial is scheduled for June 2020.

State of Ohio

In February 2018, the State of Ohio initiated litigation against DuPont regarding historical PFOA emissions from the Washington Works site. Chemours is an additional named defendant. Ohio alleges damage to natural resources and fraudulent transfer in the spin-off that created Chemours and seeks damages including remediation and other costs and punitive damages.

PFAS

DuPont and Chemours have received governmental and regulatory inquiries and have been named in other litigations, including class actions, brought by individuals, municipalities, businesses and water districts alleging exposure to and/or contamination from perfluorinated and polyfluorinated compounds ("PFAS"), including PFOA. Many actions include an allegation of fraudulent transfer in the spin-off that created Chemours. Chemours has declined DuPont's requests for indemnity for fraudulent transfer claims.

In January 2020, Chemours received a letter informing it that the U.S. Department of Justice, Consumer Protection Branch, and the United States Attorney's Office for the Eastern District of Pennsylvania are considering whether to open a criminal investigation under the Federal Food, Drug, and Cosmetic Act and asking that it retain its documents regarding PFAS and food contact applications. Based upon the letter, we are presently unable to predict the duration, scope, or result of any potential governmental, criminal, or civil proceeding that may result, the imposition of fines and penalties, and/or other remedies. We are also unable to develop a reasonable estimate of a possible loss or range of losses, if any.

Aqueous Film Forming Foam Matters

Chemours does not, and has never, manufactured aqueous film forming foam ("AFFF"). DuPont and Chemours have been named in 154 matters, involving AFFF, which is used to extinguish hydrocarbon-based (i.e., Class B) fires and subject to U.S. military specifications. Most matters have been transferred to or filed directly into a multidistrict litigation ("AFFF MDL") in South Carolina federal court or identified by a party for transfer. The matters pending in the AFFF MDL allege damages as a result of contamination, in most cases due to migration from military installations or airports, or personal injury from exposure to AFFF. Plaintiffs seek to recover damages for investigating, monitoring, remediating, treating, and otherwise responding to the contamination. Others have claims for personal injury, property diminution and punitive damages.

There are 8 AFFF lawsuits currently pending outside the AFFF MDL that have not been designated by a party for inclusion in the MDL. These matters are:

Valero Refining ("Valero") has six pending state court lawsuits filed commencing in June 2019 regarding its Tennessee, Texas, Oklahoma, California, and Louisiana facilities. These lawsuits allege that several defendants that designed, manufactured, marketed, and/or sold AFFF or PFAS incorporated into AFFF have caused Valero to incur damages and costs including remediation, AFFF disposal, and replacement. Valero also alleges fraudulent transfer.

In August 2019, a putative class action was filed in Alaska state court seeking class status for property owners whose groundwater has been contaminated by AFFF use at Fairbanks International Airport, a nearby fire training facility, and other state operations. Damages sought include cost of remediation, monitoring, medical monitoring, diminution of property value, cost of replacement water, and punitive damages. Plaintiffs also allege fraudulent transfer.

In September 2019, a lawsuit alleging personal injury resulting from exposure to AFFF in Long Island drinking water was filed by four individuals in New York state court. Plaintiffs also allege violation of New York Uniform Fraudulent Conveyance Act and seek compensatory and punitive damages, and medical monitoring.

State Natural Resource Damages Matters

In addition to the State of New Jersey actions (as detailed below) and the State of Ohio action (as detailed above), the states of Vermont, New Hampshire, New York, and Michigan have filed lawsuits against defendants, including DuPont and Chemours, relating to the alleged contamination of state natural resources with PFAS compounds either from AFFF and/or other unidentified sources. These lawsuits seek damages including costs to investigate, clean up, restore, treat, monitor, or otherwise respond to contamination to natural resources. The lawsuits include counts for fraudulent transfer.

Other PFAS Matters

DuPont has also been named in approximately 51 lawsuits pending in New York courts, which are not part of the Leach class, brought by individual plaintiffs alleging negligence and other claims in the release of PFAS, including PFOA, into drinking water, and seeking medical monitoring, compensatory, and punitive damages against current and former owners and suppliers of a manufacturing facility in Hoosick Falls, New York. Two other lawsuits in New York have been filed by a business seeking to recover its losses and by nearby property owners and residents in a putative class action seeking medical monitoring, compensatory and punitive damages, and injunctive relief.

In May 2017, the Water Works and Sewer Board of the Town of Centre, Alabama filed suit against numerous carpet manufacturers located in Dalton, Georgia and suppliers and former suppliers, including DuPont, in Alabama state court. The complaint alleges negligence, nuisance, and trespass in the release of PFAS, including PFOA, into a river leading to the town's water source, and seeks compensatory and punitive damages.

In February 2018, the New Jersey-American Water Company, Inc. ("NJAW") filed suit against DuPont and Chemours in New Jersey federal court alleging that discharges in violation of the New Jersey Spill Compensation and Control Act ("Spill Act"), were made into groundwater utilized in the NJAW Penns Grove water system. NJAW alleges that damages include costs associated with remediating, operating, and maintaining its system, and attorney fees.

In October 2018, a putative class action was filed in Ohio federal court against 3M, DuPont, Chemours, and other defendants seeking class action status for U.S. residents having a detectable level of PFAS in their blood serum. The complaint seeks declaratory and injunctive relief, including the establishment of a "PFAS Science Panel."

In December 2018, the owners of a dairy farm filed a lawsuit in Maine state court against numerous defendants including DuPont and Chemours alleging that their dairy farm was contaminated by PFAS, including perfluorooctanesulfonic acid ("PFOS") and PFOA present in treated municipal sewer sludge used in agricultural spreading applications on their farm. The complaint asserts negligence, trespass, and other tort and state statutory claims and seeks damages.

In May 2019, a putative class action was filed in Delaware state court against two electroplating companies alleging that they are responsible for PFAS contamination, including PFOA and PFOS, in drinking water and the environment in the nearby community. The suit also names 3M, DuPont, and Chemours, asserting they sold PFAS containing materials to the electroplating companies. The putative class of residents alleges negligence, nuisance, trespass, and other claims and seeks medical monitoring, personal injury and property damages, and punitive damages.

Commencing in August 2019, eight Long Island water suppliers filed lawsuits in New York federal court against defendants including DuPont and Chemours regarding alleged PFAS, PFOA, and PFOS contamination through releases from industrial and manufacturing facilities and business locations where PFAS-contaminated water was used for irrigation and sites where consumer products were disposed. The complaints allege products liability, negligence, nuisance, trespass, and fraudulent transfer. Plaintiffs seek declaratory and injunctive relief as well as compensatory and punitive damages.

In November 2019, 30 residents filed a lawsuit in New Jersey state court against DuPont, Chemours, and other defendants alleging that they are responsible for PFAS contamination including PFOA and PFOS in groundwater and drinking water. Plaintiffs have claims for medical monitoring, property value diminution, trespass, and punitive damages.

In November 2019, the City of Rome, Georgia filed suit against numerous carpet manufacturers located in Dalton, Georgia, suppliers, DuPont, and Chemours in Georgia state court alleging negligence, nuisance, and trespass in the release of perfluorinated compounds, including PFOA, into a river leading to the town's water source. City of Rome alleges damages to property and lost profits, and expenses for abatement and remediation and punitive damages.

In December 2019, a putative class action was filed in Georgia state court on behalf of customers of the Rome, Georgia water division and the Floyd County, Georgia water department against numerous carpet manufacturers located in Dalton, Georgia, suppliers, DuPont, and Chemours in Georgia state court alleging negligence and nuisance and related to the release of perfluorinated compounds, including PFOA, into a river leading to their water sources. Damages sought include compensatory damages for increased water surcharges as well as punitive damages and injunctive relief for abatement and remediation.

New Jersey Department of Environmental Protection Directives and Litigation

In March 2019, the NJ DEP issued two Directives and filed four lawsuits against Chemours and other defendants. The Directives are: (i) a state-wide PFAS Directive issued to DuPont, DowDuPont, DuPont Specialty Products USA ("DuPont SP USA"), Solvay S.A., 3M, and Chemours seeking a meeting to discuss future costs for PFAS related costs incurred by the NJ DEP and establishing a funding source for such costs by the Directive recipients, and information relating to historic and current use of certain PFAS compounds; and, (ii) a Pompton Lakes Natural Resources Damages ("NRD") Directive to DuPont and Chemours demanding $0.1 to cover the cost of preparation of a natural resource damage assessment plan and access to related documents.

The lawsuits filed in New Jersey state courts by the NJ DEP are: (i) in Salem County, against DuPont, 3M, and Chemours primarily alleging clean-up and removal costs and damages and natural resource damages under the Spill Act, the Water Pollution Control Act ("WPCA"), the Industrial Site Recovery Act ("ISRA"), and common law regarding past and present operations at Chambers Works, a site assigned to Chemours at separation; (ii) in Middlesex County, against DuPont, DuPont SP USA, 3M, and Chemours primarily alleging clean-up and removal costs and damages and natural resource damages under the Spill Act, ISRA, WPCA, and common law regarding past and present operations at Parlin, a DuPont owned site; (iii) in Gloucester County, against DuPont and Chemours primarily alleging clean-up and removal costs and damages and natural resource damages under the Spill Act, WPCA, and common law regarding past operations at Repauno, a non-operating remediation site assigned to Chemours at separation which has been sold; and (iv) in Passaic County, against DuPont and Chemours primarily alleging clean-up and removal costs and damages and natural resource damages under the Spill Act, WPCA, and common law regarding past operations at Pompton Lakes, a non-operating remediation site assigned to Chemours at separation. The alleged pollutants listed in the Salem County and Middlesex County matters above include PFAS. Each lawsuit also alleges fraudulent transfer.

DuPont requested that Chemours defend and indemnify it in these matters. Chemours has accepted the defense while reserving rights and declining DuPont's demand as to matters under ISRA, fraudulent transfer, or involving other DuPont entities.

PFOA and PFAS Summary

Management believes that it is reasonably possible that the Company could incur losses related to PFOA and/or PFAS matters in excess of amounts accrued, but any such losses are not estimable at this time due to various reasons, including, among others, that such matters are in their early stages and have significant factual issues to be resolved.

U.S. Smelter and Lead Refinery, Inc.

There are six lawsuits, including one putative class action in which class certification was denied, pending against DuPont by area residents concerning the U.S. Smelter and Lead Refinery multi-party Superfund site in East Chicago, Indiana. Several of the lawsuits allege that Chemours is now responsible for DuPont environmental liabilities. The lawsuits include allegations for personal injury damages, property diminution, and other damages. At separation, DuPont assigned Chemours its former plant site, which is located south of the residential portion of the Superfund area, and its responsibility for the environmental remediation at the Superfund site. Management believes a loss is reasonably possible, but not estimable at this time due to various reasons including, among others, that such matters are in their early stages and have significant factual issues to be resolved.

Securities Litigation

Commencing in October 2019, two putative class action complaints were filed in Delaware federal court alleging that Chemours and certain of its officers violated the Securities Exchange Act of 1934 by making materially false and misleading statements and omissions in public disclosures regarding environmental liabilities assigned to Chemours in connection with its spin-off from DuPont. The complaints seek a class of purchasers of Chemours stock between February 16, 2017 and August 1, 2019 and allege compensatory damages and fees. The Company believes the allegations are without merit and intends to vigorously defend against them. In January 2020, the court appointed a lead plaintiff for the consolidated litigation and set a schedule providing for the filing of a consolidated amended complaint in March 2020.

Management believes that it is not possible at this time to reasonably assess the outcome of this litigation or to estimate the loss or range of loss as the matter is in the early stages with significant issues to be resolved. If the Company were not to prevail in the litigation, the impact could be material to the Company's results of operations, financial position, and cash flows.

Mining Solutions Facility Construction Stoppage

In March 2018, a civil association in Mexico filed a complaint against the government authorities involved in the permitting process of the Company's new Mining Solutions facility under construction in Gomez Palacio, Durango, Mexico. The claimant sought and obtained a suspension from the district judge to stop the Company's construction work. The suspension was subsequently lifted on appeal, and the matter is before the Supreme Court of Mexico. A second similar complaint was filed in September 2019 and, again, a suspension of construction was granted. Chemours has filed an appeal. In the event that the suspension of construction is ultimately upheld, the Company would incur $26 of contract termination fees with a third-party services provider.

At December 31, 2019 the Company had $144 long-lived assets under construction at the facility, $7 of other related prepaid costs, and $51 of the Company's goodwill assigned to the Mining Solutions reporting unit. Management believes these amounts are recoverable as of December 31, 2019.

Environmental Overview

Chemours, due to the terms of the Separation-related agreements with DuPont, is subject to contingencies pursuant to environmental laws and regulations that in the future may require further action to correct the effects on the environment of prior disposal practices or releases of chemical substances, which are attributable to DuPont's activities before it spun-off Chemours. Much of this liability results from CERCLA, the Resource Conservation and Recovery Act, and similar state and global laws. These laws require Chemours to undertake certain investigative, remediation, and restoration activities at sites where Chemours conducts or once conducted operations or at sites where Chemours-generated waste was disposed. The accrual also includes estimated costs related to a number of sites identified for which it is probable that environmental remediation will be required, but which are not currently the subject of enforcement activities.

Chemours accrues for remediation activities when it is probable that a liability has been incurred and a reasonable estimate of the liability can be made. Where the available information is sufficient to estimate the amount of liability, that estimate has been used. Where the available information is only sufficient to establish a range of probable liability, and no point within the range is more likely than any other, the lower end of the range has been used. Estimated liabilities are determined based on existing remediation laws and technologies and the Company's planned remedial responses, which are derived from in-depth environmental studies, sampling, testing, and analyses. Inherent uncertainties exist in such evaluations, primarily due to unknown environmental conditions, changing governmental regulations regarding liability, and emerging remediation technologies. These accruals are adjusted periodically as remediation efforts progress and as additional technological, regulatory, and legal information becomes available. Environmental liabilities and expenditures include claims for matters that are liabilities of DuPont and its subsidiaries, which Chemours may be required to indemnify pursuant to the separation-related agreements. These accrued liabilities are undiscounted and do not include claims against third parties. Costs related to environmental remediation are charged to expense in the period that the associated liability is accrued.

The following table sets forth the components of the Company's environmental remediation liabilities at December 31, 2019 and 2018, and for the five sites that are deemed the most significant by management, including Fayetteville as further discussed below.

	December 31, 2019	December 31, 2018
Chambers Works, Deepwater, New Jersey	$ 20	$ 18
East Chicago, Indiana	17	21
Fayetteville Works, Fayetteville, North Carolina	201	75
Pompton Lakes, New Jersey	43	45
USS Lead, East Chicago, Indiana	13	15
All other sites	112	117
Total accrued environmental remediation	$ 406	$ 291

The following table sets forth the current and long-term components of the Company's environmental remediation liabilities and their balance sheet locations at December 31, 2019 and 2018.

	Balance Sheet Location	December 31, 2019	December 31, 2018
Environmental Remediation:			
Current environmental remediation	Other accrued liabilities (Note 19)	$ 74	$ 139
Long-term environmental remediation	Other liabilities (Note 21)	332	152
Total environmental remediation		$ 406	$ 291

The time-frame for a site to go through all phases of remediation (investigation and active clean-up) may take about 15 to 20 years, followed by several years of OM&M activities. Remediation activities, including OM&M activities, vary substantially in duration and cost from site to site. These activities, and their associated costs, depend on the mix of unique site characteristics, evolving remediation technologies, and diverse regulatory requirements, as well as the presence or absence of other potentially responsible parties. In addition, for claims that Chemours may be required to indemnify DuPont pursuant to the Separation-related agreements, Chemours, through DuPont, has limited available information for certain sites or is in the early stages of discussions with regulators. For these sites in particular, there may be considerable variability between the clean-up activities that are currently being undertaken or planned and the ultimate actions that could be required. Therefore, considerable uncertainty exists with respect to environmental remediation costs and, under adverse changes in circumstances, although deemed remote, the potential liability may range up to approximately $530 above the amount accrued at December 31, 2019.

For the years ended December 31, 2019, 2018, and 2017, Chemours incurred environmental remediation expenses of $200, $101, and $48, respectively.

Fayetteville Works, Fayetteville, North Carolina

Fayetteville has been in operation since the 1970s and is located next to the Cape Fear River southeast of the City of Fayetteville, North Carolina. Hexafluoropropylene oxide dimer acid ("HFPO Dimer Acid," sometimes referred to as "GenX" or "C3 Dimer Acid") is manufactured at Fayetteville. The Company has operated the site since its separation from DuPont in 2015.

The Company believes that discharges from Fayetteville to the Cape Fear River, site surface water, groundwater, and air emissions have not impacted the safety of drinking water in North Carolina. The Company is cooperating with a variety of ongoing inquiries and investigations from federal, state, and local authorities, regulators, and other governmental entities.

Consent Order with North Carolina Department of Environmental Quality ("NC DEQ")

In September 2017, the NC DEQ issued a 60-day notice of intent to suspend the National Pollutant Discharge Elimination System ("NPDES") permit for Fayetteville, and the State of North Carolina filed an action in North Carolina state court regarding site discharges, seeking a temporary restraining order and preliminary injunction, as well as other relief, including abatement and site correction. The state court entered a partial consent order resolving NC DEQ's motion for a temporary restraining order.

In November 2017, NC DEQ informed the Company that it was suspending the NPDES permit for Fayetteville. The Company thereafter commenced the capture and separate disposal of all process wastewater from Fayetteville related to the Company's own operations.

In June 2018, the North Carolina Legislature enacted legislation (i) granting the governor the authority, in certain circumstances, to require a facility with unauthorized PFAS discharges to cease operations, and (ii) granting the governor the authority, in certain circumstances, to direct the NC DEQ secretary to order a PFAS discharger to establish permanent replacement water supplies for parties whose water was contaminated by the discharge.

In July 2018, Cape Fear River Watch ("CFRW"), a non-profit organization, sued NC DEQ in North Carolina state court, seeking to require NC DEQ to take additional actions at Fayetteville. On August 29, 2018, CFRW sued the Company in North Carolina federal court for alleged violations of the Clean Water Act ("CWA") and the Toxic Substances Control Act ("TSCA"), seeking declaratory and injunctive relief and penalties.

In February 2019, the North Carolina Superior Court for Bladen County approved a Consent Order ("CO") between NC DEQ, CFRW and the Company, resolving the State's and CFRW's lawsuits and other matters (including Notices of Violation ("NOVs") issued by the State). Under the terms of the CO, Chemours paid $13 in March 2019 to cover a civil penalty and investigative costs and agreed to certain compliance measures (with stipulated penalties for failures to do so), including the following:

- Install a thermal oxidizer to control all PFAS in process streams from certain processes at Fayetteville at an efficiency of 99.99%;
- Develop, submit, and implement, subject to approval from NC DEQ and CFRW, a plan for interim actions that are economically and technologically feasible to achieve the maximum PFAS reduction from Fayetteville to the Cape Fear River within a two-year period;
- Develop and implement, subject to approval, a Corrective Action Plan that complies with North Carolina's groundwater standards and guidance provided by NC DEQ. At a minimum, the Corrective Action Plan must require Chemours to reduce the total loading of PFAS originating from Fayetteville to surface water by at least 75% from baseline, as defined by the CO; and,
- Provide and properly maintain permanent drinking water supplies, including via whole-building filtration units and reverse osmosis ("RO") units to qualifying surrounding properties with private drinking water wells.

The following table sets forth the components of the Company's accrued environmental remediation liabilities related to PFAS at Fayetteville at December 31, 2019 and 2018.

	December 31, 2019	December 31, 2018
On-site remediation	$ 155	$ 10
Off-site groundwater remediation	46	65
Total accrued liabilities	$ 201	$ 75

The following table sets forth the current and long-term components of the Company's accrued environmental remediation liabilities related to PFAS at Fayetteville and their balance sheet locations at December 31, 2019 and 2018.

	Balance Sheet Location	December 31, 2019	December 31, 2018
Current accrued liabilities	Other accrued liabilities (Note 19)	$ 20	$ 75
Long-term accrued liabilities	Other liabilities (Note 21)	181	—
Total accrued liabilities		$ 201	$ 75

Emissions to air

Fayetteville operates multiple permitted air discharge stacks, blowers, and vents as part of its manufacturing activities. A thermal oxidizer ("TO") became fully operational at the site on December 27, 2019, and Chemours switched to the permitted operating scenario for the TO on December 31, 2019 as set forth in the CO. The TO is designed to reduce aerial PFAS emissions from Fayetteville, and, within 90 days of installation, Chemours and North Carolina Division of Air Quality will conduct testing to confirm whether the TO is destroying 99.99% of all PFAS air emissions routed to it, utilizing a 2017 baseline. Environmental costs are capitalized and subsequently depreciated if the costs extend the useful life of the property, increase the property's capacity, and/or reduce or prevent contamination from future operations.

Off-site replacement drinking water supplies

The CO requires the Company to provide permanent replacement drinking water supplies, including via connection to public water supply, whole building filtration units and/or RO units, to qualifying surrounding residents, businesses, schools, and public buildings with private drinking water wells. The qualifying area residents whose drinking water wells have tested above the state provisional health goal of 140 parts per trillion (ppt) for GenX may be eligible for public water or a whole building filtration system. Area residents whose drinking water wells have tested above 10 ppt for GenX or other perfluorinated compounds ("Table 3 Compounds") are eligible for three under-sink RO units. The Company provides bottled drinking water to a residence when it becomes eligible for a replacement drinking water supply, and continues to provide delivery of bottled drinking water to these homeowners until the eligible supply is established or installed.

The Company's estimated liability for off-site replacement drinking water supplies is based on management's assessment of the current facts and circumstances for this matter, which are subject to various assumptions that include, but are not limited to, the number of affected surrounding properties, response rates to the Company's offer, the type of water treatment systems selected (i.e., whole building filtration or RO units), the cost of the selected water treatment systems, and any related operation, maintenance, and monitoring ("OM&M") requirements, assessed fines and penalties, and other charges contemplated by the CO. For off-site drinking water supplies, OM&M is accrued for 20 years on an undiscounted basis based on the Company's current plans under the CO. It is estimated that $46 of disbursements related to off-site replacement drinking water supplies will be made over approximately 20 years.

On-site surface water and groundwater remediation

Abatement and remediation measures already taken by Chemours, including the capture and separate disposal of its operations' process wastewater and other interim actions, have addressed and abated nearly all PFAS discharges from the Company's continuing operations at Fayetteville. However, the Company continues to have active dialogue with NC DEQ and other stakeholders regarding the potential remedies that are both economically and technologically feasible to achieve the CO objectives related to site surface water and groundwater.

In the fourth quarter of 2019, the Company completed and submitted its Cape Fear River PFAS Loading Reduction Plan - Supplemental Information Report and Corrective Action Plan ("CAP") to NC DEQ. The Supplemental Information Report provides information to support the evaluation of potential remedial options to reduce PFAS loadings to surface waters, including interim alternatives. The CAP describes potential remediation activities to address PFAS in on-site groundwater and surface waters at the site, in accordance with the requirements of the CO and the North Carolina groundwater standards, and builds on the previous submissions to NC DEQ. The NC DEQ has made the CAP available for public review and comment until March 6, 2020.

The Company's estimated liability for the remediation activities that are probable and estimable is based on the CAP and management's assessment of the current facts and circumstances, which are subject to various assumptions including the transport pathways (being pathways by which PFAS reaches the Cape Fear River) which will require remedial actions, the types of site surface water and on-site remedies and treatment systems selected and implemented, the estimated cost of such potential remedies and treatment systems, and any related OM&M requirements, and other charges contemplated by the CO.

The CAP also addresses remediation of on-site groundwater and proposes an interim action of extraction of groundwater from existing monitoring wells and treatment prior to discharge. Chemours also proposes to simultaneously proceed with detailed design and engineering of a permanent on-site groundwater treatment system alternative, including collection of extensive pre-design data, while holding a final decision on which alternative should be selected, with approval by NC DEQ, until that design and engineering work is complete (approximately two years). The actual cost of a permanent on-site groundwater treatment system primarily depends on the determination of certain significant design details, notably the actual barrier wall installation method (i.e., slurry wall vs. steel sheets), configuration of extraction wells, and extraction rates.

Accordingly, in the fourth quarter of 2019, based on the CO, the CAP, and management's plans, which are based on current regulations and technology, the Company accrued an additional $132 related to the estimated cost of on-site remediation. The incremental estimated remediation liability, based on current potential remedial options, is primarily comprised of $42 of construction costs, which are projected to be paid through 2025, and $88 of related OM&M requirements, which is projected to be paid over a period of approximately 20 years. The final costs of any selected remediation will depend primarily on the final approved design and actual labor and material costs.

It is possible that issues relating to site discharges in various transport pathways, the selection of remediation alternatives to achieve PFAS loading reductions, or the operating effectiveness of the TO could result in further litigation and/or regulatory demands with regards to Fayetteville, including potential permit modifications. It is also possible that, as additional data is collected on the transport pathways and dialogue continues with NC DEQ and other stakeholders, the type or extent of remediation actions required to achieve the objectives committed to in the CO may change (increase or decrease). If such issues arise, or if the CO is amended, an additional loss is reasonably possible, but not estimable at this time.

Other matters related to Fayetteville

The Company has responded to grand jury subpoenas, produced witnesses before a grand jury and for interviews with government investigators and attorneys, and met with the U.S. Attorney's Office for the Eastern District of North Carolina and the Environment and Natural Resources Division of the U.S. Department of Justice regarding their ongoing investigation into a potential violation of the CWA. We are presently unable to predict the duration, scope or result of any potential criminal or civil proceeding, including whether fines, penalties, and/or other remedies will be imposed. As such, management believes that it is not possible at this time to reasonably assess the outcome of this matter or to estimate the loss or range of losses, if any, that could result from this matter.

A Notice of Violation (NOV) was received from the EPA in February 2019 alleging certain TSCA violations at Fayetteville. Matters raised in the NOV could have the potential to affect operations at Fayetteville. The Company responded to the EPA in March 2019 asserting that the Company has not violated environmental laws. At this time, management does not believe that a loss is probable related to the matters in this NOV.

In 2019, civil actions have been filed against DuPont and Chemours in North Carolina federal court relating to discharges from Fayetteville. These actions include a consolidated action brought by public water suppliers seeking damages and injunctive relief, a consolidated purported class action seeking medical monitoring, and property damage and/or other monetary and injunctive relief on behalf of the putative classes of property owners and residents in areas near or that draw drinking water from the Cape Fear River, and an action by private well owners seeking compensatory and punitive damages. Ruling on the Company's motions in April 2019, the court dismissed the medical monitoring, injunctive demand, and many other alleged causes of actions in these lawsuits. It is possible that additional litigation may be filed against the Company and/or DuPont concerning the discharges.

It is not possible at this point to predict the timing, course, or outcome of all governmental and regulatory inquiries and notices and litigation, and it is reasonably possible that these matters could materially affect the Company's financial position, results of operations, and cash flows. In addition, local communities, organizations, and federal and state regulatory agencies have raised questions concerning HFPO Dimer Acid and other perfluorinated and polyfluorinated compounds at certain other manufacturing sites operated by the Company. It is possible that additional developments similar to those described above and centering on Fayetteville could arise in other locations.

Sale of East Chicago, Indiana

On June 29, 2018, the Company sold its East Chicago, Indiana site to a third party for $1. In connection with the sale, the buyer has agreed to assume all costs associated with environmental remediation activities at the site in excess of $21, which will remain the responsibility of Chemours. At the time of the sale, the Company had accrued the full $21, and will reimburse the buyer through a series of progress payments to be made at defined intervals as certain tasks are completed. The Company recognized a gain of $3 on the sale, which includes the purchase price of $1, plus $2 in environmental remediation liabilities that were assumed by the buyer on the occurrence of the sale.

Sale of Potomac River, West Virginia

On September 27, 2018, the Company sold its Potomac River, West Virginia site to a third party for $4. In connection with the sale, the buyer has agreed to assume certain future environmental remediation costs, and Chemours has retained $4 in existing environmental remediation liabilities, which is a component of all other sites in the significant sites table above. The Company recognized a $3 gain on the sale, which was deferred and will be recognized as the Company completes certain environmental remediation activities at the site.

Sale of Oakley, California

On September 9, 2019, the Company sold its Oakley, California site to a third party for $7, of which $4 was received at closing with receipt of the remaining $3 of proceeds contingent upon the completion of certain future environmental remediation activities at the site. In connection with the sale, Chemours has retained $10 in existing environmental remediation liabilities, which is a component of all other sites in the significant sites table above. The Company recognized a $2 gain on the sale, which was deferred and will be recognized as the Company completes certain environmental remediation activities at the site.

Note 23. Equity

Share Repurchase Program

On November 30, 2017, the Company's board of directors approved a share repurchase program authorizing the purchase of shares of Chemours' issued and outstanding common stock in an aggregate amount not to exceed $500, plus any associated fees or costs in connection with the Company's share repurchase activity (the "2017 Share Repurchase Program"). Under the 2017 Share Repurchase Program, shares of Chemours' common stock were purchased on the open market from time to time, subject to management's discretion, as well as general business and market conditions. The Company's 2017 Share Repurchase Program became effective on November 30, 2017. On May 31, 2018, the Company completed the aggregate $500 in authorized purchases of Chemours' issued and outstanding common stock under the 2017 Share Repurchase Program, which amounted to a cumulative 10,085,647 shares purchased at an average share price of $49.58 per share. All common shares purchased under the 2017 Share Repurchase Program are held as treasury stock and are accounted for using the cost method.

On August 1, 2018, the Company's board of directors approved a share repurchase program authorizing the purchase of shares of Chemours' issued and outstanding common stock in an aggregate amount not to exceed $750, plus any associated fees or costs in connection with the Company's share repurchases activity ("2018 Share Repurchase Program"). On February 13, 2019, the Company's board of directors increased the authorization amount of the 2018 Share Repurchase Program from $750 to $1,000. Under the 2018 Share Repurchase Program, shares of Chemours' common stock can be purchased on the open market from time to time, subject to management's discretion, as well as general business and market conditions. The Company's 2018 Share Repurchase Program became effective on August 1, 2018 and will continue through the earlier of its expiration on December 31, 2020, or the completion of repurchases up to the approved amount. The program may be suspended or discontinued at any time. All common shares purchased under the 2018 Share Repurchase Program are expected to be held as treasury stock and accounted for using the cost method.

During 2019, the Company purchased an aggregate 8,895,142 shares of Chemours' issued and outstanding common stock under the 2018 Share Repurchase Program, which amounted to $322 at an average share price of $36.24 per share. During 2018, the Company purchased an aggregate 6,350,857 shares of Chemours' issued and outstanding common stock under the 2018 Share Repurchase Program, which amounted to $250 at an average share price of $39.31 per share. The aggregate amount of Chemours' common stock that remained available for purchase under this program at December 31, 2019 was $428.

Note 24. Stock-based Compensation

The Company's stock-based compensation expense amounted to $19, $24, and $29 for the years ended December 31, 2019, 2018, and 2017, respectively.

On April 26, 2017, Chemours' stockholders approved The Chemours Company 2017 Equity and Incentive Plan (the "2017 Plan"), which provides for grants to certain employees, independent contractors, or non-employee directors of the Company of different forms of awards, including stock options, RSUs, and PSUs. The 2017 Plan replaced The Chemours Company Equity and Incentive Plan (the "Prior Plan"), which was adopted by the Company at Separation. As a result, no further grants will be made under the Prior Plan.

A total of 19,000,000 shares of the Company's common stock may be subject to awards granted under the 2017 Plan, less one share for every one share that was subject to an option or stock appreciation right granted after December 31, 2016 under the Prior Plan, and one-and-a-half shares for every one share that was subject to an award other than an option or stock appreciation right granted after December 31, 2016 under the Prior Plan. Any shares that are subject to options or stock appreciation rights will be counted against this limit as one share for every one share granted, and any shares that are subject to awards other than options or stock appreciation rights will be counted against this limit as one-and-a-half shares for every one share granted. Awards that were outstanding under the Prior Plan remain outstanding under the Prior Plan in accordance with their terms. Shares underlying awards granted under the Prior Plan after December 31, 2016 that are forfeited, cancelled, or that otherwise do not result in the issuance of shares, will be available for issuance under the 2017 Plan. At December 31, 2019, approximately 13,900,000 shares of equity and incentive plan reserve are available for grants under the 2017 Plan.

The Chemours Compensation Committee determines the long-term incentive mix, including stock options, RSUs, and PSUs, and may authorize new grants annually.

Stock Options

During 2019, 2018, and 2017, Chemours granted non-qualified stock options to certain of its employees, which will serially vest over a three-year period and expire 10 years from the date of grant. The fair values of the Company's stock options are based on the Black-Scholes valuation model.

The following table sets forth the weighted-average assumptions used at the respective grant dates to determine the fair values of the Company's stock option awards granted during the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Risk-free interest rate	2.53%	2.65%	2.14%
Expected term (years)	6	6	6
Volatility	48.05%	47.56%	44.49%
Dividend yield	2.81%	1.42%	0.35%
Fair value per stock option	$ 13.66	$ 20.47	$ 15.21

The Company determined the dividend yield by dividing the expected annual dividend on the Company's stock by the option exercise price. A historical daily measurement of volatility is determined based on the average volatility of peer companies adjusted for the Company's debt leverage. 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. The expected life is determined using a simplified approach, calculated as the mid-point between the graded vesting period and the contractual life of the award.

The following table sets forth Chemours' stock option activity for the years ended December 31, 2019, 2018, and 2017.

	Number of Shares (in Thousands)	Weighted-average Exercise Price (per Share)	Weighted-average Remaining Contractual Term (in Years)	Aggregate Intrinsic Value (in Thousands)
Outstanding, December 31, 2016	7,969	$ 13.72	5.08	$ 66,668
Granted	878	34.84		
Exercised	(2,173)	14.36		
Forfeited	(47)	20.55		
Expired	(30)	12.29		
Outstanding, December 31, 2017	6,597	$ 15.72	5.11	$ 226,524
Granted	495	48.41		
Exercised	(1,073)	14.69		
Forfeited	(46)	37.77		
Expired	(3)	18.80		
Outstanding, December 31, 2018	5,970	$ 18.45	4.80	$ 72,108
Granted	836	36.48		
Exercised	(590)	14.56		
Forfeited	(110)	39.06		
Expired	(50)	22.12		
Outstanding, December 31, 2019	6,056	$ 20.92	4.71	$ 19,087
Exercisable, December 31, 2019	4,620	$ 16.23	3.79	$ 18,630

The aggregate intrinsic values in the table above represent the total pre-tax intrinsic value (the difference between the Company's closing stock price on the last trading day at the end of the year 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. The amount changes based on the fair market value of the Company's stock. The total intrinsic value of all options exercised for the years ended December 31, 2019, 2018, and 2017 amounted to $2, $37, and $49, respectively.

For the years ended December 31, 2019, 2018, and 2017, the Company recorded $9, $8, and $7 in stock-based compensation expense specific to its non-qualified stock options, respectively. At December 31, 2019, there was $8 of unrecognized stock-based compensation expense related to stock options, which is expected to be recognized over a weighted-average period of 1.83 years.

Restricted Stock Units

Chemours grants RSUs to key management employees that generally vest over a three-year period and, upon vesting, convert one-for-one to Chemours' common stock. The fair value of all stock-settled RSUs is based on the market price of the underlying common stock as of the grant date. RSUs vest contingent upon a time-based vesting condition and do not have explicit performance conditions.

The following table sets forth non-vested RSUs at December 31, 2019, 2018, and 2017.

	Number of Shares (in Thousands)	Weighted-average Grant Date Fair Value (per Share)
Non-vested, December 31, 2016	2,316	$ 11.23
Granted	214	36.68
Vested	(1,316)	11.46
Forfeited	(49)	14.27
Non-vested, December 31, 2017	1,165	$ 15.34
Granted	135	48.35
Vested	(1,034)	14.86
Forfeited	(19)	30.94
Non-vested, December 31, 2018	247	$ 34.22
Granted	439	26.89
Vested	(110)	24.98
Forfeited	(30)	33.90
Non-vested, December 31, 2019	546	$ 29.95

The Company recorded stock-based compensation expense specific to its RSUs of $7 for the years ended December 31, 2019 and 2018, and $14 for the year ended December 31, 2017. At December 31, 2019, there was $10 of unrecognized stock-based compensation expense related to RSUs, which is expected to be recognized over a weighted-average period of 0.88 years.

Performance Share Units

Chemours grants PSUs to key senior management employees which, upon vesting, convert one-for-one to Chemours' common stock if specified performance goals, including certain market-based conditions, are met over the three-year performance period specified in the grant, subject to exceptions through the respective vesting period of three years. Each grantee is granted a target award of PSUs, and may earn between 0% and 250% of the target amount depending on the Company's performance against stated performance goals.

The following table sets forth non-vested PSUs at 100% of target amounts at December 31, 2019, 2018, and 2017.

	Number of Shares (in Thousands)	Weighted-average Grant Date Fair Value (per Share)
Non-vested, December 31, 2016	803	$ 6.10
Granted	211	40.30
Vested	—	—
Forfeited	(27)	16.62
Non-vested, December 31, 2017	987	$ 12.94
Granted	139	52.34
Vested	(19)	24.16
Non-vested, December 31, 2018	1,107	$ 17.71
Granted	240	44.38
Vested (1)	(761)	5.07
Forfeited	(57)	43.35
Non-vested, December 31, 2019	529	$ 39.53

(1) During the year ended December 31, 2019, approximately 1,520,000 PSUs granted in 2016 to the Company's key senior management employees vested, based on the attainment of certain performance- and market-based conditions. Of the 1,520,000 PSUs that vested during the year ended December 31, 2019, approximately 680,000 non-issued shares were cancelled to cover the employee portion of income taxes related to such awards.

A portion of the fair value of PSUs was estimated at the grant date based on the probability of satisfying the market-based conditions associated with the PSUs using the Monte Carlo valuation method, which assesses the probabilities of various outcomes of market conditions. The other portion of the fair value of the PSUs is based on the fair market value of the Company's stock at the grant date, regardless of whether the market-based condition is satisfied. The per unit weighted-average fair value at the date of grant for PSUs granted during the year ended December 31, 2019 was $44.38. The fair value of each PSU grant is amortized monthly into compensation expense based on its respective vesting conditions over a three-year period. Compensation cost is incurred based on the Company's estimate of the final expected value of the award, which is adjusted as required for the portion based on the performance-based condition. The Company assumes that forfeitures will be minimal and recognizes forfeitures as they occur, which results in a reduction in compensation expense. As the payout of PSUs includes dividend equivalents, no separate dividend yield assumption is required in calculating the fair value of the PSUs.

For the years ended December 31, 2019, 2018, and 2017, the Company recorded $3, $9, and $8 in stock-based compensation expense specific to its PSUs, respectively. At December 31, 2019, based on the Company's assessment of its performance goals, approximately 600,000 additional shares may be awarded under the 2017 Plan.

Employee Stock Purchase Plan

On January 26, 2017, the Company's board of directors approved The Chemours Company Employee Stock Purchase Plan (the "ESPP"), which was approved by Chemours' stockholders on April 26, 2017. Under the ESPP, a total of 7,000,000 shares of Chemours' common stock are reserved and authorized for issuance to participating employees, as defined by the ESPP, which excludes executive officers of the Company. The ESPP provides for consecutive 12-month offering periods, each with two purchase periods in March and September within those offering periods. The initial offering period under the ESPP began on October 2, 2017. Participating employees are eligible to purchase the Company's common stock at a discounted rate equal to 95% of its fair value on the last trading day of each purchase period.

To date, the Company has executed open market transactions to purchase the Company's common stock on behalf of its ESPP participants, which amounted to 120,714 shares. During the year ended December 31, 2018, an additional 12,411 shares were issued from the Company's treasury stock to ESPP participants. The total amount of Chemours' common stock received by employees in connection with the ESPP amounted to $4 at December 31, 2019.

Note 25. Accumulated Other Comprehensive Loss

The following table sets forth the components of accumulated other comprehensive loss, net of income taxes, for the years ended December 31, 2019, 2018, and 2017.

	Net Investment Hedge	Cash Flow Hedge	Cumulative Translation Adjustment	Employee Benefits	Total
Balance at January 1, 2017	$ 22	$ —	$ (358)	$ (241)	$ (577)
Other comprehensive (loss) income	(62)	—	200	(3)	135
Balance at December 31, 2017	(40)	—	(158)	(244)	(442)
Other comprehensive income (loss)	15	6	(75)	(68)	(122)
Balance at December 31, 2018	(25)	6	(233)	(312)	(564)
Other comprehensive income (loss)	15	(4)	2	202	215
Balance at December 31, 2019	$ (10)	$ 2	$ (231)	$ (110)	$ (349)

Note 26. Financial Instruments

Derivative Instruments

Net Monetary Assets and Liabilities Hedge – Foreign Currency Forward Contracts

At December 31, 2019, the Company had 16 foreign currency forward contracts outstanding with an aggregate gross notional U.S. dollar equivalent of $530, and an average maturity of one month. At December 31, 2018, the Company had 20 foreign currency forward contracts outstanding with an aggregate gross notional U.S. dollar equivalent of $503, and an average maturity of one month. Chemours recognized a net loss of $2, and net gains of $3 and $4 for the years ended December 31, 2019, 2018, and 2017, respectively, which were recorded in other income (expense), net in the consolidated statements of operations.

Cash Flow Hedge – Foreign Currency Forward Contracts

At December 31, 2019, the Company had 150 foreign currency forward contracts outstanding under Chemours' cash flow hedge program with an aggregate notional U.S. dollar equivalent of $124, and an average maturity of five months. At December 31, 2018, the Company had 75 foreign currency forward contracts outstanding under Chemours' cash flow hedge program with an aggregate notional U.S. dollar equivalent of $143, and an average maturity of four months. The Company recognized pre-tax gains of $6 and $10 for the years ended December 31, 2019 and 2018, respectively, on its cash flow hedge within accumulated other comprehensive loss. For the years ended December 31, 2019 and 2018, $10 and $4 of gain was reclassified to the cost of goods sold from accumulated other comprehensive loss, respectively.

The Company expects to reclassify an approximate $3 of net gain from accumulated other comprehensive loss to the cost of goods sold over the next 12 months, based on current foreign currency exchange rates.

Net Investment Hedge – Foreign Currency Borrowings

The Company recognized pre-tax gains of $20 and $32, and a pre-tax loss of $86 for the years ended December 31, 2019, 2018, and 2017, respectively, on its net investment hedges within accumulated other comprehensive loss. No amounts were reclassified from accumulated other comprehensive loss for the Company's net investment hedges during the years ended December 31, 2019, 2018, and 2017.

Fair Value of Derivative Instruments

The following table sets forth the fair value of the Company's derivative assets and liabilities, and their level within the fair value hierarchy, at December 31, 2019 and 2018.

	Balance Sheet Location	December 31, 2019	December 31, 2018
Asset derivatives:			
Foreign currency forward contracts not designated as a hedging instrument	Accounts and notes receivable, net	$ 1	$ 1
Foreign currency forward contracts designated as a cash flow hedge	Accounts and notes receivable, net	1	3
Total asset derivatives		$ 2	$ 4
Liability derivatives:			
Foreign currency forward contracts not designated as a hedging instrument	Other accrued liabilities	$ 1	$ 1
Total liability derivatives		$ 1	$ 1

The Company's foreign currency forward contracts are classified as Level 2 financial instruments within the fair value hierarchy as the valuation inputs are based on quoted prices and market observable data of similar instruments. 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 and implied volatilities obtained from various market sources. Market inputs are obtained from well-established and recognized vendors of market data, and are subjected to tolerance and/or quality checks.

Summary of Derivative Instruments

The following table sets forth the pre-tax changes in fair value of the Company's derivative assets and liabilities for the years ended December 31, 2019, 2018, and 2017.

	Gain (Loss) Recognized In		
Year Ended December 31,	**Cost of Goods Sold**	**Other Income (Expense), Net**	**Accumulated Other Comprehensive Loss**
2019			
Foreign currency forward contracts not designated as a hedging instrument	$ —	$ (2)	$ —
Foreign currency forward contracts designated as a cash flow hedge	10	—	6
Euro-denominated debt designated as a net investment hedge	—	—	20
2018			
Foreign currency forward contracts not designated as a hedging instrument	$ —	$ 3	$ —
Foreign currency forward contracts designated as a cash flow hedge	4	—	10
Euro-denominated debt designated as a net investment hedge	—	—	32
2017			
Foreign currency forward contracts not designated as a hedging instrument	$ —	$ 4	$ —
Euro-denominated debt designated as a net investment hedge	—	—	(86)

Note 27. Long-term Employee Benefits

Plans Covering Employees in the U.S.

On July 1, 2015, Chemours established a defined contribution plan, which covered all eligible U.S. employees. The purpose of the plan is to encourage employees to save for their future retirement needs. The plan is a tax-qualified contributory profit-sharing plan, with cash or deferred arrangement, and any eligible employee of Chemours may participate. Chemours matches 100% of the first 6% of the employee's contribution election, and the plan's matching contributions vest immediately upon contribution. Chemours may also provide an additional discretionary retirement savings contribution to eligible employees' compensation. The amount of this contribution, if any, is at the sole discretion of the Company, and the discretionary contribution vests for employees with at least three years of service. From time to time, Chemours provides additional discretionary retirement savings contributions to eligible employees' compensation.

In lieu of a defined benefit plan, Chemours provides an enhanced 401(k) contribution for employees who previously participated in DuPont's pension plan. The enhanced benefits consist of an additional contribution of 1% to 7% of the employee's eligible compensation, depending upon the employee's length of service with DuPont at the time of the Separation. The enhancement ended in 2019.

Plans Covering Employees Outside the U.S.

Pension coverage for employees of Chemours' non-U.S. subsidiaries is provided, to the extent deemed appropriate, through separate plans established after the Separation and comparable to the DuPont plans in those countries. Obligations under such plans are either funded by depositing funds with trustees, covered by insurance contracts, or unfunded.

In the fourth quarter of 2019, the Company, through its wholly-owned subsidiary Chemours Netherlands B.V., completed a settlement transaction related to a significant portion of its Netherlands pension plan. The Company transferred the future risk and administration associated with the $932 of its inactive participants' vested pension benefits to a third-party asset management company in the Netherlands. The irrevocability of the transaction was contingent upon non-objection by the Dutch National Bank, which was received in October 2019. Following the receipt of non-objection, the responsibility for the associated pension obligation was transferred to the third-party asset management company in December 2019, thereby eliminating the Company's exposure to the pension liabilities and formally effecting the settlement. At the time of settlement, a remeasurement of plan assets and projected benefit obligations was performed, resulting in a $158 decrease to net pension assets and increase to accumulated other comprehensive loss on the consolidated balance sheet. The cumulative loss associated with the inactive participants' vested pension benefits was then immediately reclassified from accumulated other comprehensive loss and recognized in earnings, resulting in a charge of $380 recognized in other expense, net in the consolidated statements of operations. At December 31, 2019, the projected benefit obligations associated with the plan's active employees remained on the Company's consolidated balance sheet.

The following table sets forth the Company's net periodic pension income and amounts recognized in other comprehensive income (loss) for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Net periodic pension cost (income):			
Service cost	$ 13	$ 14	$ 16
Interest cost	17	16	16
Expected return on plan assets	(48)	(58)	(75)
Amortization of prior service gain	(2)	(2)	(2)
Amortization of actuarial loss	18	12	22
Settlement loss	383	—	1
Net periodic pension cost (income)	381	(18)	(22)
Changes in plan assets and benefit obligations recognized in other comprehensive income:			
Net loss (gain)	144	115	(24)
Amortization of actuarial loss	(18)	(16)	(24)
Prior service gain	(5)	—	—
Amortization of prior service gain	2	2	2
Settlement loss	(383)	—	—
Effect of foreign exchange rates	(7)	(8)	38
(Benefit) cost recognized in other comprehensive income	(267)	93	(8)
Total net periodic pension income and cost (benefit) recognized in other comprehensive income	$ 114	$ 75	$ (30)

The following table sets forth the pre-tax amounts recognized in accumulated other comprehensive loss for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Net loss	$ 151	$ 419	$ 329
Prior service credit	(14)	(10)	(11)
Total amount recognized in accumulated other comprehensive loss	$ 137	$ 409	$ 318

The following table sets forth summarized information on the Company's pension plans at December 31, 2019 and 2018.

	December 31,	
	2019	2018
Change in benefit obligation:		
Benefit obligation at beginning of year	$ 1,168	$ 1,177
Service cost	13	14
Interest cost	17	16
Plan participants' contributions	2	2
Actuarial loss	313	45
Benefits paid	(37)	(46)
Plan amendments	(5)	—
Settlements and transfers	(945)	2
Currency translation	(19)	(42)
Benefit obligation at end of year	507	1,168
Change in plan assets:		
Fair value of plan assets at beginning of year	1,268	1,363
Actual return (loss) on plan assets	217	(17)
Employer contributions	19	15
Plan participants' contributions	2	2
Benefits paid	(37)	(46)
Settlements and transfers	(945)	2
Currency translation	(24)	(51)
Fair value of plan assets at end of year	500	1,268
Total funded status at end of year	$ (7)	$ 100

The following table sets forth the net amounts recognized in the Company's consolidated balance sheets at December 31, 2019 and 2018.

	December 31,	
	2019	2018
Non-current assets	$ 59	$ 174
Current liabilities	(2)	(1)
Non-current liabilities	(64)	(73)
Total net amount recognized	$ (7)	$ 100

The accumulated benefit obligation for all pension plans was $445 and $1,106 as of December 31, 2019 and 2018, respectively.

The following tables set forth information related to the Company's pension plans with projected and accumulated benefit obligations in excess of the fair value of plan assets at December 31, 2019 and 2018.

	December 31,	
Pension plans with projected benefit obligation in excess of plan assets	**2019**	**2018**
Projected benefit obligation	$ 178	$ 177
Accumulated benefit obligation	150	149
Fair value of plan assets	111	103

	December 31,	
Pension plans with accumulated benefit obligation in excess of plan assets	**2019**	**2018**
Projected benefit obligation	$ 178	$ 177
Accumulated benefit obligation	150	149
Fair value of plan assets	111	103

Assumptions

The Company generally utilizes discount rates that are developed by matching the expected cash flows of each benefit plan to various yield curves constructed from a portfolio of high-quality, fixed income instruments provided by the plans' actuaries as of the measurement date. The expected rate of return on plan assets reflects economic assumptions applicable to each country.

The following tables set forth the assumptions that have been used to determine the Company's benefit obligations and net benefit cost at December 31, 2019 and 2018.

	December 31,	
Weighted-average assumptions used to determine benefit obligations	**2019**	**2018**
Discount rate	1.4%	2.0%
Rate of compensation increase (1)	2.6%	2.5%

(1) The rate of compensation increase represents the single annual effective salary increase that an average plan participant would receive during the participant's entire career at Chemours.

	December 31,	
Weighted-average assumptions used to determine net benefit cost	**2019**	**2018**
Discount rate	2.0%	1.9%
Rate of compensation increase (1)	2.5%	2.5%
Expected return on plan assets	4.1%	4.1%

(1) The rate of compensation increase represents the single annual effective salary increase that an average plan participant would receive during the participant's entire career at Chemours.

Plan Assets

Each pension plan's assets are invested through either an insurance vehicle, a master trust fund, or a stand-alone pension fund. The strategic asset allocation for each plan is selected by management, together with the pension board, where appropriate, reflecting the results of comprehensive asset and liability modeling. For assets under its control, Chemours 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 countries are selected in accordance with the laws and practices of those countries.

The following table sets forth the weighted-average allocation for the Company's pension plan assets at December 31, 2019 and 2018.

	December 31,	
	2019	2018
Cash and cash equivalents	8%	5%
U.S. and non-U.S. equity securities	52%	45%
Fixed income securities	40%	50%
Total weighted-average allocation	100%	100%

Fixed income securities include corporate-issued, government-issued, and asset-backed securities. Corporate debt investments encompass a range of credit risk and industry diversification.

Fair value calculations may not be indicative of net realizable value or reflective of future fair values. Furthermore, although Chemours 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.

The following tables set forth the fair values of the Company's pension assets by level within the fair value hierarchy at December 31, 2019 and 2018.

	Fair Value Measurements at December 31, 2019		
	Total	Level 1	Level 2
Asset category:			
Debt - government issued	$ 150	$ 9	$ 141
Debt - corporate issued	51	47	4
U.S. and non-U.S. equities	102	101	1
Mutual funds	135	—	135
Derivatives - asset position	28	—	28
Derivatives - liability position	—	—	—
Cash and cash equivalents	41	41	—
Other	2	2	—
Total pension assets before pension receivables	509	$ 200	$ 309
Pension trust payables, net (1)	(9)		
Total pension assets	$ 500		

(1) Payables are primarily for investments purchased and received but not yet paid.

	Fair Value Measurements at December 31, 2018		
	Total	Level 1	Level 2
Asset category:			
Debt - government issued	$ 487	$ 3	$ 484
Debt - corporate issued	130	33	97
U.S. and non-U.S. equities	264	263	1
Mutual funds	296	—	296
Derivatives - asset position	9	—	9
Derivatives - liability position	(5)	—	(5)
Cash and cash equivalents	67	67	—
Other	12	8	4
Total pension assets before pension receivables	1,260	$ 374	$ 886
Pension trust receivables, net (1)	8		
Total pension assets	$ 1,268		

(1) Receivables are primarily for investment income earned but not yet received.

For pension plan assets classified as Level 1 instruments within the fair value hierarchy, 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 instruments within the fair value hierarchy, 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, recognized vendors of market data and subjected to tolerance and/or 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.

Cash Flows – Defined Benefit Plans

Employer Contributions

For the years ended December 31, 2019, 2018, and 2017, Chemours contributed $19, $15, and $38, respectively, to its defined benefit plans.

Of the contributions made in 2017, $10 relates to the settlement of the U.S. Pension Restoration Plan ("U.S. PRP"), which was a supplemental pension plan for certain U.S. employees. The liability associated with the U.S. PRP was transferred to Chemours from DuPont at the Separation Date, at which point the plan ceased accepting new participants. In October 2017, the Company made a cash payment of $10 to settle the remaining liability attributable to the remaining participants in the U.S. PRP.

Chemours expects to contribute $18 to its pension plans in 2020.

Future Benefit Payments

The following table sets forth the benefit payments that are expected to be paid by the plans over the next five years and the five years thereafter as of December 31, 2019.

	Year Ended December 31,
2020	$ 13
2021	9
2022	10
2023	13
2024	15
2025 to 2029	87

Cash Flows – Defined Contribution Plan

Employer Contributions

For the years ended December 31, 2019, 2018, and 2017, Chemours contributed $34, $51, and $45, respectively, to its defined contribution plan.

Note 28. Geographic and Segment Information

Geographic Information

The following table sets forth the geographic locations of the Company's net sales and property, plant, and equipment, net as of, and for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,					
	2019		2018		2017	
	Net Sales (1)	Property, Plant, and Equipment, Net	Net Sales (1)	Property, Plant, and Equipment, Net	Net Sales (1)	Property, Plant, and Equipment, Net
North America	$ 2,144	$ 2,533	$ 2,378	$ 2,279	$ 2,255	$ 2,018
Asia Pacific	1,543	121	1,720	124	1,593	131
Europe, the Middle East, and Africa	1,163	294	1,685	293	1,506	302
Latin America (2)	676	611	855	595	829	557
Total	$ 5,526	$ 3,559	$ 6,638	$ 3,291	$ 6,183	$ 3,008

(1) Net sales are attributed to countries based on customer location.

(2) Latin America includes Mexico.

Segment Information

Chemours' operations consist of three reportable segments based on similar economic characteristics, the nature of products and production processes, end-use markets, channels of distribution, and regulatory environments: Fluoroproducts, Chemical Solutions, and Titanium Technologies. Corporate costs and certain legal and environmental expenses, stock-based compensation expenses, and foreign exchange gains and losses arising from the remeasurement of balances in currencies other than the functional currency of the Company's legal entities are reflected in Corporate and Other.

Segment net sales include transfers to another reportable segment. Certain products are transferred between segments on a basis intended to reflect, as nearly as practicable, the market value of the products. These product transfers were limited and were not significant for each of the periods presented. Depreciation and amortization includes depreciation on R&D facilities and amortization of other intangible assets, excluding any write-downs of assets. Segment net assets include net working capital, net property, plant, and equipment, and other non-current operating assets and liabilities of the segment. This is the measure of segment assets reviewed by the Company's Chief Operating Decision Maker ("CODM").

Adjusted earnings before interest, taxes, depreciation, and amortization ("Adjusted EBITDA") is the primary measure of segment profitability used by the CODM and is defined as income (loss) before income taxes, excluding the following:

- interest expense, depreciation, and amortization;
- non-operating pension and other post-retirement employee benefit costs, which represent the components of net periodic pension (income) costs excluding the service cost component;
- exchange (gains) losses included in other income (expense), net;
- restructuring, asset-related, and other charges;
- asset impairments;
- (gains) losses on sales of assets and businesses; and,
- other items not considered indicative of the Company's ongoing operational performance and expected to occur infrequently.

The following table sets forth certain summary financial information for the Company's reportable segments as of, and for the years ended December 31, 2019, 2018, and 2017.

Year Ended December 31,	Fluoroproducts	Chemical Solutions	Titanium Technologies	Segment Total
2019				
Net sales to external customers	$ 2,648	$ 533	$ 2,345	$ 5,526
Adjusted EBITDA	578	80	505	1,163
Depreciation and amortization	136	22	121	279
Equity in earnings of affiliates	29	—	—	29
Total assets	2,582	574	2,291	5,447
Net assets	2,283	495	1,296	4,074
Investments in affiliates	162	—	—	162
Purchases of property, plant, and equipment	201	40	121	362
2018				
Net sales to external customers	$ 2,862	$ 602	$ 3,174	$ 6,638
Adjusted EBITDA	783	64	1,055	1,902
Depreciation and amortization	117	20	119	256
Equity in earnings of affiliates	43	—	—	43
Total assets	2,744	623	2,354	5,721
Net assets	2,309	506	1,487	4,302
Investments in affiliates	160	—	—	160
Purchases of property, plant, and equipment	274	75	91	440
2017				
Net sales to external customers	$ 2,654	$ 571	$ 2,958	$ 6,183
Adjusted EBITDA	669	57	862	1,588
Depreciation and amortization	109	18	118	245
Equity in earnings of affiliates	33	—	—	33
Total assets	2,311	581	2,502	5,394
Net assets	1,842	460	1,785	4,087
Investments in affiliates	173	—	—	173
Purchases of property, plant, and equipment	249	65	65	379

The following table sets forth a reconciliation for instances in which the above summary financial information for the Company's reportable segments does not sum to consolidated amounts. A reconciliation of Segment Adjusted EBITDA to consolidated results can be found in the table immediately thereafter.

Year Ended December 31,	Segment Total	Corporate and Other	Total Consolidated
2019			
Depreciation and amortization	279	32	311
Total assets	5,447	1,811	7,258
Net assets	4,074	(3,379)	695
Purchases of property, plant, and equipment	362	119	481
2018			
Depreciation and amortization	256	28	284
Total assets	5,721	1,641	7,362
Net assets	4,302	(3,282)	1,020
Purchases of property, plant, and equipment	440	58	498
2017			
Depreciation and amortization	245	28	273
Total assets	5,394	1,899	7,293
Net assets	4,087	(3,222)	865
Purchases of property, plant, and equipment	379	32	411

The following table sets forth a reconciliation of Segment Adjusted EBITDA to the Company's consolidated net income (loss) before income taxes for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Segment Adjusted EBITDA	$ 1,163	$ 1,902	$ 1,588
Corporate and Other Adjusted EBITDA	(143)	(162)	$ (166)
Interest expense, net	(208)	(195)	(214)
Depreciation and amortization	(311)	(284)	(273)
Non-operating pension and other post-retirement employee benefit (cost) income (1)	(368)	27	34
Exchange (losses) gains, net	(2)	1	3
Restructuring, asset-related, and other charges (2)	(87)	(49)	(57)
Loss on extinguishment of debt	—	(38)	(1)
Gain on sales of assets and businesses (3)	10	45	22
Transaction costs (4)	(3)	(9)	(3)
Legal and environmental charges (5)	(175)	(82)	(9)
Other charges	—	(1)	(12)
(Loss) income before income taxes	$ (124)	$ 1,155	$ 912

(1) The year ended December 31, 2019 includes a $380 settlement loss related to a significant portion of the Company's Netherlands pension plan, specific to the vested pension benefits of the inactive participants. See "Note 27 – Long-term Employee Benefits" for further details.

(2) Includes restructuring, asset-related, and other charges, which are discussed in further detail in "Note 7 – Restructuring, Asset-related, and Other Charges."

(3) The year ended December 31, 2019, included a non-cash gain of $9 associated with the sale of the Company's Repauno, New Jersey site. The year ended December 31, 2018, included gains of $3 and $42 associated with the sales of the Company's East Chicago, Indiana and Linden, New Jersey sites, respectively. The year ended December 31, 2017 included gains of $13 and $12 associated with the sale of the Company's land in Repauno, New Jersey that was previously deferred and realized upon meeting certain milestones, and for the sale of its Edge Moor, Delaware plant site, respectively, net of certain losses on other disposals.

(4) Includes costs associated with the Company's debt transactions, as well as accounting, legal, and bankers' transaction costs incurred in connection with the Company's strategic initiatives.

(5) Legal charges pertains to litigation settlements, PFOA drinking water treatment accruals, and other legal charges. Environmental charges pertains to estimated liabilities associated with on-site remediation, off-site groundwater remediation, and toxicity studies related to Fayetteville. The year ended December 31, 2019 included $168 in additional charges for the approved final Consent Order associated with certain matters at Fayetteville. The year ended December 31, 2018 included $63 in additional charges for the estimated liability associated with Fayetteville. See "Note 22 – Commitments and Contingent Liabilities" for further details.

The following table sets forth the Company's net sales to external customers by product group for the years ended December 31, 2019, 2018, and 2017.

	Year Ended December 31,		
	2019	2018	2017
Fluorochemicals	$ 1,318	$ 1,497	$ 1,378
Fluoropolymers	1,330	1,365	1,276
Mining solutions	268	289	261
Performance chemicals and intermediates	265	313	306
Titanium dioxide and other minerals	2,345	3,174	2,958
Divested businesses (1)	—	—	4
Total net sales	$ 5,526	$ 6,638	$ 6,183

(1) Inclusive of the Company's C&D and Sulfur businesses, as well as its Aniline facility in Beaumont, Texas, which were all sold in 2016.

Note 29. Quarterly Financial Data (Unaudited)

The following table sets forth a summary of the Company's quarterly results of operations for the years ended December 31, 2019 and 2018.

	For the Three Months Ended				
2019	**March 31,**	**June 30,**	**September 30,**	**December 31,**	**Full Year (1),**
Net sales	$ 1,376	$ 1,408	$ 1,390	$ 1,353	$ 5,526
Cost of goods sold	1,080	1,085	1,096	1,203	4,463
Income (loss) before income taxes	107	133	91	(454)	(124)
Net income (loss)	94	96	76	(317)	(52)
Net income (loss) attributable to Chemours	94	96	76	(317)	(52)
Basic earnings (loss) per share of common stock	0.56	0.58	0.46	(1.94)	(0.32)
Diluted earnings (loss) per share of common stock	0.55	0.57	0.46	(1.94)	(0.32)

	For the Three Months Ended				
2018	**March 31,**	**June 30,**	**September 30,**	**December 31,**	**Full Year (1),**
Net sales	$ 1,730	$ 1,816	$ 1,628	$ 1,464	$ 6,638
Cost of goods sold	1,193	1,259	1,151	1,064	4,667
Income before income taxes	381	323	269	182	1,155
Net income	297	282	275	142	996
Net income attributable to Chemours	297	281	275	142	995
Basic earnings per share of common stock	1.63	1.58	1.56	0.83	5.62
Diluted earnings per share of common stock	1.58	1.53	1.51	0.81	5.45

(1) Individual quarters may not sum to full year amounts due to rounding.

Note 30. Guarantor Condensed Consolidating Financial Information

The following guarantor condensed consolidating financial information is included in accordance with Rule 3-10 of Regulation S-X ("Rule 3-10") in connection with the subsidiary guarantees of the "Notes" (collectively, the 2023 Dollar Notes, the 2025 Notes, the 2026 Euro Notes, and the 2027 Notes), in each case, issued by The Chemours Company (the "Parent Issuer"). As of the dates indicated, each series of the Notes was fully and unconditionally guaranteed, jointly and severally, on a senior unsecured basis, subject to certain exceptions, by the same group of subsidiaries of the Parent Issuer (together, the "Guarantor Subsidiaries"). Each of the Guarantor Subsidiaries is 100% owned by the Company. None of the other subsidiaries of the Company, either direct or indirect, guarantee the Notes (together, the "Non-Guarantor Subsidiaries"). Pursuant to the indentures governing the Notes, the Guarantor Subsidiaries will be automatically released from those guarantees upon the occurrence of certain customary release provisions.

The following condensed consolidating financial information is presented to comply with the Company's requirements under Rule 3-10:

- the consolidating statements of comprehensive income (loss) for the years ended December 31, 2019, 2018, and 2017;
- the consolidating balance sheets at December 31, 2019 and 2018; and,
- the consolidating statements of cash flows for the years ended December 31, 2019, 2018, and 2017.

The following guarantor condensed financial information is presented using the equity method of accounting for the Company's investments in its wholly-owned subsidiaries. Under the equity method, the investments in subsidiaries are recorded at cost and adjusted for the Company's share of its subsidiaries' cumulative results of operations, capital contributions, distributions, and other equity changes. The elimination entries principally eliminate investments in subsidiaries and intercompany balances and transactions. The financial information included herein may not necessarily be indicative of the financial positions, results of operations, or cash flows of the Company's subsidiaries had they operated as independent entities, and should be read in conjunction with the consolidated financial statements and the related notes thereto.

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Condensed Consolidating Statements of Comprehensive Income (Loss)

	Year Ended December 31, 2019				
	Parent Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations and Adjustments	Consolidated
Net sales	$ —	$ 3,357	$ 3,656	$ (1,487)	$ 5,526
Cost of goods sold	—	3,068	2,882	(1,487)	4,463
Gross profit	—	289	774	—	1,063
Selling, general, and administrative expense	19	406	141	(18)	548
Research and development expense	—	73	7	—	80
Restructuring, asset-related, and other charges	—	74	13	—	87
Total other operating expenses	19	553	161	(18)	715
Equity in earnings of affiliates	—	—	29	—	29
Equity in earnings (loss) of subsidiaries	73	(3)	—	(70)	—
Interest (expense) income, net	(209)	—	1	—	(208)
Intercompany interest income (expense), net	41	16	(57)	—	—
Other income (expense), net	21	122	(417)	(19)	(293)
(Loss) income before income taxes	(93)	(129)	169	(71)	(124)
Benefit from income taxes	(41)	(28)	(2)	(1)	(72)
Net (loss) income	(52)	(101)	171	(70)	(52)
Less: Net income attributable to non-controlling interests	—	—	—	—	—
Net (loss) income attributable to Chemours	$ (52)	$ (101)	$ 171	$ (70)	$ (52)
Comprehensive income (loss) attributable to Chemours	$ 163	$ (101)	$ 371	$ (270)	$ 163

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Condensed Consolidating Statements of Comprehensive Income (Loss)

	Year Ended December 31, 2018				
	Parent Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations and Adjustments	Consolidated
Net sales	$ —	$ 3,974	$ 4,484	$ (1,820)	$ 6,638
Cost of goods sold	—	3,112	3,380	(1,825)	4,667
Gross profit	—	862	1,104	5	1,971
Selling, general, and administrative expense	33	485	163	(24)	657
Research and development expense	—	76	6	—	82
Restructuring, asset-related, and other charges	—	46	3	—	49
Total other operating expenses	33	607	172	(24)	788
Equity in earnings of affiliates	—	—	43	—	43
Equity in earnings of subsidiaries	1,155	2	—	(1,157)	—
Interest (expense) income, net	(210)	5	10	—	(195)
Loss on extinguishment of debt	(38)	—	—	—	(38)
Intercompany interest income (expense), net	47	10	(57)	—	—
Other income (expense), net	25	199	(40)	(22)	162
Income before income taxes	946	471	888	(1,150)	1,155
(Benefit from) provision for income taxes	(50)	98	111	—	159
Net income	996	373	777	(1,150)	996
Less: Net income attributable to non-controlling interests	—	—	1	—	1
Net income attributable to Chemours	$ 996	$ 373	$ 776	$ (1,150)	$ 995
Comprehensive income attributable to Chemours	$ 873	$ 375	$ 637	$ (1,012)	$ 873

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Condensed Consolidating Statements of Comprehensive Income (Loss)

	Year Ended December 31, 2017				
	Parent Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations and Adjustments	Consolidated
Net sales	$ —	$ 3,887	$ 4,030	$ (1,734)	$ 6,183
Cost of goods sold	—	3,084	3,045	(1,691)	4,438
Gross profit	—	803	985	(43)	1,745
Selling, general, and administrative expense	36	449	179	(38)	626
Research and development expense	—	74	7	—	81
Restructuring, asset-related, and other charges	—	56	1	—	57
Total other operating expenses	36	579	187	(38)	764
Equity in earnings of affiliates	—	—	33	—	33
Equity in earnings of subsidiaries	849	—	—	(849)	—
Interest (expense) income, net	(220)	3	3	—	(214)
Loss on extinguishment of debt	(1)	—	—	—	(1)
Intercompany interest income (expense), net	64	—	(64)	—	—
Other income (expense), net	29	139	(21)	(34)	113
Income before income taxes	685	366	749	(888)	912
(Benefit from) provision for income taxes	(62)	117	114	(4)	165
Net income	747	249	635	(884)	747
Less: Net income attributable to non-controlling interests	—	—	1	—	1
Net income attributable to Chemours	$ 747	$ 249	$ 634	$ (884)	$ 746
Comprehensive income attributable to Chemours	$ 881	$ 253	$ 828	$ (1,081)	$ 881

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Condensed Consolidating Balance Sheets

	Year Ended December 31, 2019				
	Parent Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations and Adjustments	Consolidated
Assets					
Current assets:					
Cash and cash equivalents	$ —	$ 104	$ 839	$ —	$ 943
Accounts and notes receivable, net	—	53	621	—	674
Intercompany receivable	2	1,023	180	(1,205)	—
Inventories	—	552	612	(85)	1,079
Prepaid expenses and other	—	60	15	6	81
Total current assets	2	1,792	2,267	(1,284)	2,777
Property, plant, and equipment	—	7,207	2,206	—	9,413
Less: Accumulated depreciation	—	(4,697)	(1,157)	—	(5,854)
Property, plant, and equipment, net	—	2,510	1,049	—	3,559
Operating lease right-of-use assets	—	273	21	—	294
Goodwill and other intangible assets, net	—	160	14	—	174
Investments in affiliates	—	—	162	—	162
Investments in subsidiaries	4,077	148	—	(4,225)	—
Intercompany notes receivable	1,250	—	—	(1,250)	—
Other assets	7	140	145	—	292
Total assets	$ 5,336	$ 5,023	$ 3,658	$ (6,759)	$ 7,258
Liabilities					
Current liabilities:					
Accounts payable	$ —	$ 528	$ 395	$ —	$ 923
Short-term and current maturities of long-term debt	13	11	110	—	134
Intercompany payable	720	138	345	(1,203)	—
Other accrued liabilities	21	294	171	(2)	484
Total current liabilities	754	971	1,021	(1,205)	1,541
Long-term debt, net	3,876	150	—	—	4,026
Operating lease liabilities	—	233	12	—	245
Intercompany notes payable	—	—	1,250	(1,250)	—
Deferred income taxes	17	45	56	—	118
Other liabilities	—	551	82	—	633
Total liabilities	4,647	1,950	2,421	(2,455)	6,563
Commitments and contingent liabilities					
Equity					
Total Chemours stockholders' equity	689	3,073	1,231	(4,304)	689
Non-controlling interests	—	—	6	—	6
Total equity	689	3,073	1,237	(4,304)	695
Total liabilities and equity	$ 5,336	$ 5,023	$ 3,658	$ (6,759)	$ 7,258

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Condensed Consolidating Balance Sheets

	Year Ended December 31, 2018				
	Parent Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations and Adjustments	Consolidated
Assets					
Current assets:					
Cash and cash equivalents	$ —	$ 239	$ 962	$ —	$ 1,201
Accounts and notes receivable, net	—	297	564	—	861
Intercompany receivable	2	1,057	91	(1,150)	—
Inventories	—	483	749	(85)	1,147
Prepaid expenses and other	—	58	26	—	84
Total current assets	2	2,134	2,392	(1,235)	3,293
Property, plant, and equipment	—	6,870	2,122	—	8,992
Less: Accumulated depreciation	—	(4,591)	(1,110)	—	(5,701)
Property, plant, and equipment, net	—	2,279	1,012	—	3,291
Goodwill and other intangible assets, net	—	167	14	—	181
Investments in affiliates	—	—	160	—	160
Investments in subsidiaries	4,487	11	—	(4,498)	—
Intercompany notes receivable	1,150	—	—	(1,150)	—
Other assets	17	154	274	(8)	437
Total assets	$ 5,656	$ 4,745	$ 3,852	$ (6,891)	$ 7,362
Liabilities					
Current liabilities:					
Accounts payable	$ —	$ 637	$ 500	$ —	$ 1,137
Current maturities of long-term debt	13	—	—	—	13
Intercompany payable	698	92	360	(1,150)	—
Other accrued liabilities	21	341	198	(1)	559
Total current liabilities	732	1,070	1,058	(1,151)	1,709
Long-term debt, net	3,902	57	—	—	3,959
Intercompany notes payable	—	—	1,150	(1,150)	—
Deferred income taxes	8	143	82	(16)	217
Other liabilities	—	372	85	—	457
Total liabilities	4,642	1,642	2,375	(2,317)	6,342
Commitments and contingent liabilities					
Equity					
Total Chemours stockholders' equity	1,014	3,103	1,471	(4,574)	1,014
Non-controlling interests	—	—	6	—	6
Total equity	1,014	3,103	1,477	(4,574)	1,020
Total liabilities and equity	$ 5,656	$ 4,745	$ 3,852	$ (6,891)	$ 7,362

Condensed Consolidating Statements of Cash Flows

	Year Ended December 31, 2019				
	Parent Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations and Adjustments	Consolidated
Cash flows from operating activities					
Cash provided by (used for) operating activities	$ 140	$ (892)	$ 1,684	$ (282)	$ 650
Cash flows from investing activities					
Purchases of property, plant, and equipment	—	(403)	(78)	—	(481)
Intercompany investing activities	—	26	(398)	372	—
Acquisition of business, net	—	(10)	—	—	(10)
Proceeds from sales of assets and businesses, net	—	7	2	—	9
Proceeds from life insurance policies	—	1	—	—	1
Foreign exchange contract settlements, net	—	(2)	—	—	(2)
Cash used for investing activities	—	(381)	(474)	372	(483)
Cash flows from financing activities					
Proceeds from revolving loan	150	—	—	—	150
Repayments on revolving loan	(150)	—	—	—	(150)
Proceeds from accounts receivable securitization facility	—	—	128	—	128
Debt repayments	(13)	(5)	(19)	—	(37)
Payments on finance leases	—	(1)	(2)	—	(3)
Purchases of treasury stock, at cost	(322)	—	—	—	(322)
Intercompany financing activities (1)	380	1,144	(1,434)	(90)	—
Proceeds from exercised stock options, net	9	—	—	—	9
Payments related to tax withholdings on vested stock awards	(30)	—	—	—	(30)
Payments of dividends	(164)	—	—	—	(164)
Cash (used for) provided by financing activities	(140)	1,138	(1,327)	(90)	(419)
Effect of exchange rate changes on cash and cash equivalents	—	—	(6)	—	(6)
Decrease in cash and cash equivalents	—	(135)	(123)	—	(258)
Cash and cash equivalents at January 1,	—	239	962	—	1,201
Cash and cash equivalents at December 31,	$ —	$ 104	$ 839	$ —	$ 943

(1) During the year ended December 31, 2019, the Company received $1,034 in collections on its accounts receivable sold into the SPE under the Securitization Facility, which, inclusive of net borrowings, led to a total of $1,144 received by the SPE and distributed to the Guarantor Subsidiaries during the period.

Condensed Consolidating Statements of Cash Flows

	Year Ended December 31, 2018				
	Parent Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations and Adjustments	Consolidated
Cash flows from operating activities					
Cash (used for) provided by operating activities	$ (159)	$ 10	$ 1,289	$ —	$ 1,140
Cash flows from investing activities					
Purchases of property, plant, and equipment	—	(390)	(108)	—	(498)
Acquisition of business, net	—	(37)	—	—	(37)
Proceeds from sales of assets and businesses, net	—	46	—	—	46
Intercompany investing activities	—	(153)	(999)	1,152	—
Foreign exchange contract settlements, net	—	2	—	—	2
Cash used for investing activities	—	(532)	(1,107)	1,152	(487)
Cash flows from financing activities					
Proceeds from issuance of debt, net	520	—	—	—	520
Debt repayments	(679)	—	—	—	(679)
Payments related to extinguishment of debt	(29)	—	—	—	(29)
Payments of debt issuance costs	(12)	—	—	—	(12)
Purchases of treasury stock, at cost	(644)	—	—	—	(644)
Intercompany financing activities	1,152	—	—	(1,152)	—
Proceeds from exercised stock options, net	16	—	—	—	16
Payments related to tax withholdings on vested restricted stock units	(17)	—	—	—	(17)
Payments of dividends	(148)	—	—	—	(148)
Cash provided by (used for) financing activities	159	—	—	(1,152)	(993)
Effect of exchange rate changes on cash and cash equivalents	—	—	(15)	—	(15)
(Decrease) increase in cash and cash equivalents	—	(522)	167	—	(355)
Cash and cash equivalents at January 1,	—	761	795	—	1,556
Cash and cash equivalents at December 31,	$ —	$ 239	$ 962	$ —	$ 1,201

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Condensed Consolidating Statements of Cash Flows

	Year Ended December 31, 2017				
	Parent Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminations and Adjustments	Consolidated
Cash flows from operating activities					
Cash (used for) provided by operating activities	$ (132)	$ 603	$ 169	$ —	$ 640
Cash flows from investing activities					
Purchases of property, plant, and equipment	—	(327)	(84)	—	(411)
Proceeds from sales of assets and businesses, net	—	39	—	—	39
Intercompany investing activities	—	220	—	(220)	—
Foreign exchange contract settlements, net	—	2	—	—	2
Cash used for investing activities	—	(66)	(84)	(220)	(370)
Cash flows from financing activities					
Intercompany short-term borrowings, net	(220)	—	—	220	—
Proceeds from issuance of debt, net	495	—	—	—	495
Debt repayments	(27)	—	—	—	(27)
Payments related to extinguishment of debt	(1)	—	—	—	(1)
Payments of debt issuance costs	(6)	—	—	—	(6)
Purchases of treasury stock, at cost	(106)	—	—	—	(106)
Proceeds from exercised stock options, net	31	—	—	—	31
Payments related to tax withholdings on vested restricted stock units	(12)	—	—	—	(12)
Payments of dividends	(22)	—	—	—	(22)
Cash provided by financing activities	132	—	—	220	352
Effect of exchange rate changes on cash and cash equivalents	—	—	32	—	32
Increase in cash and cash equivalents	—	537	117	—	654
Cash and cash equivalents at January 1,	—	224	678	—	902
Cash and cash equivalents at December 31,	$ —	$ 761	$ 795	$ —	$ 1,556

10 Corporate Responsibility Commitment Goals

By 2030, we aim to achieve the following:

Inspired People

Safety Excellence

- Improve employee, contractor, process, and distribution safety performance by at least 75%.

Vibrant Communities

- Invest $50M in our communities to increase access to STEM skills and improve lives through environment and safety programs.

Empowered Employees

- 50% of all positions globally filled with women.
- 20% of all US positions filled with ethnically diverse employees.

Shared Planet

Climate

- Reduce greenhouse gas emission intensity by 60%.
- Progress our plan to become carbon positive by 2050.

Water

- Reduce air and water process emissions of fluorinated organic chemicals by 99% or greater.

Waste

- Reduce landfill volume intensity by 70%.

Evolved Portfolio

Sustainable Offerings

- 50% or more of our revenues will be from solutions that make a specific contribution to the 2030 United Nations Sustainable Development Goals.

Sustainable Supply Chain

- Baseline the sustainability performance of 80% of suppliers by spend and demonstrate 15% improvement.

Chemours™ 10X2030

LEADERSHIP TEAM

Mark P. Vergnano
President & Chief Executive Officer

Mark E. Newman
SVP & Chief Operating Officer

Sameer Ralhan
SVP, Chief Financial Officer
& Treasurer

Edwin Sparks
President, Fluoroproducts and
Chemical Solutions

E. Bryan Snell
President, Titanium Technologies

Susan Kelliher
SVP, People & Health Services

Dave Shelton
SVP, General Counsel
& Corporate Secretary

Erich Parker
SVP, Corporate Communications
& Chief Brand Officer

BOARD OF DIRECTORS

Curtis V. Anastasio
Director

Bradley J. Bell
Director

Richard H. Brown
Chairman of the Board

Mary B. Cranston
Director

Curtis J. Crawford
Director

Dawn L. Farrell
Director

Erin N. Kane
Director

Sean D. Keohane
Director

Mark P. Vergnano
Director

Corporate Headquarters:
The Chemours Company
1007 Market Street
P.O. Box 2047
Wilmington, Delaware 19801
1 302 773 1000
chemours.com

Stock Exchange Listing:
New York Stock Exchange
Stock Exchange Symbol: CC

Transfer Agent and Registrar of Stock:
Computershare Investor Services

Overnight Mail Delivery:
462 South 4th Street, Suite 1600
Louisville, Kentucky 40202

Regular Mail Delivery:
P.O. Box 505000
Louisville, Kentucky 40233-5000

computershare.com/investor
US & Canada: 1 866 478 8569
International: 1 781 575 2729

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