



PROVIDING ENERGY. IMPROVING LIVES.



ANNUAL REPORT 2019

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Lake Charles Refinery WESTLAKE, LA

In 2019, Lake Charles Manufacturing Complex achieved a sustained safety record of more than 55 months, equivalent to 7.5 million safe work hours.



To Our Shareholders

We have the right strategy in place to create shareholder value, and our employees are executing it well. Phillips 66 achieved 34% total shareholder return during 2019, which exceeded our peer group average and the S&P 100.

In 2019, we delivered earnings of \$3.1 billion and earnings per share of \$6.77. Adjusted earnings were \$3.7 billion or \$8.05 per share. During the year, we generated \$4.8 billion of operating cash flow. We reinvested \$3.9 billion back into the business and returned \$3.2 billion of capital to shareholders through dividends and share repurchases.

We increased our quarterly dividend 12.5% and announced a \$3 billion increase to our share repurchase program. Since our formation, we have returned \$26 billion to shareholders through dividends, share repurchases and exchanges, reducing our initial shares outstanding by 33%.

Operating excellence is our No. 1 priority and core to everything we do. Our goal is zero incidents, zero accidents and zero injuries. We believe this is attainable, and we strive for it daily.

- In 2019, our combined workforce total recordable rate was 0.15, which is 25 times better than the U.S. manufacturing average.
- Our lost workday case rate was 0.03, approximately 60% better than the U.S. refining industry average.
- For the third year in a row, one of our refineries received the AFPM's Distinguished Safety Award, the highest annual safety recognition in the industry.

We also give back to the communities where we live and work through direct financial support and volunteerism by our employees. In 2019, we provided \$28 million to organizations promoting education and literacy, environmental sustainability, civic enrichment, and community safety and preparedness. We are proud of our employees and their commitment to their communities, demonstrated by the record 88,000 hours of their time donated to hundreds of charitable and service organizations during the year.

Some of our 2019 highlights:

- We announced our AdvantEdge66 business transformation program. AdvantEdge66 is leveraging technology to transform the way we run our operations, execute projects and make business decisions.
- Midstream achieved strong results with contributions from our growth investments completed over the last three years. We commenced operations on the 900,000 BPD Gray Oak Pipeline and advanced the Red Oak and Liberty crude oil pipelines. We are expanding the Sweeny Hub, adding 450,000 BPD of fractionation capacity. At Phillips 66 Partners, we eliminated the incentive distribution rights, simplifying the master limited partnership's structure.



GREG C. GARLAND
Chairman and Chief Executive Officer

- In our Chemicals business, CPChem delivered 97% O&P utilization. The new U.S. Gulf Coast petrochemical assets are operating well and contributing to our results. CPChem is developing two new world-scale petrochemical facilities in the United States and Middle East. These facilities would add world-scale ethylene and derivative capacity to meet growing global demand for polymers.
- In Refining, we successfully completed multiple high-return projects across our system, increasing diesel yield and low-sulfur fuel oil production. Phillips 66 Partners completed the 25,000 BPD isomerization unit at our Lake Charles Refinery. At the Sweeny Refinery, we are upgrading the FCC unit to increase production of higher-value petrochemical products and higher-octane gasoline.
- In Marketing and Specialties, we are strengthening our U.S. base business through an equity partnership on the West Coast and by reimaging our branded sites. In the U.S., we have reimaged approximately 4,200 sites since the program's inception. In Europe, we have reimaged over 80 sites since the start of the program in early 2019.

Looking ahead, AdvantEdge66 is making Phillips 66 more competitive, and positions us to deliver differentiated performance. Our strategy and commitment to capital discipline and financial strength are steadfast. We remain focused on operating excellence, executing our growth projects, enhancing returns on existing assets and maintaining strong shareholder distributions.



Greg C. Garland
Chairman and Chief Executive Officer



Clifton Ridge Marine Terminal SULPHUR, LA



Wood River Refinery ROXANA, IL

Financial Highlights

| (Millions of Dollars, Except Per Share Amounts) | 2019 | 2018 | 2017 |
|---|-----------|-----------|-----------|
| Sales and other operating revenues | \$107,293 | \$111,461 | \$102,354 |
| Income before income taxes | 4,178 | 7,445 | 3,555 |
| Net income | 3,377 | 5,873 | 5,248 |
| Net income attributable to Phillips 66 | 3,076 | 5,595 | 5,106 |
| Per share of common stock | | | |
| Basic | 6.80 | 11.87 | 9.90 |
| Diluted | 6.77 | 11.80 | 9.85 |
| Cash and cash equivalents | 1,614 | 3,019 | 3,119 |
| Total assets | 58,720 | 54,302 | 54,371 |
| Long-term debt | 11,216 | 11,093 | 10,069 |
| Total equity | 27,169 | 27,153 | 27,428 |
| Cash from operating activities | 4,808 | 7,573 | 3,648 |
| Cash dividends declared per common share | 3.50 | 3.10 | 2.73 |
| Adjusted earnings | 3,657 | 5,550 | 2,269 |
| Adjusted earnings per share | 8.05 | 11.71 | 4.38 |

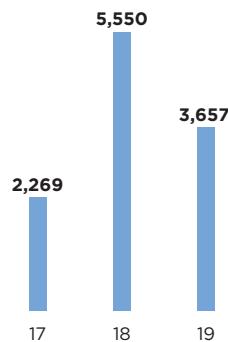


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— Peers* +158
— S&P 100 +168

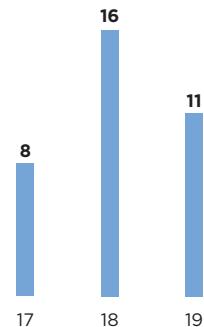
Chart reflects total shareholder return May 1, 2012, to Dec. 31, 2019.
Dividends assumed to be reinvested in stock. Source: Bloomberg.

*Celanese Corporation; Delek US Holdings, Inc.; Eastman Chemical Corporation;
Enterprise Products Partners, LP; HollyFrontier Corporation; Huntsman Corporation;
LyondellBasell Industries N.V.; Marathon Petroleum Corporation; Oneok, Inc.; PBF
Energy Inc.; Targa Resources Corporation; Valero Energy Corporation; and Westlake
Chemical Corporation

ADJUSTED EARNINGS
(\$ in millions)



ADJUSTED RETURN ON CAPITAL EMPLOYED (ROCE)
 (%)



**Our 2019 earnings were \$3.1 billion or \$6.77 per share.
Adjusted earnings were \$3.7 billion or \$8.05 per share.**

During 2019, we generated \$4.8 billion of cash from operations. We funded \$3.9 billion in capital, or \$3.5 billion on an adjusted basis, paid \$1.6 billion in dividends and repurchased \$1.7 billion in shares. Our ending cash balance was \$1.6 billion.

Phillips 66 is committed to maintaining a strong balance sheet and financial flexibility. Total debt at year-end was \$11.8 billion, resulting in a debt-to-capital ratio of 30%.

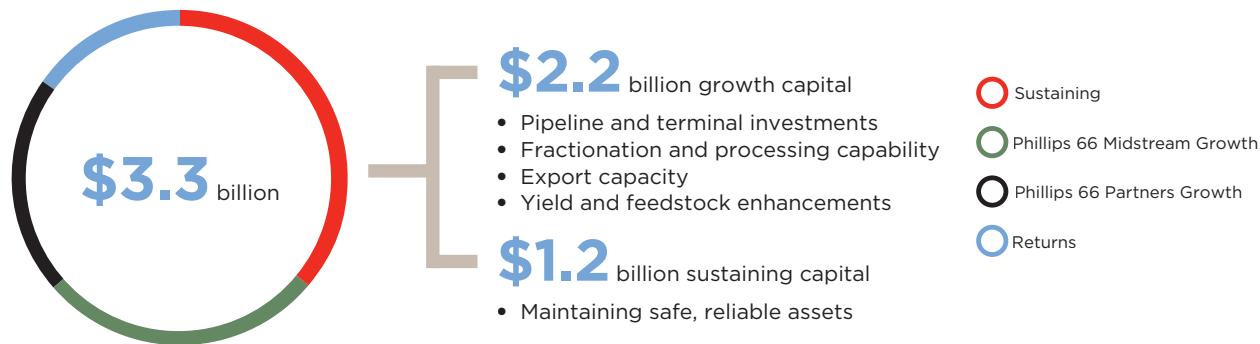
Our strong cash generation and disciplined approach to capital allocation enable us to execute

our long-term strategy through the commodity cycles. We are well positioned to grow our businesses while also delivering strong shareholder distributions. Long term, we expect to reinvest 60% of our operating cash flow back into our business and distribute 40% to our shareholders.

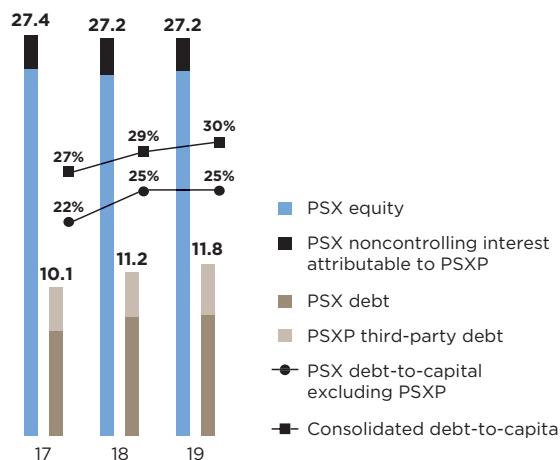
We create shareholder value through high-return investments that protect and grow the value of our core cash-generating assets in Refining and Marketing while simultaneously pursuing high-value growth projects in Midstream and Chemicals.

For 2020, we are funding a \$3.8 billion capital budget, or \$3.3 billion net of expected contributions from joint ventures, which includes \$2.2 billion of growth capital and \$1.2 billion of sustaining capital. Approximately \$1.6 billion will fund Midstream growth and \$0.5 billion will support high-return Refining and Marketing projects. Our major joint ventures have self-funded capital programs, and our proportional share of their capital expenditures is \$1.2 billion.

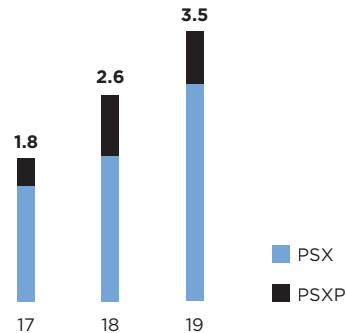
2020 CONSOLIDATED ADJUSTED CAPITAL BUDGET



CAPITAL STRUCTURE (\$B)



ADJUSTED CAPITAL SPENDING (\$B)



Our Businesses

Phillips 66 is a diversified energy manufacturing and logistics company. With a portfolio of Midstream, Chemicals, Refining, and Marketing and Specialties businesses, the company processes, transports, stores and markets fuels and products globally. Phillips 66 Partners LP, the company's master limited partnership (MLP), is integral to the portfolio. Headquartered in Houston, Texas, Phillips 66 has 14,500 employees committed to safety and operating excellence.



MIDSTREAM

Our Midstream segment provides crude oil and refined product transportation, terminaling, processing and export services, as well as natural gas liquids (NGL) and liquefied petroleum gas (LPG) transportation, storage, processing and export services, mainly in the United States. This segment includes our MLP, Phillips 66 Partners, as well as our 50% equity investment in DCP Midstream, LLC.



REFINING

Our Refining segment refines crude oil and other feedstocks into petroleum products such as gasoline, distillates and aviation fuels at 13 refineries in the United States and Europe. Our Refining business focuses on operating excellence and margin enhancement.

2.2

million barrels per day (BPD) of crude throughput capacity*

22,000

miles of U.S. pipeline systems



CHEMICALS

The Chemicals segment consists of our 50% joint venture interest in Chevron Phillips Chemical Company LLC (CPChem), which manufactures and markets petrochemicals and plastics worldwide. CPChem has cost-advantaged assets concentrated in North America and the Middle East.

28

global manufacturing facilities



MARKETING AND SPECIALTIES

Our Marketing and Specialties segment markets refined petroleum products such as gasoline, distillates and aviation fuels, mainly in the United States and Europe. The segment also includes the manufacturing and marketing of specialty products such as base oils and lubricants.

7,540

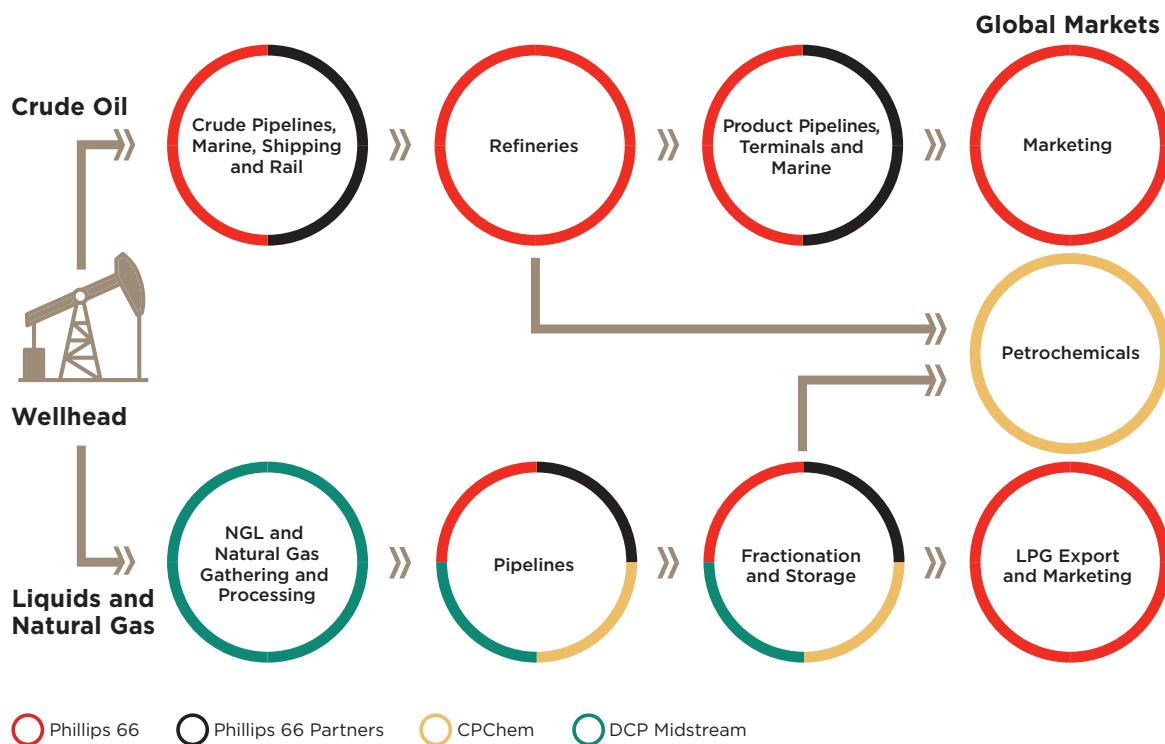
branded U.S. outlets

1,600

branded international outlets

Our Value Chain

We have an integrated network of businesses and assets across the midstream and downstream value chain. Our diverse portfolio is well positioned to benefit from continued oil and gas production growth in the United States.



Beaumont Terminal BEAUMONT, TX

Our Strategy

The Phillips 66 strategic priorities of growth, returns and distributions are supported by a strong foundation of operating excellence and our high-performing organization. We believe our strategy creates long-term shareholder value. We made progress executing our key strategic priorities during 2019, achieving numerous milestones and successes.



GROWTH

Enhancing our portfolio by capturing growth opportunities in Midstream and Chemicals

RETURNS

Improving returns by maximizing earnings from existing assets and investing capital efficiently

DISTRIBUTIONS

Committed to financial strength, disciplined capital allocation, dividend growth and share repurchases

OPERATING EXCELLENCE

Committed to safety, reliability and environmental stewardship while protecting shareholder value

HIGH-PERFORMING ORGANIZATION

Building capability, pursuing excellence and doing the right thing



OPERATING EXCELLENCE

Phillips 66 is committed to operating excellence. Our employees demonstrate a strong safety culture, which results in our industry-leading safety performance.

Our goal is zero incidents, zero accidents and zero injuries.

Operating excellence is foundational to everything we do, and we believe it creates value for our shareholders. We are focused on safe, reliable and environmentally responsible operations, as well as keeping our cost structure competitive.

Through our transformational program, AdvantEdge66, we are applying digital analytics and new technologies to elevate our operational performance.

Our 2019 combined workforce recordable injury rate was 0.15 and is approximately 25 times better on average than the rest of U.S. manufacturing. In 2019, our lost workday case rate improved to 0.03.

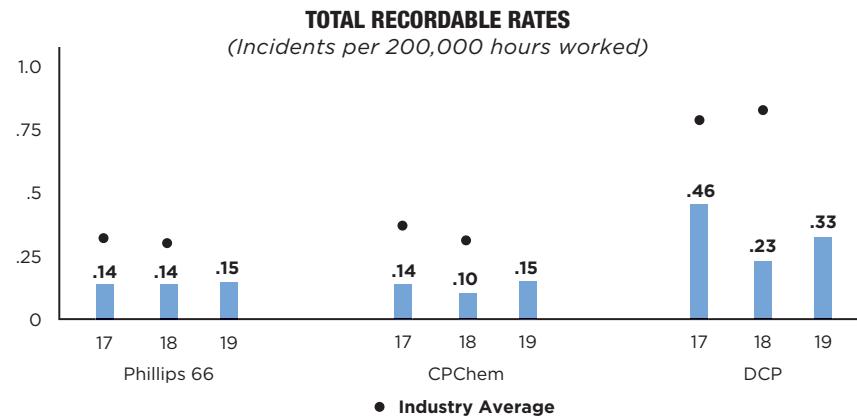
In our Refining business, we achieved 94% capacity utilization. We consistently run at or better than industry operating rates, and we do so while maintaining cost discipline. Industry benchmarking by Solomon Associates ranks Phillips 66 in the top quartile for non-energy operating costs.

In Midstream, we are focused on reliability and integrity of our pipelines, terminals and

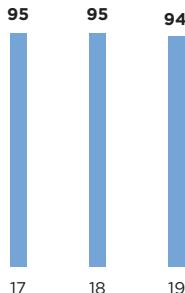
fractionators. In 2019, the Freeport LPG Export Terminal averaged a record 12 cargoes per month, and the Sweeny fractionator ran at 113% utilization. We successfully started up the Gray Oak Pipeline and remain committed to safe execution of our major growth projects.

CPChem's operating excellence is a key differentiator for our Chemicals business. The employees at CPChem are committed to the highest standards in safety. The strong safety culture is demonstrated through CPChem's record process safety performance in 2019.

Reliability also sets CPChem apart, with operating rates consistently better than the industry average. CPChem's global Olefins and Polyolefins (O&P) capacity utilization rate was 97%.



REFINING CRUDE CAPACITY UTILIZATION (%)



SAFETY RECOGNITION

In 2019, the American Fuel and Petrochemical Manufacturers (AFPM) recognized six Phillips 66 refineries for exemplary safety performance. The Ponca City Refinery received the Distinguished Safety Award. This is the highest annual safety award the industry recognizes, and the third year in a row that one of the company's refineries has received this recognition. The Ferndale and Los Angeles refineries received the second-highest recognition, the Elite Gold Award. The Billings and Borger refineries, as well as the San Francisco Refinery's Santa Maria site, were selected as recipients of the Elite Silver Award, which recognizes the top 5% of all sites in the industry for attaining the highest safety performance.

Forty-five percent of our U.S. refineries have earned the Environmental Protection Agency ENERGY STAR® Award, which recognizes top-quartile energy efficiency performance.

Phillips 66 has 28 refining, midstream and lubricants sites that have received OSHA Voluntary Protection Program (VPP) certification. VPP recognizes strong safety records and comprehensive safety and health management systems.

In Chemicals, the AFPM selected five CPChem facilities as recipients of their Elite Silver Award. The facilities recognized were Cedar Bayou, Conroe, Pasadena, Port Arthur and Sweeny.

In Midstream, Phillips 66 and DCP Midstream received first place company awards in their respective divisions from the Gas Processors Association for outstanding safety performance in 2018.



Ponca City Refinery PONCA CITY, OK

Sustainability

At Phillips 66, we provide energy that improves lives and meets the world's growing needs, while recognizing the importance of doing so in an environmentally responsible manner. Affordable, reliable and abundant energy is essential to sustaining human health and well-being, while simultaneously improving the global standard of living. We recognize the climate challenge and are making investments that advance a lower carbon future. In 2019, Phillips 66 invested \$1.1 billion to ensure continued safe, reliable and environmentally responsible operations.

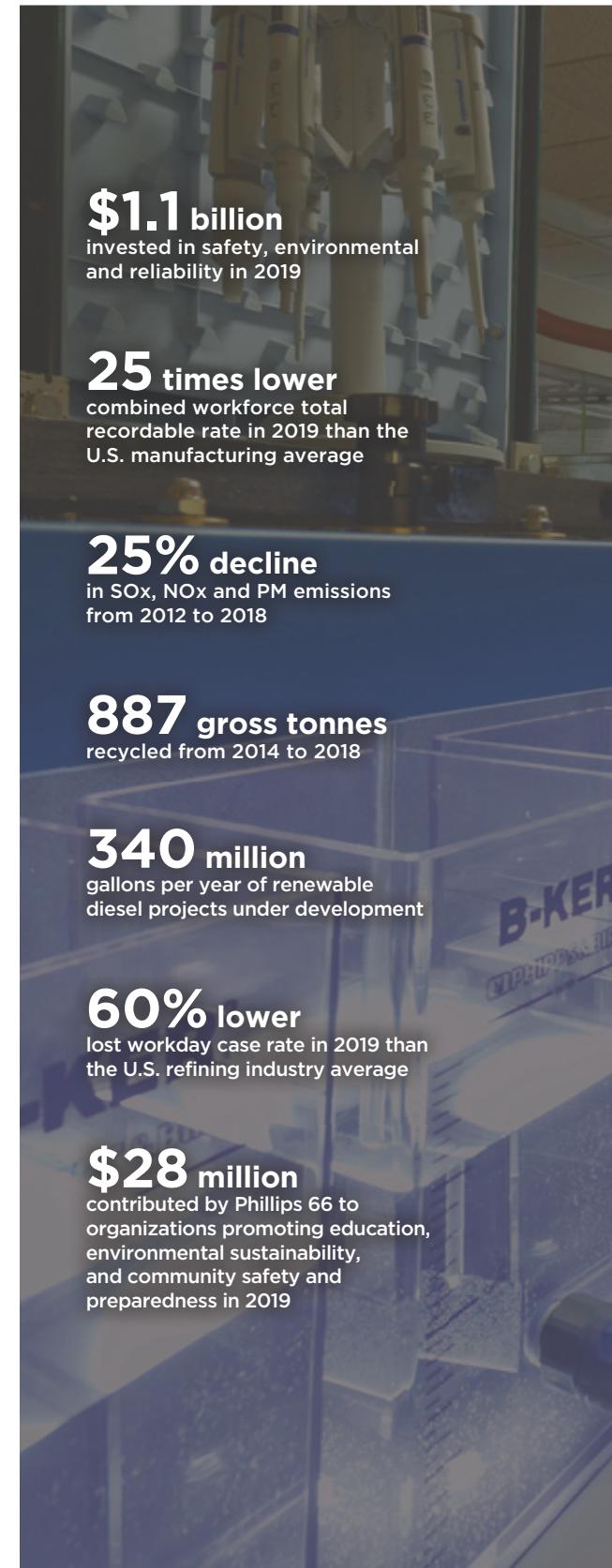
We have a dedicated technology organization to advance our sustainability efforts. Our research and development (R&D) investments help us understand our impacts on land, air and water, and how we can use natural resources more sustainably. We focus on running our refineries, midstream assets and chemicals facilities more efficiently, using less water and energy.

We are performing research on energy of the future, including renewable fuels, organic photovoltaics, current and next-generation batteries, and solid oxide fuel cells. In addition, we have a portfolio of renewable fuel projects in development that comply with low-carbon fuel standards. We are leveraging our existing infrastructure, supply network and capabilities.

Below are some of the things we are doing today, as well as some of the projects we are pursuing to position Phillips 66 to be competitive long-term.

- Producing renewable diesel from used cooking oil (UCO) at Humber Refinery
- Supplying the feedstock to make anodes and lithium ion batteries for electric vehicles and electronic devices
- Increasing the marketing of low carbon fuels on the U.S. West Coast
- Installed our first hydrogen pump station in Switzerland, with plans to add two to three more per year
- Manufacturing the next generation of low viscosity heavy duty engine oil to improve fuel economy by 1% to 2%
- Providing supply and offtake for two third-party renewable diesel facilities under construction in Nevada
- Developing a renewable diesel project at San Francisco Refinery
- Evaluating solar energy to power our pipelines and refineries
- Progressing an industrial scale renewable hydrogen project at Humber Refinery

In our Chemicals business, CPChem is increasing its focus on proactively helping the world find sustainable solutions. CPChem became a founding member of the Alliance to End Plastic Waste. CPChem also became a member of Operation Clean Sweep Blue, a campaign dedicated to keeping pellets out of the environment. As part of its commitment, CPChem is evaluating projects that will advance sustainability efforts.





| Water Application Lab Research Center BARTLESVILLE, OK

GROWTH

Midstream

Our Midstream assets are highly integrated with our Refining, Marketing and Specialties, and Chemicals segments. We are expanding and optimizing our integrated infrastructure system. We are investing capital to grow in three primary areas: crude oil pipelines, export capability and the NGL value chain. We are developing one of the most competitive crude oil systems in the U.S. that will transport crude oil from the major shale basins to U.S. refineries and Gulf Coast terminals. At the Sweeny Hub, we have world-class fractionation, cavern storage and export capability. As we grow our Midstream business, we are creating value for our internal and external customers.

The Sweeny Hub is integrated with our Sweeny Refinery and strategically located to access key markets, including petrochemicals, fuels and global LPG markets. Phillips 66 is expanding the Sweeny Hub with the addition of three 150,000 BPD fractionators. Fracs 2 and 3 are anticipated to start up in the fourth quarter of 2020. Frac 4 is expected to be completed in the second quarter of 2021. The new fractionators are supported by long-term customer commitments. Upon completion of Frac 4, the Sweeny Hub will have 550,000 BPD of fractionation capacity.

Also at the Sweeny Hub, Phillips 66 Partners is expanding the existing 9 million barrels of NGL storage capacity at Clemens Caverns. Upon completion in the fourth quarter of 2020, Clemens Caverns will have 16.5 million barrels of storage capacity.

The Gray Oak Pipeline is an 840 mile pipeline capable of shipping 900,000 BPD of crude oil from the Permian and Eagle Ford to multiple Gulf Coast destinations, including our Sweeny Refinery. In 2019, we commenced initial operations. Full service is expected in the second quarter of 2020. Phillips 66

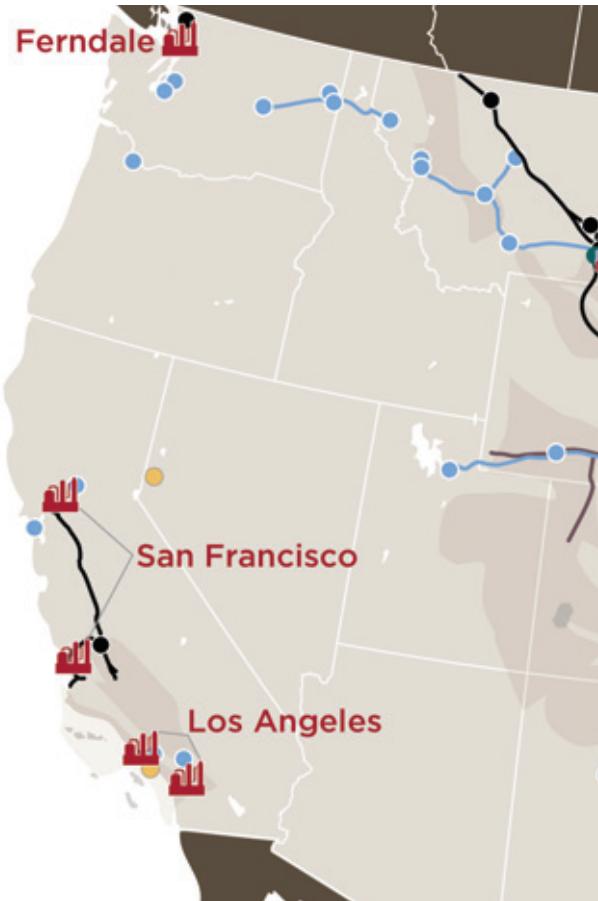
Partners owns a 42.25% effective interest in the pipeline.

The company is progressing the Liberty Pipeline, which will provide crude oil transportation from the Rockies and Bakken production areas to Cushing, Oklahoma. Liberty is supported by long-term shipper commitments, and service is expected in the first half of 2021. Effective March 2020, Phillips 66 Partners acquired Phillips 66's 50% interest in the Liberty Pipeline.

The company is also advancing the Red Oak Pipeline system, which will provide crude oil transportation from Cushing and the Permian Basin to multiple destinations along the Texas Gulf Coast, including Corpus Christi, Ingleside, Houston and Beaumont. Red Oak is supported by long-term shipper commitments, and initial service is expected in the first half of 2021. Our joint venture partner will construct, and Phillips 66 will operate, the pipeline. Phillips 66 owns a 50% interest in the venture.

The Gray Oak and Red Oak pipelines will connect to the South Texas Gateway Terminal in Ingleside, Texas. The marine terminal will have 8.5 million barrels of storage capacity and two docks capable of loading very large crude carrier tankers with permitted export capacity up to 800,000 BPD. It is expected to be in service by the third quarter of 2020. Phillips 66 Partners owns a 25% interest in the terminal.

Our Beaumont Terminal is strategically located on the U.S. Gulf Coast with connections to 11 crude oil pipelines and access to six refineries. The terminal is being expanded to 16.8 million barrels of total crude and products storage capacity. The expansion is planned to be completed in the first quarter of 2020. In addition, we are increasing export capability at our Beaumont facility by 200,000 BPD with the addition of a fourth dock, which is expected to be completed in the third quarter of 2020.



Phillips 66 Partners owns a 40% interest in the Bayou Bridge Pipeline, which transports crude oil from our Beaumont Terminal to Lake Charles, Louisiana, and St. James, Louisiana. The pipeline segment from Lake Charles to St. James was completed during the year. The Bayou Bridge Pipeline has a capacity of 480,000 BPD and facilitates the delivery of advantaged crude oil to our Lake Charles Refinery.

Phillips 66 and Phillips 66 Partners are expanding the logistics systems from the company's Sweeny Hub to Phillips 66 Partners' Pasadena Terminal. Phillips 66 Partners' Sweeny to Pasadena Pipeline will be expanded by 80,000 BPD, and 300,000 barrels of storage will be added at the Pasadena Terminal. The project is expected to be completed in the second quarter of 2020.





PHILLIPS 66 PARTNERS

Phillips 66 Partners LP (PSXP) is integral to our Midstream strategy, with a strong balance sheet and attractive growth opportunities.

Phillips 66 Partners delivered a sector-leading total unitholder return of 56% in 2019.

During the year, the general partner's incentive distribution rights (IDRs) were eliminated, reinforcing Phillips 66 Partners' position as a sector-leading MLP, with a simplified structure and strong sponsor alignment.

Phillips 66 Partners' growth is focused on high-quality organic projects. The 2020 adjusted capital program is \$867 million, including \$734 million for growth projects and \$133 million for sustaining capital. Growth capital will fund investments in the C2G Pipeline, the Gray Oak Pipeline, the South Texas Gateway Terminal and the Bakken Pipeline.

Looking ahead, Phillips 66 Partners is well positioned to deliver value to unitholders with its scale, financial strength and robust portfolio of growth projects.



| La Pryor Storage Terminal Gray Oak Pipeline LA PRYOR, TX

Chemicals

CPChem is the No. 1 global producer of high-density polyethylene and a leader in the licensing of proprietary technology to make polyethylene.

CPChem has a top-tier asset base and a strong platform for growth with access to advantaged feedstocks around the world. CPChem upgrades low-cost ethane feedstock with world-scale manufacturing facilities and proprietary technology to produce more than 70,000 in-demand products that serve the world's growing middle class.

CPChem is jointly developing two world-scale petrochemical facilities with Qatar Petroleum in the United States and Middle East, where there is access to abundant and competitively priced feedstock.

The U.S. Gulf Coast II Petrochemical Project is expected to include a 2 million metric tons per year ethylene cracker and two high-density polyethylene units, each with capacity of 1 million metric tons per year. CPChem would own 51% and have responsibility for the construction, operation and management of the facility. Final investment decision is expected in 2021.

The Ras Laffan Petrochemicals Project is expected to have a 1.9 million metric tons per year ethylene cracker and two high-density polyethylene units with a combined capacity of 1.7 million metric tons per year. Pending final investment decision, the project is expected to start up in late 2025. CPChem will own a 30% share of this joint venture.



CPChem Rail Car Area OLD OCEAN, TX

RETURNS

Refining

In Refining, our focus is on maintaining the highest standards in operating excellence while generating strong free cash flow to support shareholder distributions, fuel our growth in Midstream and reinvest back into Refining.

We are disciplined in how we spend capital. Our capital program sustaining projects ensure safe, reliable operations, and our high-return, quick payout projects enhance margins. Also, we maintain cost discipline and rank in the top quartile for the Solomon non-energy operating cost benchmark. The AdvantEdge66 initiative is positioning us to stay competitive long-term through the deployment of technology.

Phillips 66 has industry-leading global coking capacity to process heavy crudes while producing high-value products. Our commercial supply network and integration with our Midstream assets provide the capability to maximize cost-advantaged crude feedstocks throughout our refining system.

We run a diversified crude slate with flexibility to optimize at each refinery and across our system.

We process approximately equal amounts of heavy, medium and light crudes. We are the industry's largest purchaser of heavy Canadian crude oil, and we also process a large proportion of advantaged crude oil from the key shale basins. Refining has a clean product yield of 84%, including an industry-leading distillate yield of 38%.

At our Lake Charles Refinery, Phillips 66 Partners completed construction of the 25,000 BPD isomerization unit to increase production of higher-octane gasoline blend components.

A fluid catalytic cracking (FCC) unit upgrade project is underway at our Sweeny Refinery to increase production of higher-value petrochemical products and higher-octane gasoline. The project was completed in the first quarter of 2020.

A portfolio of high-return projects completed across our system in 2019 increased our distillate production capacity by 25,000 BPD.





| Lake Charles Isomerization Unit WESTLAKE, LA

Marketing and Specialties

Our Marketing business is a high-return, low-capital business, generating strong, stable cash flow. Our branded network of sites provides integration with our Refining assets, ensuring ratable pull-through, particularly in the Central and West Coast regions.

We have a strong portfolio of brands that provide us with a competitive advantage in the markets where we participate. In addition, we are leveraging technology to further innovate our Marketing business, including expanding our award-winning mobile pay platform, implementing an industry-leading digital wallet and exploring various connected car relationships. As we look to the future, we are focused on engaging consumers directly with customized offerings to attract new business into our branded sites.

In the United States, we continue to update our Phillips 66, 76 and Conoco branded marketing sites with new signature image designs. During 2019, we reimaged over 1,600 sites, bringing the total number of reimaged sites to approximately 4,200 since the inception of our program in 2015. Our reimaged sites are realizing solid volume uplifts relative to non-reimaged sites.

We also capture value by licensing our brands in non-core regions,

including the U.S. Gulf, U.S. East Coast and Mexico, which demonstrates the strength and value of our brands.

In 2019, we formed a retail marketing joint venture with operations primarily on the U.S. West Coast. The joint venture operates a network that includes approximately 580 sites. In addition, the joint venture is expected to close on an acquisition of approximately 100 additional sites in the first half of 2020. The joint venture enables increased long-term placement of Phillips 66 refinery production and increases the company's exposure to retail margins.

In Europe, we are an industry leader with a proven low-cost, high-volume model, which is demonstrated by the strong market share in Germany, Austria and Switzerland of our branded JET and COOP retail businesses. In 2019, we added 23 new JET branded sites and four new COOP sites, and we anticipate adding 20 to 30 new sites each year. In

addition, we launched the rollout of our new JET image in Germany, Austria and the United Kingdom.

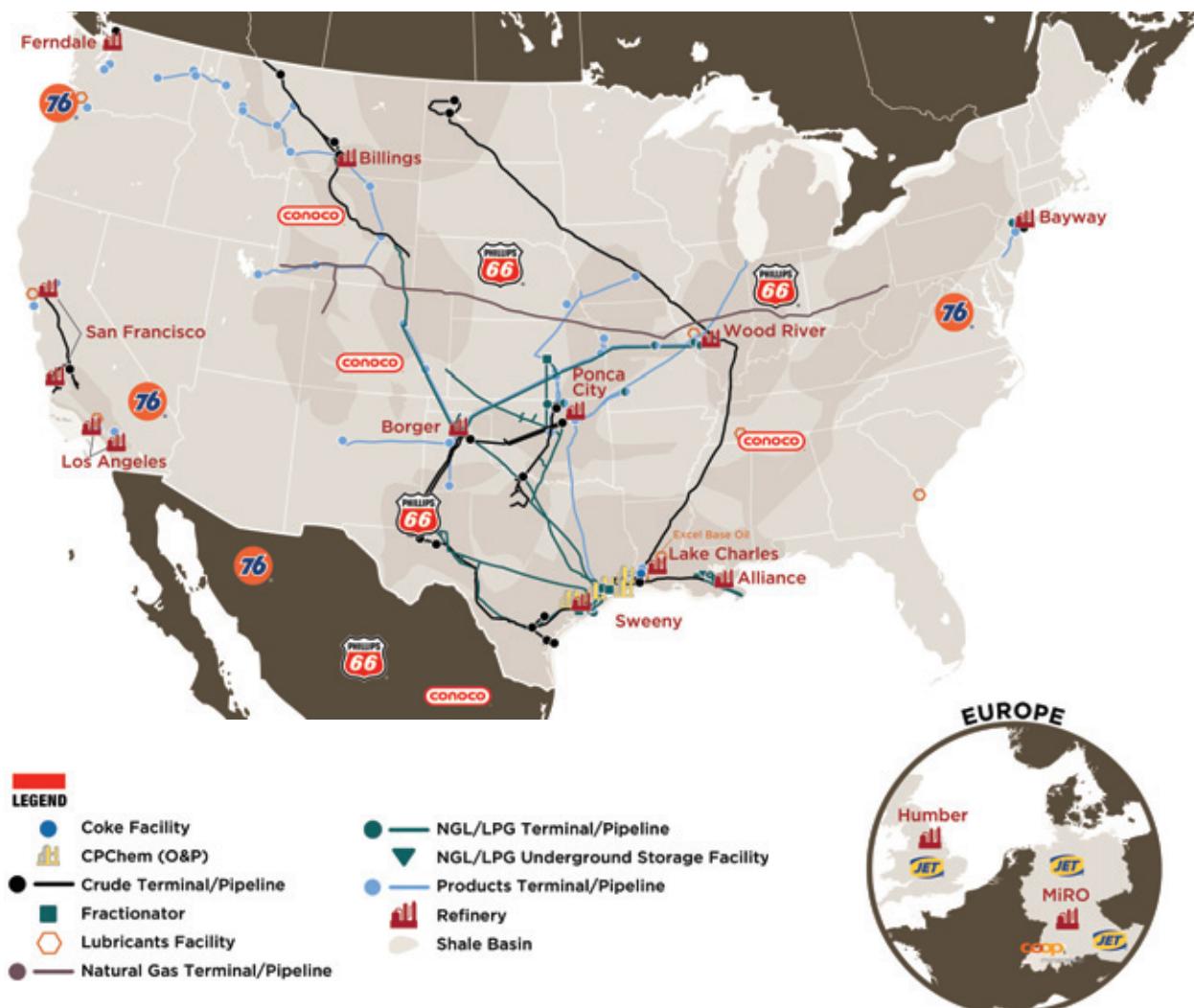
In the Specialties business, finished lubricants are marketed under our premium Phillips 66, Kendall and Red Line brands. We also produce private label lubricants for many original equipment manufacturers. Our strategy is to grow volumes through the marketer business, focusing on stronger brands, premium products, and commercial and industrial segments. We are the third-largest lubricants manufacturer in the United States and receive high industry rankings for supplier satisfaction.

The Excel Paralubes joint venture is an integrated manufacturing and marketing business, providing high-quality base oil solutions to our customers.

Our Specialties business markets high-quality graphite and anode-grade petroleum cokes in the United States, Europe and Asia for use in a variety of industries, including steel, battery manufacturing, aluminum and titanium oxide.



Phillips 66 Branded Marketing Site ST. LOUIS, MO



76 Branded Marketing Site
ONTARIO, CA



Conoco Branded Marketing Site
SUNRISE BEACH, MO



JET Branded Marketing Site
BERLIN, DE

DISTRIBUTIONS

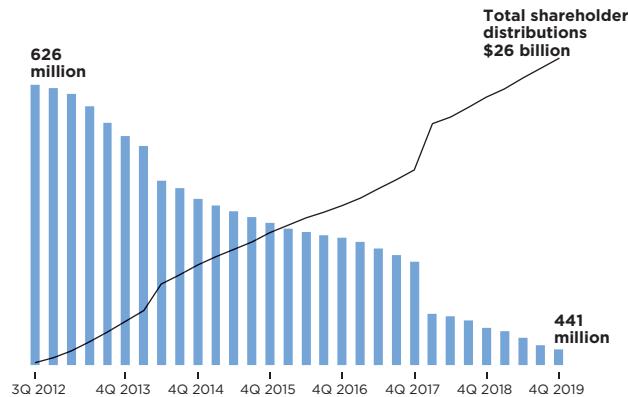
Shareholder returns are fundamental to our strategy. Phillips 66 is committed to delivering strong distributions through a secure, competitive and growing dividend and an intrinsic value approach to share repurchases.

Phillips 66 returned \$3.2 billion of capital to shareholders in 2019, and since the company formed in 2012, has distributed \$26 billion in the form of dividends, share repurchases and exchanges.

During 2019, we funded \$1.6 billion in dividends. In May 2019, Phillips 66 increased the quarterly dividend 12.5% to \$0.90 per share. This is our ninth increase since formation, representing a 25% compound annual growth rate (CAGR).

Share repurchases during the year were \$1.7 billion. Since 2012, we have repurchased or exchanged over 206 million shares, or 33% of our original shares outstanding. In October 2019, our board of directors authorized an additional \$3 billion for share repurchases, which brings the total program since inception in 2012 to \$15 billion.

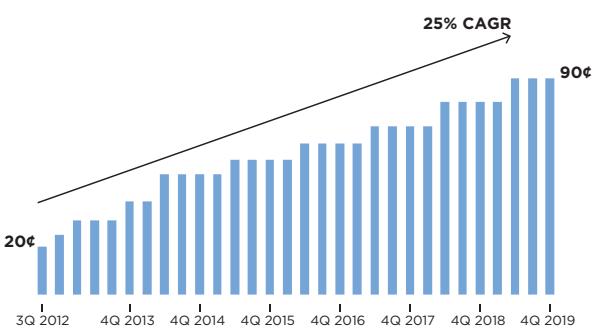


SHARE COUNT AND DISTRIBUTIONS

- Number of shares outstanding
 - Cumulative shareholder distributions*
- * Through share purchases, share exchanges and dividends

DIVIDEND GROWTH

(Quarterly ¢/share)



Lake Charles Refinery Storage Tanks WESTLAKE, LA

HIGH-PERFORMING ORGANIZATION

The people of Phillips 66 are a competitive advantage. Together, we operate as a high-performing organization by building breadth and depth in their capabilities, pursuing excellence and doing the right thing. We empower our people to create and innovate, and to work in ways that will ensure we deliver industry-leading performance.

We employ over 14,500 highly talented individuals all dedicated to our vision of providing energy and improving lives. Every day, the people of Phillips 66 embrace our values of safety, honor and commitment, and they demonstrate Our Energy in Action behaviors. This framework of vision, values and behaviors influences how we work together internally and engage externally with our stakeholders. And through the unyielding commitment of our engaged workforce to this framework, Phillips 66 is able to successfully execute its strategy and deliver differentiated value to shareholders.

As a company we value diversity and are committed to an inclusive workplace. It is essential to who we are, what we deliver and how we do business. This brings value to different perspectives, which ultimately leads us to better results.

The people of Phillips 66 are committed to giving back to the community. They volunteer for causes that matter to them and make a difference in the locations where they live and work. In 2019, our employees invested in their communities through volunteer activities, including:

- Teaching STEM and literacy summer camps
- Building homes with Habitat for Humanity
- Planting trees at local schools
- Assembling equipment for local fire departments
- Reading with children at elementary schools
- Preparing meals at community food banks
- Removing invasive species from local parks
- Hosting waste disposal and recycling days



Habitat for Humanity HOUSTON, TX

Our Energy in Action

Our workforce is evolving, and our business is transforming and growing, requiring that we purposefully shape our culture to enable change. We developed a set of behaviors that both preserve the best of who we are and challenge us to get better. We will work for the greater good, create an environment of trust, seek different perspectives and strive to achieve excellence.

We are leveraging our biggest asset, which is our people. To be an agile, efficient and smart company, we must empower and prepare our people to accomplish great things.

We embrace our values as a common bond.

We depend on each other to do our jobs.

We create space for possibilities.

We challenge ourselves and never settle.

Work for the greater good.

Living our values earns us the confidence of our business partners, communities and co-workers.

Create an environment of trust.

Trusting each other makes us more productive and agile.

Seek different perspectives.

Championing inclusion enables us to innovate and thrive.

Achieve excellence.

Continuing to improve ensures we deliver extraordinary performance.



Phillips 66 Headquarters HOUSTON, TX

AdvantEdge66

During 2019, Phillips 66 announced a transformational program called AdvantEdge66. We are transforming the company and unlocking value through technology and new ways of working.

Here are some examples of what we are doing:

- Adopting digital tools and automating our processes to empower our people to innovate and work in new ways
- Applying advanced data analytics and technology to better understand our operations and improve asset performance
- Creating enterprise value through end-to-end value chain optimization
- Enhancing our operating model and decision-making processes to drive efficiencies

AdvantEdge66 is making Phillips 66 more competitive. By working smarter, being more agile and more efficient, we are positioned to deliver differentiated performance through margin improvement, cost savings and capital efficiency.



| Lake Charles Refinery, Excel Paralubes Joint Venture WESTLAKE, LA



REFINING

Our digital transformation allows us to control costs and improve our margins. We are adopting digital tools, utilizing advanced analytics and leveraging improvements in advanced controls. New technologies and predictive modeling enable the digitization of manual work processes, optimization of refinery operations, improvements in workforce productivity and acceleration of decision-making across our value chain. The expansion of digital tools, including devices and visualization capabilities, provides access to real-time data and accelerates our workflow.



MIDSTREAM

Midstream's digital transformation focuses on operational excellence. We are utilizing digital technology to leverage artificial intelligence and data analytics to improve our pipeline reliability, lower energy consumption and enhance our customer experience. Our collaboration with technology startups has also allowed us to develop advanced control room automation while building a platform for growth.



MARKETING AND SPECIALTIES

Our business transformation focuses on improving the customer experience. We continue to expand and enhance our mobile pay platform. Access to more comprehensive data allows us to provide customized offerings and promotions through our mobile app. In addition, we are connecting with streamlined logistics technology to be more responsive to customer needs.



| Billings Refinery BILLINGS, MT

Board of Directors



| L to R: Brian Ferguson, Gary Adams, John Lowe, Charles Holley, Victoria Tschinkel, Greg Garland, Marna Whittington, Glenn Tilton, Denise Ramos, Harold McGraw

GREG C. GARLAND

Mr. Garland serves as Chairman and CEO of Phillips 66. He previously served as Senior Vice President, Exploration and Production-Americas for ConocoPhillips from 2010 to 2012 and as President and CEO of Chevron Phillips Chemical Company from 2008 to 2010, having served as Senior Vice President, Planning and Specialty Products, CPChem, from 2000 to 2008. Mr. Garland also serves on the boards of Amgen Inc. and Phillips 66 Partners GP LLC, the general partner of Phillips 66 Partners LP. (2)

GARY K. ADAMS

Mr. Adams is the former Chief Adviser - Chemicals for IHS Markit, a position he held from 2011 to 2017. He previously served as President, CEO and Chairman of Chemical Market Associates, Inc. (CMAI) from 1997 to 2011. He started his chemical industry career with Union Carbide. Mr. Adams is a director of Trecora Resources and previously served on the boards of Westlake Chemical Partners LP from 2014 to 2016 and Phillips 66 Partners LP from 2013 to 2016. (3,5)

J. BRIAN FERGUSON

Mr. Ferguson is the former Chairman of Eastman Chemical Company, a position he held from 2002 to 2010. He also served as CEO of Eastman from 2002 to 2009. Mr. Ferguson served on the board of NextEra Energy, Inc. from 2005 to 2013 and currently serves on the board of Owens Corning. (1,2,4,5)

CHARLES M. HOLLEY

Mr. Holley is the former Executive Vice President and Chief Financial Officer of Walmart Inc., a position he held from 2010 to 2015. He previously served as Executive Vice President – Finance, and Treasurer of Walmart from 2007 to 2010. Mr. Holley also served as an independent senior advisor, U.S. CFO Program, Deloitte LLP, from 2016 to 2019. Mr. Holley serves on the board of Amgen, Inc. (1,5)

JOHN E. LOWE

Mr. Lowe is the former assistant to the CEO of ConocoPhillips, a position he held from 2008 until 2012. He previously served as Executive Vice President, Exploration and Production of ConocoPhillips from 2007 to 2008. Mr. Lowe is Senior Executive Advisor to Tudor, Pickering, Holt & Co. He served on the board of Agrium Inc. from 2010 to 2015 and currently serves on the boards of TransCanada Corporation and Apache Corporation (as Non-Executive Chairman). (1,2,5)

(1) Member of the Audit and Finance Committee

(2) Member of the Executive Committee

(3) Member of the Human Resources and Compensation Committee

(4) Member of the Nominating and Governance Committee

(5) Member of the Public Policy Committee

As of March 1, 2020

HAROLD W. McGRAW III

Mr. McGraw is Chairman Emeritus of S&P Global Inc. (previously McGraw Hill Financial). He previously served as Chairman of the Board of S&P Global from 1999 until 2015. Mr. McGraw is the Honorary Chairman of the International Chamber of Commerce. He currently serves on the board of United Technologies Corporation. (3,5)

DENISE L. RAMOS

Ms. Ramos is the former Chief Executive Officer and President of ITT Inc., a position she held from 2011 to 2018. Prior to that, she served as Senior Vice President and Chief Financial Officer of ITT Inc. from 2007 to 2011. Ms. Ramos served on the board of ITT Inc. from 2011 to 2018 and of Praxair, Inc. from 2014 to 2016. She currently serves on the boards of United Technologies Corporation and Bank of America Corporation. (1,4,5)

GLENN F. TILTON

Mr. Tilton is the former Chairman of the Midwest of JPMorgan Chase & Co., a position he held from 2011 to 2014. From 2002 to 2010, he served as Chairman, President and CEO of UAL Corporation, a holding company, and United Air Lines, Inc., an air transportation company and wholly owned subsidiary of UAL Corporation. Mr. Tilton currently serves on the boards of Abbott Laboratories and AbbVie Inc. (as Lead Director). (2,3,4,5)

VICTORIA J. TSCHINKEL

Ms. Tschinkel currently serves as the Vice-Chairwoman of 1000 Friends of Florida and previously was its Chairwoman. In addition, Ms. Tschinkel is a director of the National Fish and Wildlife Foundation, serving on the Gulf Benefits Committee. She served as State Director of the Florida Nature Conservancy from 2003 to 2006, was senior environmental consultant to Landers & Parsons, a Tallahassee, Florida, law firm, from 1987 to 2002, and was the Secretary of the Florida Department of Environmental Regulation from 1981 to 1987. (1,5)

MARNA C. WHITTINGTON

Dr. Whittington is the former CEO of Allianz Global Investors Capital, a position she held from 2002 until 2012. She previously served as the Chief Operating Officer of Allianz Global Investors from 2001 to 2011. Dr. Whittington served on the board of Rohm & Haas Company from 1989 to 2009 and currently serves on the boards of Macy's, Inc. (as Lead Director) and Oaktree Capital Group, LLC. (2,3,4,5)

Executive Leadership Team



L To R: Kevin Mitchell, Brian Mandell, Tim Roberts, Paula Johnson, Greg Garland, Bob Herman, Sonya Reed, Zhanna Golodryga, Jeff Dietert, Jay Churchill

Greg C. Garland, Chairman and Chief Executive Officer

Jay D. Churchill, Senior Vice President, Health, Safety and Environment, and Projects

Jeff A. Dietert, Vice President, Investor Relations

Zhanna Golodryga, Senior Vice President, Chief Digital and Administrative Officer

Robert A. Herman, Executive Vice President, Refining

Paula A. Johnson, Executive Vice President, Legal and Government Affairs, General Counsel, Corporate Secretary

Brian M. Mandell, Executive Vice President, Marketing and Commercial

Kevin J. Mitchell, Executive Vice President, Finance and Chief Financial Officer

Sonya M. Reed, Senior Vice President, Human Resources and Corporate Communications

Timothy D. Roberts, Executive Vice President, Midstream

Non-GAAP Reconciliations

RECONCILIATION OF EARNINGS TO ADJUSTED EARNINGS

| (Millions of Dollars, Except as Indicated) | 2019 | 2018 | 2017 |
|---|----------------|---------|---------|
| Net income attributable to Phillips 66 (earnings) | \$3,076 | \$5,595 | \$5,106 |
| Pre-tax adjustments: | | | |
| Pending claims and settlements | (21) | 21 | (60) |
| Pension settlement expense | — | 67 | 83 |
| Impairments | 853 | — | — |
| Impairments by equity affiliates | 47 | 28 | 64 |
| Lower-of-cost-or-market inventory adjustments | 65 | — | — |
| Certain tax impacts | (90) | (119) | (23) |
| Gain on consolidation of business | — | — | (423) |
| Asset dispositions | (17) | — | — |
| Hurricane-related costs | — | — | 210 |
| Tax impact of adjustments* | (214) | (1) | 47 |
| U.S. tax reform | — | 23 | (2,735) |
| Other tax impacts | (42) | (70) | — |
| Noncontrolling interests | — | 6 | — |
| Adjusted earnings | 3,657 | 5,550 | 2,269 |
| Earnings per share of common stock (dollars) | 6.77 | 11.80 | 9.85 |
| Adjusted earnings per share of common stock (dollars)† | 8.05 | 11.71 | 4.38 |

* We generally tax effect taxable U.S.-based special items using a combined federal and state statutory income tax rate of approximately 25% beginning in 2018, and approximately 38% for periods prior to 2018. Taxable special items attributable to foreign locations likewise use a local statutory income tax rate. Nontaxable events reflect zero income tax. These events include, but are not limited to, most goodwill impairments, transactions legislatively exempt from income tax, transactions related to entities for which we have made an assertion that the undistributed earnings are permanently reinvested, or transactions occurring in jurisdictions with a valuation allowance.

† Weighted-average diluted shares outstanding and income allocated to participating securities, if applicable, in the adjusted earnings per share calculation are the same as those used in the GAAP diluted earnings per share calculation.

RECONCILIATION OF ROCE TO ADJUSTED ROCE

| (Millions of Dollars) Numerator | 2019 | 2018 | 2017 |
|-----------------------------------|-----------------|----------|----------|
| Net income | \$3,377 | \$5,873 | \$5,248 |
| After-tax interest expense | 362 | 398 | 285 |
| GAAP ROCE earnings | 3,739 | 6,271 | 5,533 |
| After-tax special items | 581 | (51) | (2,837) |
| Adjusted ROCE earnings | 4,320 | 6,220 | 2,696 |
| (Millions of Dollars) Denominator | | | |
| GAAP average capital employed* | \$38,622 | \$37,925 | \$35,700 |
| * Total equity plus total debt | | | |
| GAAP ROCE (percent) | 10% | 17% | 15% |
| Adjusted ROCE (percent) | 11% | 16% | 8% |

Use of Non-GAAP Financial Information — This report includes the terms "adjusted earnings," "adjusted earnings per share" and "adjusted return on capital employed." These are non-GAAP financial measures that are included to help facilitate comparisons of operating performance across periods and to help facilitate comparisons with other companies in our industry, by excluding items that do not reflect the core operating results of our businesses in the current period. This report also includes a "debt-to-capital ratio excluding PSXP." This non-GAAP measure is provided to differentiate the capital structure of Phillips 66 compared with that of Phillips 66 Partners. Additionally, this report includes "adjusted capital spending," a non-GAAP financial measure that demonstrates the portion of total consolidated capital expenditures and investments funded by Phillips 66 and Phillips 66 Partners.

RECONCILIATION OF DEBT-TO-CAPITAL RATIO TO DEBT-TO-CAPITAL RATIO EXCLUDING PSXP

| (Millions of Dollars, Except as Indicated) | Total Debt | Total Equity | Debt-to-Capital Ratio |
|--|-----------------|-----------------|-----------------------|
| Dec. 31, 2019 | | | |
| Phillips 66 consolidated | \$11,763 | \$27,169 | 30% |
| PSXP* | 3,516 | 2,229 | |
| Phillips 66 excluding PSXP | 8,247 | 24,940 | 25% |

Dec. 31, 2018

| | | | |
|-----------------------------------|--------------|---------------|------------|
| Phillips 66 consolidated | 11,160 | 27,153 | 29% |
| PSXP* | 3,048 | 2,469 | |
| Phillips 66 excluding PSXP | 8,112 | 24,684 | 25% |

Dec. 31, 2017

| | | | |
|-----------------------------------|--------------|---------------|------------|
| Phillips 66 consolidated | 10,110 | 27,428 | 27% |
| PSXP* | 2,945 | 2,314 | |
| Phillips 66 excluding PSXP | 7,165 | 25,114 | 22% |

* PSXP's third-party debt and Phillips 66's noncontrolling interests attributable to PSXP.

PHILLIPS 66 RECONCILIATION OF CAPITAL EXPENDITURES AND INVESTMENTS TO ADJUSTED CAPITAL SPENDING

| (Millions of Dollars) | 2020 Budget | 2019 | 2018 | 2017 |
|--|--------------|----------------|---------|-------|
| Midstream | \$2,390 | \$2,292 | \$1,548 | \$771 |
| Chemicals | — | — | — | — |
| Refining | 1,035 | 1,001 | 826 | 853 |
| Marketing and Specialties | 161 | 374 | 125 | 108 |
| Corporate and Other | 204 | 206 | 140 | 100 |
| Total capital expenditures and investments | 3,790 | 3,873 | 2,639 | 1,832 |
| Less: capital spending funded by certain joint venture partners* | 469 | 423 | — | — |
| Adjusted capital spending | 3,321 | 3,450 | 2,639 | 1,832 |
| Growth | 2,150 | 2,320 | 1,704 | 982 |
| Sustaining | 1,171 | 1,130 | 935 | 850 |
| Selected Equity Affiliates** | | | | |
| DCP Midstream, LLC | 350 | 472 | 484 | 268 |
| CPChem | 656 | 382 | 339 | 776 |
| WRB Refining LP | 215 | 175 | 156 | 126 |
| | 1,221 | 1,029 | 979 | 1,170 |

* Included in the Midstream segment.

** Phillips 66's share of joint venture's self-funded capital spending.

PHILLIPS 66 PARTNERS RECONCILIATION OF CAPITAL EXPENDITURES AND INVESTMENTS TO ADJUSTED CAPITAL SPENDING

| (Millions of Dollars) | 2020 Budget | 2019 | 2018 | 2017 |
|--|-------------|----------------|-------|-------|
| Capital expenditures and investments | \$962 | \$1,082 | \$776 | \$434 |
| Less: capital expenditures attributable to Predecessors | — | — | — | 82 |
| Less: capital spending funded by Gray Oak joint venture partners | 95 | 423 | — | — |
| Adjusted capital spending | 867 | 659 | 776 | 352 |



Form 10-K

2019

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

FORM 10-K

(Mark One)

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

For the fiscal year ended

December 31, 2019

OR

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

For the transition period from

to

Commission file number: **001-35349**

Phillips 66

(Exact name of registrant as specified in its charter)

Delaware

45-3779385

(State or other jurisdiction of
incorporation or organization)

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

2331 CityWest Blvd., Houston, Texas 77042

(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: **281-293-6600**

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

| Title of each class | Trading Symbol(s) | Name of each exchange on which registered |
|--------------------------------|-------------------|---|
| Common Stock, \$0.01 Par Value | PSX | New York Stock Exchange |

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes No

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

Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T 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 on June 28, 2019, the last business day of the registrant's most recently completed second fiscal quarter, based on the closing price on that date of \$93.54, was \$41.9 billion. The registrant, solely for the purpose of this required presentation, had deemed its Board of Directors and executive officers to be affiliates, and deducted their stockholdings in determining the aggregate market value.

The registrant had 439,445,842 shares of common stock outstanding at January 31, 2020.

Documents incorporated by reference:

Portions of the Proxy Statement for the Annual Meeting of Stockholders to be held on May 6, 2020 (Part III).

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Unless otherwise indicated, “the company,” “we,” “our,” “us” and “Phillips 66” are used in this report to refer to the businesses of Phillips 66 and its consolidated subsidiaries.

This Annual Report on Form 10-K contains forward-looking statements including, without limitation, statements relating to our plans, strategies, objectives, expectations and intentions that are made pursuant to the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995. The words “anticipate,” “estimate,” “believe,” “budget,” “continue,” “could,” “intend,” “may,” “plan,” “potential,” “predict,” “seek,” “should,” “will,” “would,” “expect,” “objective,” “projection,” “forecast,” “goal,” “guidance,” “outlook,” “effort,” “target” and similar expressions identify forward-looking statements. The company does not undertake to update, revise or correct any forward-looking information unless required to do so under the federal securities laws. Readers are cautioned that such forward-looking statements should be read in conjunction with the company’s disclosures under the heading “CAUTIONARY STATEMENT FOR THE PURPOSES OF THE ‘SAFE HARBOR’ PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995.”

PART I

Items 1 and 2. BUSINESS AND PROPERTIES

CORPORATE STRUCTURE

Phillips 66, headquartered in Houston, Texas, was incorporated in Delaware in 2011 in connection with, and in anticipation of, a restructuring of ConocoPhillips that separated its downstream businesses into an independent, publicly traded company named Phillips 66. The two companies were separated by ConocoPhillips distributing to its stockholders all the shares of common stock of Phillips 66 after the market closed on April 30, 2012 (the Separation). Phillips 66 stock trades on the New York Stock Exchange under the “PSX” stock symbol.

Our business is organized into four operating segments:

- 1) **Midstream**—Provides crude oil and refined petroleum product transportation, terminaling and processing services, as well as natural gas and natural gas liquids (NGL) transportation, storage, fractionation, processing and marketing services, mainly in the United States. This segment includes our master limited partnership (MLP), Phillips 66 Partners LP (Phillips 66 Partners), as well as our 50% equity investment in DCP Midstream, LLC (DCP Midstream).
- 2) **Chemicals**—Consists of our 50% equity investment in Chevron Phillips Chemical Company LLC (CPChem), which manufactures and markets petrochemicals and plastics on a worldwide basis.
- 3) **Refining**—Refines crude oil and other feedstocks into petroleum products, such as gasoline, distillates and aviation fuels, at 13 refineries in the United States and Europe.
- 4) **Marketing and Specialties (M&S)**—Purchases for resale and markets refined petroleum products, mainly in the United States and Europe. In addition, this segment includes the manufacturing and marketing of specialty products, such as base oils and lubricants.

Corporate and Other includes general corporate overhead, interest expense, our investment in new technologies and various other corporate activities. Corporate assets include all cash, cash equivalents and income tax-related assets.

At December 31, 2019, Phillips 66 had approximately 14,500 employees.

SEGMENT AND GEOGRAPHIC INFORMATION

MIDSTREAM

The Midstream segment consists of three business lines:

- Transportation—Transports crude oil and other feedstocks to our refineries and other locations, delivers refined petroleum products to market, and provides terminaling and storage services for crude oil and refined petroleum products.
- NGL and Other—Transports, stores, fractionates, exports and markets NGL and provides other fee-based processing services.
- DCP Midstream—Gathers, processes, transports and markets natural gas and transports, fractionates and markets NGL.

Phillips 66 Partners

Phillips 66 Partners, headquartered in Houston, Texas, is a publicly traded MLP formed in 2013 to own, operate, develop and acquire primarily fee-based midstream assets. On August 1, 2019, Phillips 66 Partners completed a restructuring transaction to eliminate the incentive distribution rights (IDRs) held by us and convert our 2% economic general partner interest into a noneconomic general partner interest in exchange for 101 million Phillips 66 Partners common units. No distributions were made for the general partner interest after August 1, 2019. At December 31, 2019, we owned 170 million Phillips 66 Partners common units, representing a 74% limited partner interest in Phillips 66 Partners, while the public owned a 26% limited partner interest and 13.8 million perpetual convertible preferred units.

Phillips 66 Partners' operations currently consist of crude oil, refined petroleum product and NGL transportation, terminaling, fractionation, processing and storage assets that are geographically dispersed throughout the United States. The majority of Phillips 66 Partners' assets are associated with, and integral to, Phillips 66 operated refineries.

The results of operations of Phillips 66 Partners are included in Midstream's Transportation and NGL and Other business lines, based on the nature of the activity within the partnership.

Transportation

We own or lease various assets to provide transportation, terminaling and storage services. These assets include crude oil, refined petroleum product, NGL, and natural gas pipeline systems; crude oil, refined petroleum product and NGL terminals; a petroleum coke handling facility; marine vessels; railcars and trucks.

Pipelines and Terminals

At December 31, 2019, our Transportation business was comprised of over 22,000 miles of crude oil, refined petroleum product, NGL and natural gas pipeline systems in the United States, including those partially owned or operated by our affiliates. We owned or operated 39 refined petroleum product terminals, 20 crude oil terminals, 4 NGL terminals, a petroleum coke exporting facility and various other storage and loading facilities.

The Beaumont Terminal in Nederland, Texas, is the largest terminal in the Phillips 66 portfolio. At December 31, 2019, the terminal storage capacity was 15.5 million barrels, which included 11.8 million barrels of storage capacity for crude oil and 3.7 million barrels of storage capacity for refined petroleum products. We continue to expand capacity at the Beaumont Terminal, and upon completion in the first quarter of 2020, the terminal will have 16.8 million barrels of total crude oil and refined products storage capacity. In addition, we are increasing its export capacity by 200,000 barrels per day (BPD) with the addition of a fourth dock, bringing the terminal's total dock capacity to 800,000 BPD. The project is expected to be completed in the third quarter of 2020.

The Bayou Bridge Pipeline joint venture transports crude oil from Nederland, Texas, to St. James, Louisiana. A segment of the pipeline from Lake Charles to St. James, Louisiana, was completed on April 1, 2019. Phillips 66 Partners has a 40% interest in the joint venture, and our co-venturer serves as the operator. The pipeline has a capacity of approximately 480,000 BPD.

The Gray Oak Pipeline system will transport up to 900,000 BPD of crude oil from the Permian and Eagle Ford to Texas Gulf Coast destinations that include Corpus Christi, the Sweeny area, including our Sweeny Refinery, as well as access to the Houston market. The pipeline system made its first commercial delivery in November 2019 and is expected to reach full service in the second quarter of 2020. Phillips 66 Partners has a 42.25% effective ownership interest in the pipeline system.

Phillips 66 Partners owns a 25% interest in the South Texas Gateway Terminal, which will connect to the Gray Oak Pipeline in Corpus Christi, Texas. The marine export terminal, under construction by a co-venturer, will have two deepwater docks, storage capacity of 8.5 million barrels and up to 800,000 BPD of throughput capacity. The terminal is expected to start up in the third quarter of 2020.

The Red Oak Pipeline system joint venture will transport crude oil from Cushing, Oklahoma, and the Permian to multiple destinations along the Texas Gulf Coast, including Corpus Christi, Ingleside, Houston, and Beaumont, Texas. The throughput capacity on the pipeline is expected to be 1,000,000 BPD. The pipeline system is supported by long-term shipper commitments, and initial service is expected in the first half of 2021. Our co-venturer will construct the pipeline, and we will operate it. We own a 50% interest in the joint venture.

The Liberty Pipeline joint venture will transport crude oil from the Rockies and Bakken production areas to Cushing, Oklahoma. The throughput capacity on the 24 inch pipeline is expected to be 400,000 BPD. The pipeline is supported by long-term shipper commitments, and service is expected in the first half of 2021. We will construct and operate the pipeline. We own a 50% interest in the joint venture.

The following table depicts our ownership interest in major pipeline systems at December 31, 2019:

| Name | State of Origination/Terminus | Interest | Length (Miles) | Gross Capacity (MBD) |
|-----------------------------------|-------------------------------|----------|----------------|----------------------|
| Crude Oil | | | | |
| Bakken Pipeline † | North Dakota/Texas | 25% | 1,918 | 570 |
| Bayou Bridge † | Texas/Louisiana | 40 | 213 | 480 |
| Clifton Ridge † | Louisiana | 100 | 10 | 260 |
| CushPo † | Oklahoma | 100 | 62 | 130 |
| Eagle Ford Gathering † | Texas | 100 | 28 | 54 |
| Glacier † | Montana | 79 | 865 | 126 |
| Gray Oak Pipeline* † | Texas | 42 | 840 | 235 |
| Line 100 | California | 100 | 79 | 54 |
| Line 200 | California | 100 | 228 | 93 |
| Line 300 | California | 100 | 61 | 48 |
| Line 400 | California | 100 | 153 | 40 |
| Line O † | Oklahoma/Texas | 100 | 276 | 37 |
| New Mexico Crude † | New Mexico/Texas | 100 | 227 | 106 |
| North Texas Crude † | Texas | 100 | 224 | 28 |
| Oklahoma Crude † | Texas/Oklahoma | 100 | 217 | 100 |
| Sacagawea † | North Dakota | 50 | 95 | 175 |
| STACK PL † | Oklahoma | 50 | 149 | 250 |
| Sweeny Crude | Texas | 100 | 56 | 265 |
| West Texas Crude † | Texas | 100 | 1,079 | 156 |
| Refined Petroleum Products | | | | |
| ATA Line † | Texas/New Mexico | 50 | 293 | 34 |
| Borger to Amarillo † | Texas | 100 | 93 | 76 |
| Borger-Denver | Texas/Colorado | 70 | 397 | 38 |
| Cherokee East † | Oklahoma/Missouri | 100 | 287 | 55 |
| Cherokee North † | Oklahoma/Kansas | 100 | 29 | 57 |
| Cherokee South † | Oklahoma | 100 | 98 | 46 |
| Cross Channel Connector † | Texas | 100 | 5 | 184 |
| Explorer † | Texas/Indiana | 22 | 1,830 | 660 |
| Gold Line † | Texas/Illinois | 100 | 686 | 120 |
| Heartland** | Kansas/Iowa | 50 | 49 | 30 |
| LAX Jet Line | California | 50 | 19 | 50 |
| Los Angeles Products | California | 100 | 22 | 112 |
| Paola Products † | Kansas | 100 | 106 | 96 |
| Pioneer | Wyoming/Utah | 50 | 562 | 63 |
| Richmond | California | 100 | 14 | 26 |
| SAAL † | Texas | 33 | 102 | 32 |
| SAAL † | Texas | 54 | 19 | 30 |
| Seminoe † | Montana/Wyoming | 100 | 342 | 33 |
| Standish † | Oklahoma/Kansas | 100 | 92 | 72 |
| Sweeny to Pasadena † | Texas | 100 | 120 | 294 |
| Torrance Products | California | 100 | 8 | 161 |
| Watson Products | California | 100 | 9 | 238 |
| Yellowstone | Montana/Washington | 46 | 710 | 66 |

| Name | State of Origination/Terminus | Interest | Length (Miles) | Gross Capacity (MBD) |
|--------------------|-------------------------------|----------|----------------|----------------------|
| NGL | | | | |
| Blue Line | Texas/Illinois | 100% | 688 | 29 |
| Brown Line † | Oklahoma/Kansas | 100 | 76 | 26 |
| Chisholm | Oklahoma/Kansas | 50 | 202 | 42 |
| Conway to Wichita | Kansas | 100 | 55 | 38 |
| Medford † | Oklahoma | 100 | 42 | 10 |
| Powder River | Wyoming/Texas | 100 | 716 | 14 |
| River Parish NGL † | Louisiana | 100 | 510 | 133 |
| Sand Hills † | New Mexico/Texas | 33 | 1,506 | 500 |
| Skelly-Belvieu | Texas | 50 | 571 | 45 |
| Southern Hills † | Kansas/Texas | 33 | 981 | 192 |
| Sweeny LPG | Texas | 100 | 232 | 942 |
| Sweeny NGL | Texas | 100 | 18 | 204 |
| TX Panhandle Y1/Y2 | Texas | 100 | 289 | 61 |
| Natural Gas | | | | |
| Rockies Express*** | | | | |
| East to West | Ohio/Illinois | 25 | 661 | 2.6 Bcf/d |
| West to East | Colorado/Ohio | 25 | 1,712 | 1.8 Bcf/d |

† Owned by Phillips 66 Partners; Phillips 66 held 74% of the limited partner interest in Phillips 66 Partners at December 31, 2019.

* Interest reflects Phillips 66 Partners' proportionate share of the Gray Oak Pipeline system, held through its 65 percent-owned consolidated subsidiary, Gray Oak Holdings, LLC. Gray Oak Holdings, LLC had a 65% ownership interest in Gray Oak Pipeline, LLC at December 31, 2019. Gross capacity reflects the initial accelerated commissioning service capacity at December 31, 2019.

** Total pipeline system is 419 miles. Phillips 66 has an ownership interest in multiple segments totaling 49 miles.

*** Total pipeline system consists of three zones for a total of 1,712 miles. The third zone of the pipeline is bidirectional and can transport 2.6 Bcf/d of natural gas from east to west.

The following table depicts our ownership interest in terminal and storage facilities at December 31, 2019:

| Facility Name | Location | Commodity Handled | Interest | Gross Storage Capacity (MBbl) | Gross Rack Capacity (MBD) |
|-------------------------------|--------------|--|----------|-------------------------------|---------------------------|
| Albuquerque † | New Mexico | Refined Petroleum Products | 100% | 274 | 20 |
| Amarillo † | Texas | Refined Petroleum Products | 100 | 296 | 23 |
| Beaumont | Texas | Crude Oil, Refined Petroleum Products | 100 | 15,500 | 8 |
| Billings | Montana | Refined Petroleum Products | 100 | 88 | 12 |
| Billings Crude † | Montana | Crude Oil | 100 | 236 | N/A |
| Borger | Texas | Crude Oil | 50 | 772 | N/A |
| Bozeman | Montana | Refined Petroleum Products | 100 | 130 | 5 |
| Buffalo Crude † | Montana | Crude Oil | 100 | 303 | N/A |
| Casper † | Wyoming | Refined Petroleum Products | 100 | 365 | 7 |
| Clemens † | Texas | NGL | 100 | 9,000 | N/A |
| Clifton Ridge † | Louisiana | Crude Oil | 100 | 3,800 | N/A |
| Coalinga | California | Crude Oil | 100 | 817 | N/A |
| Colton | California | Refined Petroleum Products | 100 | 207 | 20 |
| Cushing † | Oklahoma | Crude Oil | 100 | 675 | N/A |
| Cut Bank † | Montana | Crude Oil | 100 | 315 | N/A |
| Denver | Colorado | Refined Petroleum Products | 100 | 310 | 43 |
| Des Moines | Iowa | Refined Petroleum Products | 50 | 217 | 12 |
| East St. Louis † | Illinois | Refined Petroleum Products | 100 | 2,031 | 62 |
| Freeport | Texas | Crude Oil, Refined Petroleum Products, NGL | 100 | 3,485 | N/A |
| Glenpool † | Oklahoma | Refined Petroleum Products | 100 | 571 | 18 |
| Great Falls | Montana | Refined Petroleum Products | 100 | 198 | 6 |
| Hartford † | Illinois | Refined Petroleum Products | 100 | 1,468 | 21 |
| Helena | Montana | Refined Petroleum Products | 100 | 195 | 5 |
| Jefferson City † | Missouri | Refined Petroleum Products | 100 | 103 | 15 |
| Jones Creek | Texas | Crude Oil | 100 | 2,580 | N/A |
| Junction | California | Crude Oil, Refined Petroleum Products | 100 | 524 | N/A |
| Kansas City † | Kansas | Refined Petroleum Products | 100 | 1,410 | 50 |
| Keene † | North Dakota | Crude Oil | 50 | 503 | N/A |
| La Junta | Colorado | Refined Petroleum Products | 100 | 109 | 5 |
| Lake Charles Pipeline Storage | Louisiana | Refined Petroleum Products | 50 | 3,143 | N/A |
| Lincoln | Nebraska | Refined Petroleum Products | 100 | 217 | 12 |
| Linden † | New Jersey | Refined Petroleum Products | 100 | 360 | 95 |
| Los Angeles | California | Refined Petroleum Products | 100 | 156 | 80 |
| Lubbock † | Texas | Refined Petroleum Products | 100 | 182 | 18 |
| Medford Spheres † | Oklahoma | NGL | 100 | 70 | N/A |
| Missoula | Montana | Refined Petroleum Products | 50 | 365 | 14 |
| Moses Lake | Washington | Refined Petroleum Products | 50 | 216 | 10 |
| Mount Vernon † | Missouri | Refined Petroleum Products | 100 | 365 | 40 |
| North Salt Lake | Utah | Refined Petroleum Products | 50 | 755 | 34 |
| North Spokane | Washington | Refined Petroleum Products | 100 | 492 | N/A |
| Odessa † | Texas | Crude Oil | 100 | 521 | N/A |
| Oklahoma City † | Oklahoma | Crude Oil, Refined Petroleum Products | 100 | 355 | 42 |

| Facility Name | Location | Commodity Handled | Interest | Gross Storage Capacity (MBbl) | Gross Rack Capacity (MBD) |
|--------------------|--------------|---------------------------------------|----------|-------------------------------|---------------------------|
| Palermo † | North Dakota | Crude Oil | 70% | 235 | N/A |
| Paola † | Kansas | Refined Petroleum Products | 100 | 978 | N/A |
| Pasadena † | Texas | Refined Petroleum Products | 100 | 3,234 | 65 |
| Pecan Grove † | Louisiana | Crude Oil | 100 | 177 | N/A |
| Ponca City † | Oklahoma | Refined Petroleum Products | 100 | 71 | 22 |
| Ponca City Crude † | Oklahoma | Crude Oil | 100 | 1,229 | N/A |
| Portland | Oregon | Refined Petroleum Products | 100 | 650 | 33 |
| Renton | Washington | Refined Petroleum Products | 100 | 243 | 19 |
| Richmond | California | Refined Petroleum Products | 100 | 343 | 28 |
| River Parish † | Louisiana | NGL | 100 | 1,500 | N/A |
| Rock Springs | Wyoming | Refined Petroleum Products | 100 | 132 | 8 |
| Sacramento | California | Refined Petroleum Products | 100 | 146 | 12 |
| San Bernard | Texas | Refined Petroleum Products | 100 | 222 | N/A |
| Santa Margarita | California | Crude Oil | 100 | 398 | N/A |
| Sheridan † | Wyoming | Refined Petroleum Products | 100 | 94 | 6 |
| Spokane | Washington | Refined Petroleum Products | 100 | 351 | 20 |
| Tacoma | Washington | Refined Petroleum Products | 100 | 316 | 19 |
| Torrance | California | Crude Oil, Refined Petroleum Products | 100 | 2,128 | N/A |
| Tremley Point † | New Jersey | Refined Petroleum Products | 100 | 1,701 | 25 |
| Westlake | Louisiana | Refined Petroleum Products | 100 | 128 | 10 |
| Wichita Falls † | Texas | Crude Oil | 100 | 225 | N/A |
| Wichita North † | Kansas | Refined Petroleum Products | 100 | 769 | 20 |
| Wichita South † | Kansas | Refined Petroleum Products | 100 | 272 | N/A |

† Owned by Phillips 66 Partners; Phillips 66 held 74% of the limited partner interest in Phillips 66 Partners at December 31, 2019.

The following table depicts our ownership interest in marine, rail and petroleum coke loading and offloading facilities at December 31, 2019:

| Facility Name | Location | Commodity Handled | Interest | Gross Loading Capacity* |
|-----------------------|--------------|--|----------|-------------------------|
| Marine | | | | |
| Beaumont | Texas | Crude Oil, Refined Petroleum Products | 100% | 60 |
| Clifton Ridge † | Louisiana | Crude Oil, Refined Petroleum Products | 100 | 50 |
| Freeport | Texas | Crude Oil, Refined Petroleum Products, NGL | 100 | 46 |
| Hartford † | Illinois | Refined Petroleum Products | 100 | 3 |
| Pecan Grove † | Louisiana | Crude Oil | 100 | 6 |
| Portland | Oregon | Crude Oil | 100 | 10 |
| Richmond | California | Crude Oil | 100 | 3 |
| San Bernard | Texas | Refined Petroleum Products | 100 | 2 |
| Tacoma | Washington | Crude Oil | 100 | 12 |
| Tremley Point † | New Jersey | Refined Petroleum Products | 100 | 7 |
| Rail | | | | |
| Bayway † | New Jersey | Crude Oil | 100 | 75 |
| Beaumont | Texas | Crude Oil | 100 | 20 |
| Ferndale † | Washington | Crude Oil | 100 | 30 |
| Missoula | Montana | Refined Petroleum Products | 50 | 41 |
| Palermo † | North Dakota | Crude Oil | 70 | 100 |
| Thompson Falls | Montana | Refined Petroleum Products | 50 | 41 |
| Petroleum Coke | | | | |
| Lake Charles | Louisiana | Petroleum Coke | 50 | N/A |

† Owned by Phillips 66 Partners; Phillips 66 held 74% of the limited partner interest in Phillips 66 Partners at December 31, 2019.

* Marine facilities in thousands of barrels per hour; Rail in thousands of barrels daily (MBD).

Marine Vessels

At December 31, 2019, we had 17 international-flagged crude oil, refined petroleum product and NGL tankers and two Jones Act-compliant tankers under time charter contracts, with capacities ranging in size from 300,000 to 2,200,000 barrels. Additionally, we had a variety of inland and offshore tug/barge units. These vessels are used primarily to transport crude oil and other feedstocks, as well as refined petroleum products for certain of our refineries. In addition, the NGL tankers are used to export propane and butane from our fractionation, transportation and storage infrastructure.

Truck and Rail

Our truck and rail fleets support our feedstock and distribution operations. Rail movements are provided via a fleet of approximately 10,000 owned and leased railcars. Truck movements are provided through our wholly owned subsidiary, Sentinel Transportation LLC, and through numerous third-party trucking companies.

NGL and Other

Our NGL and Other business includes the following:

- A U.S. Gulf Coast NGL market hub comprised of the Freeport LPG Export Terminal and Phillips 66 Partners' 100,000-BPD Sweeny Fractionator. These assets are supported by 9,000,000 barrels of gross capacity at Phillips 66 Partners' Clemens Caverns storage facility. We refer to these facilities as the "Sweeny Hub."
- A 22.5% interest in Gulf Coast Fractionators, which owns an NGL fractionation plant in Mont Belvieu, Texas. We operate the facility, and our net share of its capacity is 32,625 BPD.
- A 12.5% undivided interest in a fractionation plant in Mont Belvieu, Texas. Our net share of its capacity is 30,250 BPD.
- A 40% undivided interest in a fractionation plant in Conway, Kansas. Our net share of its capacity is 43,200 BPD.
- Phillips 66 Partners owns the River Parish NGL logistics system in southeast Louisiana, comprising approximately 500 miles of pipeline and a storage cavern connecting multiple fractionation facilities, refineries and a petrochemical facility.
- Phillips 66 Partners owns a direct one-third interest in both the DCP Sand Hills Pipeline, LLC (Sand Hills) and DCP Southern Hills Pipeline, LLC, which own NGL pipeline systems that connect the Eagle Ford, Permian Basin and Midcontinent production areas to the Mont Belvieu, Texas, market hub.
- Phillips 66 Partners, through its ownership of Merey Sweeny LLC, owns a vacuum distillation unit with a capacity of 125,000 BPD and a delayed coker unit with a capacity of 70,000 BPD located at our Sweeny Refinery in Old Ocean, Texas.
- In July 2019, Phillips 66 Partners completed the construction of a 25,000 BPD isomerization unit at our Lake Charles Refinery, which reached full production during the year. The project increased Phillips 66's production of higher-octane gasoline blend components.

Phillips 66 Partners' Sweeny Fractionator is located adjacent to our Sweeny Refinery in Old Ocean, Texas, and supplies purity ethane to the petrochemical industry and purity NGL to domestic and global markets. Raw NGL supply to the fractionator is delivered from nearby major pipelines, including the Sand Hills Pipeline. The fractionator is supported by significant infrastructure including connectivity to two NGL supply pipelines, a pipeline connecting to the Mont Belvieu market center and the Clemens Caverns storage facility with access to our liquefied petroleum gas (LPG) export terminal in Freeport, Texas.

The Freeport LPG Export Terminal leverages our fractionation, transportation and storage infrastructure to supply petrochemical, heating and transportation markets globally. The terminal can simultaneously load two ships with refrigerated propane and butane at a combined rate of approximately 36,000 barrels per hour. In support of the terminal, we have a 100,000 BPD unit near the Sweeny Fractionator to upgrade domestic propane for export. In addition, the terminal exports 10,000 to 15,000 BPD of natural gasoline (C5+) produced at the Sweeny Fractionator.

We are expanding the Sweeny Hub with three additional fractionators, each with a fractionation capacity of 150,000 BPD. Fracs 2 and 3 are anticipated to start up in the fourth quarter of 2020. Frac 4 is expected to be completed in the second quarter of 2021. The new fractionators are supported by long-term customer commitments. Upon completion of Frac 4, the Sweeny Hub will have 550,000 BPD of fractionation capacity. DCP Midstream has committed to supply the fractionators with raw NGL and has an option to acquire up to a 30% ownership interest in Fracs 2 and 3.

At the Sweeny Hub, Phillips 66 Partners is adding 7.5 million barrels of storage capacity at Clemens Caverns. Upon completion in the fourth quarter of 2020, Clemens Caverns will have 16.5 million barrels of storage capacity. Phillips 66 Partners is also constructing the C2G Pipeline, a 16 inch ethane pipeline that will connect Clemens Caverns to petrochemical facilities in Gregory, Texas, near Corpus Christi. The project is supported by long-term commitments and is expected to be completed in mid-2021.

DCP Midstream

Our Midstream segment includes our 50% equity investment in DCP Midstream, which is headquartered in Denver, Colorado. At December 31, 2019, DCP Midstream, through its subsidiary DCP Midstream, LP (DCP Partners), owned or operated 44 active natural gas processing facilities, with a net processing capacity of approximately 6.5 billion cubic feet per day (Bcf/d). DCP Midstream's owned or operated natural gas pipeline systems included gathering services for these facilities, as well as natural gas transmission, and totaled approximately 58,000 miles of pipeline. DCP Midstream also owned or operated 11 NGL fractionation plants, along with natural gas and NGL storage facilities, and NGL pipelines.

The residual natural gas, primarily methane, which results from processing raw natural gas, is sold by DCP Midstream at market-based prices to marketers and end users, including large industrial companies, natural gas distribution companies and electric utilities. DCP Midstream purchases or takes custody of substantially all of its raw natural gas from producers, principally under contractual arrangements that expose DCP Midstream to the prices of NGL, natural gas and condensate. DCP Midstream also has fee-based arrangements with producers to provide midstream services such as gathering and processing. In addition, DCP Midstream markets a portion of its NGL to us and our equity affiliates under existing contracts.

On November 6, 2019, DCP Partners completed a transaction to eliminate all general partner economic interests in DCP Partners and IDRs in exchange for 65 million newly issued DCP Partners common units. With completion of the transaction, DCP Midstream held a noneconomic general partner interest and approximately 118 million common units, representing approximately 57% of DCP Partners' outstanding common units.

During 2019, DCP Midstream completed or advanced the following growth projects:

- The 200 million cubic feet per day (MMcf/d) O'Connor 2 plant was placed into service in the third quarter of 2019, and the associated 100 MMcf/d bypass was placed into service in the fourth quarter of 2019, increasing DCP Midstream's total available DJ Basin capacity to over 1.4 billion Bcf/d.
- The Gulf Coast Express pipeline began commercial operations in the third quarter of 2019. The pipeline transports approximately 2 Bcf/d of natural gas to Gulf Coast markets. DCP Midstream owns a 25% interest in the pipeline.
- In October 2019, DCP Midstream exercised an option to increase its ownership interest in the Cheyenne Connector to 50%. The 600 MMcf/d natural gas pipeline is expected to be in service in the first half of 2020.

CHEMICALS

The Chemicals segment consists of our 50% equity investment in CPChem, which is headquartered in The Woodlands, Texas. At December 31, 2019, CPChem owned or had joint venture interests in 28 manufacturing facilities located in Belgium, Colombia, Qatar, Saudi Arabia, Singapore and the United States. Additionally, CPChem has two research and development centers in the United States.

We structure our reporting of CPChem's operations around two primary business lines: Olefins and Polyolefins (O&P) and Specialties, Aromatics and Styrenics (SA&S). The O&P business line produces and markets ethylene and other olefin products. The ethylene produced is primarily used by CPChem to produce polyethylene, normal alpha olefins (NAO) and polyethylene pipe. The SA&S business line manufactures and markets aromatics and styrenics products, such as benzene, cyclohexane, styrene and polystyrene. SA&S also manufactures and/or markets a variety of specialty chemical products including organosulfur chemicals, solvents, catalysts, and chemicals used in drilling and mining.

The manufacturing of petrochemicals and plastics involves the conversion of hydrocarbon-based raw material feedstocks into higher-value products, often through a thermal process referred to in the industry as "cracking." For example, ethylene can be produced by cracking ethane, propane, butane, natural gasoline or certain refinery liquids, such as naphtha and gas oil. Ethylene primarily is used as a raw material in the production of plastics, such as polyethylene and polyvinyl chloride (PVC). Plastic resins, such as polyethylene, are manufactured in a thermal/catalyst process, and the produced output is used as a further raw material for various applications, such as packaging and plastic pipe.

The following table reflects CPChem's petrochemicals and plastics product capacities at December 31, 2019:

| | Millions of Pounds per Year* | |
|---------------------------------|------------------------------|-----------|
| | U.S. | Worldwide |
| O&P | | |
| Ethylene | 11,910 | 14,385 |
| Propylene | 2,675 | 3,180 |
| High-density polyethylene | 5,305 | 7,470 |
| Low-density polyethylene | 620 | 620 |
| Linear low-density polyethylene | 1,590 | 1,590 |
| Polypropylene | — | 310 |
| Normal alpha olefins | 2,335 | 2,850 |
| Polyalphaolefins | 125 | 255 |
| Polyethylene pipe | 500 | 500 |
| Total O&P | 25,060 | 31,160 |
| SA&S | | |
| Benzene | 1,600 | 2,530 |
| Cyclohexane | 1,060 | 1,455 |
| Styrene | 1,050 | 1,875 |
| Polystyrene | 835 | 1,070 |
| Specialty chemicals | 440 | 575 |
| Total SA&S | 4,985 | 7,505 |
| Total O&P and SA&S | 30,045 | 38,665 |

*Capacities include CPChem's share in equity affiliates and excludes CPChem's NGL fractionation capacity.

Effective January 1, 2019, capacity at CPChem's new ethane cracker at the Cedar Bayou facility in Baytown, Texas, was increased to 1.7 million metric tons per year, which is 15% above the original design capacity.

In June 2019, CPChem signed an agreement with a co-venturer to jointly pursue the development of a petrochemical facility on the U.S. Gulf Coast. The U.S. Gulf Coast II Petrochemical Project is expected to include a 2 million metric tons per year ethylene cracker and two high density polyethylene units, each with capacity of 1 million metric tons per year. CPChem would own a 51% interest in the joint venture and have responsibility for the construction, operation and management of the facility. Final investment decision is expected in 2021, with targeted startup in 2024.

Also in June 2019, CPChem signed an agreement with a co-venturer to jointly pursue the development, construction and operation of a petrochemicals complex in Qatar. The facility is expected to have a 1.9 million metric tons per year ethylene cracker and two high-density polyethylene derivative units with a combined capacity of 1.7 million metric tons per year. Pending final investment decision, the project is expected to start up in late 2025. CPChem will own a 30% interest in the joint venture.

REFINING

Our Refining segment refines crude oil and other feedstocks into petroleum products, such as gasoline, distillates and aviation fuels, at 13 refineries in the United States and Europe.

The table below depicts information for each of our owned and joint venture refineries at December 31, 2019:

| Region/ Refinery | Location | Interest | Thousands of Barrels Daily | | | | | Clean Product Yield Capability | |
|-----------------------------------|------------------------------------|----------|----------------------------------|--------------------------------|---------------------------------|-------------|-----|---|--|
| | | | Net Crude Throughput Capacity | | Net Clean Product Capacity** | | | | |
| | | | At December 31 2019 | Effective January 1 2020 | Gasolines | Distillates | | | |
| Atlantic Basin/ Europe | | | | | | | | | |
| Bayway | Linden, NJ | 100% | 258 | 258 | 155 | 130 | 92% | | |
| Humber | N. Lincolnshire, United Kingdom | 100 | 221 | 221 | 95 | 115 | 81 | | |
| MiRO* | Karlsruhe, Germany | 19 | 58 | 58 | 25 | 25 | 87 | | |
| | | | 537 | 537 | | | | | |
| Gulf Coast | | | | | | | | | |
| Alliance | Belle Chasse, LA | 100 | 250 | 255 | 130 | 120 | 87 | | |
| Lake Charles | Westlake, LA | 100 | 249 | 249 | 105 | 115 | 70 | | |
| Sweeny | Old Ocean, TX | 100 | 265 | 265 | 140 | 125 | 86 | | |
| | | | 764 | 769 | | | | | |
| Central Corridor | | | | | | | | | |
| Wood River | Roxana, IL | 50 | 167 | 173 | 85 | 70 | 81 | | |
| Borger | Borger, TX | 50 | 75 | 75 | 50 | 35 | 91 | | |
| Ponca City | Ponca City, OK | 100 | 213 | 217 | 120 | 100 | 93 | | |
| Billings | Billings, MT | 100 | 60 | 65 | 35 | 30 | 90 | | |
| | | | 515 | 530 | | | | | |
| West Coast | | | | | | | | | |
| Ferndale | Ferndale, WA | 100 | 105 | 105 | 65 | 35 | 81 | | |
| Los Angeles | Carson/ Wilmington, CA | 100 | 139 | 139 | 85 | 65 | 90 | | |
| San Francisco | Arroyo Grande/ Rodeo, CA | 100 | 120 | 120 | 60 | 65 | 85 | | |
| | | | 364 | 364 | | | | | |
| | | | 2,180 | 2,200 | | | | | |

* Mineraloelraffinerie Oberrhein GmbH.

** Clean product capacities are maximum rates for each clean product category, independent of each other. They are not additive when calculating the clean product yield capability for each refinery.

Primary crude oil characteristics and sources of crude oil for our owned and joint venture refineries are as follows:

| | Characteristics | | | | Sources | | | | |
|---------------|-----------------|-------------|------------|-----------|---------------|--------|---------------------------|-----------|----------------------|
| | Sweet | Medium Sour | Heavy Sour | High TAN* | United States | Canada | South and Central America | Europe ** | Middle East & Africa |
| | | | | | | | | | |
| Bayway | ● | ● | | | ● | ● | | | ● |
| Humber | ● | | ● | ● | ● | | | ● | ● |
| MiRO | ● | ● | ● | | | | | ● | ● |
| Alliance | ● | ● | | | ● | | | | |
| Lake Charles | ● | ● | ● | ● | ● | | | ● | ● |
| Sweeny | ● | ● | ● | ● | ● | ● | ● | | |
| Wood River | ● | | ● | ● | ● | ● | | | |
| Borger | ● | ● | ● | | ● | ● | | | |
| Ponca City | ● | ● | ● | | ● | ● | | | |
| Billings | | ● | ● | ● | ● | ● | | | |
| Ferndale | ● | ● | | | ● | ● | | | ● |
| Los Angeles | | ● | ● | ● | ● | ● | ● | | ● |
| San Francisco | ● | ● | ● | ● | ● | ● | ● | ● | ● |

* High TAN (Total Acid Number): acid content greater than or equal to 1.0 milligram of potassium hydroxide (KOH) per gram.

** Includes Russian crude.

Atlantic Basin/Europe Region

Bayway Refinery

The Bayway Refinery is located on the New York Harbor in Linden, New Jersey. Bayway's facilities include crude distilling, naphtha reforming, fluid catalytic cracking, solvent deasphalting, hydrodesulfurization and alkylation units. The complex also includes a polypropylene plant with the capacity to produce up to 775 million pounds per year. The refinery produces a high percentage of transportation fuels, as well as petrochemical feedstocks, residual fuel oil and home heating oil. Refined petroleum products are distributed to East Coast customers by pipeline, barge, railcar and truck.

Humber Refinery

The Humber Refinery is located on the east coast of England in North Lincolnshire, United Kingdom, approximately 180 miles north of London. Humber's facilities include crude distilling, naphtha reforming, fluid catalytic cracking, hydrodesulfurization, thermal cracking and delayed coking units. The refinery has two coking units with associated calcining plants. Humber is the only coking refinery in the United Kingdom, and a producer of high-quality specialty graphite and anode-grade petroleum cokes. The refinery also produces a high percentage of transportation fuels. The majority of the light oils produced by the refinery are distributed to customers in the United Kingdom by pipeline, railcar and truck, while the other refined petroleum products are exported throughout the world.

MiRO Refinery

The MiRO Refinery is located on the Rhine River in Karlsruhe, Germany, approximately 95 miles south of Frankfurt, Germany. MiRO is the largest refinery in Germany and operates as a joint venture in which we own an 18.75% interest. Facilities include crude distilling, naphtha reforming, fluid catalytic cracking, petroleum coking and calcining, hydrodesulfurization, isomerization, ethyl tert-butyl ether and alkylation units. MiRO produces a high percentage of transportation fuels. Other products produced include petrochemical feedstocks, home heating oil, bitumen, and anode-and fuel-grade petroleum cokes. Refined petroleum products are distributed to customers in Germany, Switzerland, France, and Austria by truck, railcar and barge.

Gulf Coast Region

Alliance Refinery

The Alliance Refinery is located on the Mississippi River in Belle Chasse, Louisiana, approximately 25 miles southeast of New Orleans, Louisiana. The single-train facility includes crude distilling, naphtha reforming, fluid catalytic cracking, alkylation, hydrodesulfurization, aromatics and delayed coking units. Alliance produces a high percentage of transportation fuels. Other products produced include petrochemical feedstocks, home heating oil and anode-grade petroleum coke. A majority of the refined petroleum products are distributed to customers in the southeastern and eastern United States through major common carrier pipeline systems and by barge. Additionally, refined petroleum products are exported to customers primarily in Latin America by waterborne cargo.

Lake Charles Refinery

The Lake Charles Refinery is located in Westlake, Louisiana, approximately 150 miles east of Houston, Texas. Refinery facilities include crude distilling, naphtha reforming, fluid catalytic cracking, alkylation, hydrocracking, hydrodesulfurization and delayed coking units. Refinery facilities also include a specialty coker and calciner. The refinery produces a high percentage of transportation fuels. Other products produced include off-road diesel, home heating oil, feedstock for our Excel Paralubes joint venture in our M&S segment, and high-quality specialty graphite and fuel-grade petroleum cokes. A majority of the refined petroleum products are distributed to customers in the southeastern and eastern United States by truck, railcar, barge or major common carrier pipelines. Additionally, refined petroleum products are exported to customers primarily in Latin America and Europe by waterborne cargo.

Sweeny Refinery

The Sweeny Refinery is located in Old Ocean, Texas, approximately 65 miles southwest of Houston, Texas. Refinery facilities include crude distilling, naphtha reforming, fluid catalytic cracking, alkylation, hydrodesulfurization, aromatics units, and a Phillips 66 Partners owned delayed coking unit. The refinery produces a high percentage of transportation fuels. Other products include petrochemical feedstocks, home heating oil and fuel-grade petroleum coke. A majority of the refined petroleum products are distributed to customers throughout the Midcontinent region, southeastern and eastern United States by pipeline, barge and railcar. Additionally, refined petroleum products are exported to customers primarily in Latin America by waterborne cargo.

Central Corridor Region

WRB Refining LP (WRB)

We are the operator and managing partner of WRB, a 50 percent-owned joint venture that owns the Wood River and Borger refineries.

- *Wood River Refinery*

The Wood River Refinery is located in Roxana, Illinois, about 15 miles northeast of St. Louis, Missouri, at the confluence of the Mississippi and Missouri rivers. Refinery facilities include crude distilling, naphtha reforming, fluid catalytic cracking, alkylation, hydrocracking, hydrodesulfurization and delayed coking units. The refinery produces a high percentage of transportation fuels. Other products produced include petrochemical feedstocks, asphalt and fuel-grade petroleum coke. Refined petroleum products are distributed to customers throughout the Midcontinent region by pipeline, railcar, barge and truck.

- *Borger Refinery*

The Borger Refinery is located in Borger, Texas, in the Texas Panhandle, approximately 50 miles north of Amarillo, Texas. Refinery facilities include crude distilling, naphtha reforming, fluid catalytic cracking, alkylation, hydrodesulfurization, and delayed coking units, as well as an NGL fractionation facility. The refinery produces a high percentage of transportation fuels, as well as fuel-grade petroleum coke, NGL and solvents. Refined petroleum products are distributed to customers in West Texas, New Mexico, Colorado and the Midcontinent region by company-owned and common carrier pipelines.

Ponca City Refinery

The Ponca City Refinery is located in Ponca City, Oklahoma, approximately 95 miles northwest of Tulsa, Oklahoma. Refinery facilities include crude distilling, naphtha reforming, fluid catalytic cracking, alkylation, hydrodesulfurization, and delayed coking units. The refinery produces a high percentage of transportation fuels and anode-grade petroleum coke. Refined petroleum products are primarily distributed to customers throughout the Midcontinent region by company-owned and common carrier pipelines.

Billings Refinery

The Billings Refinery is located in Billings, Montana. Refinery facilities include crude distilling, naphtha reforming, fluid catalytic cracking, alkylation, hydrodesulfurization and delayed coking units. The refinery produces a high percentage of transportation fuels and fuel-grade petroleum coke. Refined petroleum products are distributed to customers in Montana, Wyoming, Idaho, Utah, Colorado and Washington by pipeline, railcar and truck.

West Coast Region

Ferndale Refinery

The Ferndale Refinery is located on Puget Sound in Ferndale, Washington, approximately 20 miles south of the U.S.-Canada border. Facilities include crude distillation, naphtha reforming, fluid catalytic cracking, alkylation and hydrodesulfurization units. The refinery produces a high percentage of transportation fuels. Other products produced include residual fuel oil, which is supplied to the northwest marine bunker fuel market. Most of the refined petroleum products are distributed to customers in the northwest United States by pipeline and barge.

Los Angeles Refinery

The Los Angeles Refinery consists of two facilities linked by pipeline located five miles apart in Carson and Wilmington, California, approximately 15 miles southeast of Los Angeles. The Carson facility serves as the front end of the refinery by processing crude oil, and the Wilmington facility serves as the back end of the refinery by upgrading the intermediate products to finished products. Refinery facilities include crude distillation, naphtha reforming, fluid catalytic cracking, alkylation, hydrocracking, and delayed coking units. The refinery produces a high percentage of transportation fuels. The refinery produces California Air Resources Board (CARB)-grade gasoline. Other products produced include fuel-grade petroleum coke. Refined petroleum products are distributed to customers in California, Nevada and Arizona by pipeline and truck.

San Francisco Refinery

The San Francisco Refinery consists of two facilities linked by our pipelines. The Santa Maria facility is located in Arroyo Grande, California, 200 miles south of San Francisco, California, while the Rodeo facility is located in the San Francisco Bay Area. Intermediate refined products from the Santa Maria facility are shipped by pipeline to the Rodeo facility for upgrading into finished petroleum products. Refinery facilities include crude distillation, naphtha reforming, hydrocracking, hydrodesulfurization and delayed coking units, as well as a calciner. The refinery produces a high percentage of transportation fuels, including CARB-grade gasoline. Other products produced include fuel-grade petroleum coke. The majority of the refined petroleum products are distributed to customers in California by pipeline and barge. Additionally, refined petroleum products are exported to customers primarily in Latin America by waterborne cargo.

Renewable Fuel Projects

We are developing renewable fuel projects that leverage existing infrastructure. Waste fats, recycled cooking oils and other renewable feedstocks will be used for diesel production that complies with low-carbon fuel standards. We have a renewable diesel project underway at the Humber Refinery, and we are developing a renewable diesel project at the San Francisco Refinery. Additionally, we have supply and offtake agreements for two third-party renewable diesel facilities under construction in Nevada.

MARKETING AND SPECIALTIES

Our M&S segment purchases for resale and markets refined petroleum products, such as gasolines, distillates and aviation fuels, mainly in the United States and Europe. In addition, this segment includes the manufacturing and marketing of specialty products, such as base oils and lubricants.

Marketing

Marketing—United States

We market gasoline, diesel and aviation fuel through marketer and joint venture outlets that utilize the *Phillips 66*, *Conoco* or *76* brands. At December 31, 2019, we had approximately 7,540 branded outlets in 48 states.

Our wholesale operations utilize a network of marketers operating approximately 5,450 outlets. We place a strong emphasis on the wholesale channel of trade because of its relatively lower capital requirements. In addition, we hold brand-licensing agreements covering approximately 1,280 sites. Our refined petroleum products are marketed on both a branded and unbranded basis. A high percentage of our branded marketing sales are made in the Midcontinent, Rockies and West Coast regions, where our wholesale marketing networks provide efficient off-take from our refineries. We continue to utilize consignment fuel arrangements with several marketers whereby we own the fuel inventory and pay the marketers a monthly fee.

In the Gulf Coast and East Coast regions, most sales are conducted via the unbranded channel of trade, which does not require a highly integrated marketing and distribution infrastructure to secure product placement for refinery pull through. We are expanding our export capability at our U.S. coastal refineries to meet growing international demand and increase flexibility to provide product to the highest-value markets.

In addition to automotive gasoline and diesel, we produce and market aviation gasoline and jet fuel. Aviation gasoline and jet fuel are sold through dealers and independent marketers at approximately 810 *Phillips 66* branded locations.

In the fourth quarter of 2019, we formed a retail marketing joint venture with operations primarily on the U.S. West Coast. The joint venture operates a network that includes approximately 580 outlets. This joint venture enables increased long-term placement of our refinery production and increases our exposure to retail margins.

Marketing—International

We have marketing operations in four European countries. Our European marketing strategy is to sell primarily through owned, leased or joint venture retail sites using a low-cost, high-volume approach. We use the *JET* brand name to market retail and wholesale products in Austria, Germany and the United Kingdom. In addition, we have an equity interest in a joint venture that markets refined petroleum products in Switzerland under the *COOP* brand name.

We also market aviation fuels, LPG, heating oils, marine bunker fuels, and other secondary refined products to commercial customers and into the bulk or spot markets in the above countries.

At December 31, 2019, we had 1,280 marketing outlets in Europe, of which 980 were company owned and 300 were dealer owned. In addition, we had interests in 320 additional sites through our *COOP* joint venture operations in Switzerland.

Specialties

We manufacture lubricants and sell a variety of specialty products, including petroleum coke products, waxes, solvents and polypropylene.

Lubricants

We manufacture and sell automotive, commercial, industrial and specialty lubricants which are marketed worldwide under the *Phillips 66*, *Kendall*, *Red Line* and other private label brands. We also market Group III *Ultra-S* base oils through an agreement with South Korea's S-Oil Corporation.

In addition, we own a 50% interest in Excel Paralubes LLC (Excel), an operated joint venture that owns a hydrocracked lubricant base oil manufacturing plant located adjacent to the Lake Charles Refinery. The facility has a nameplate capacity to produce 22,200 BPD of high-quality Group II clear hydrocracked base oils. Excel markets the produced base oil under the *Pure Performance* brand. The facility's feedstock is sourced primarily from our Lake Charles Refinery.

Other Specialty Products

We market high-quality specialty graphite and anode-grade petroleum cokes in the United States, Europe and Asia for use in a variety of industries that include steel, aluminum, titanium dioxide and battery manufacturing. We also market polypropylene in North America under the *COPYLENE* brand name for use in consumer products, and market specialty solvents that include pentane, iso-pentane, hexane, heptane and odorless mineral spirits for use in the petrochemical, agriculture and consumer markets. In addition, we market sulfur for use in agricultural and chemical applications, and fuel-grade petroleum coke for use in the making of cement and glass, and generation of power.

RESEARCH AND DEVELOPMENT

Our Technology organization, located in Bartlesville, Oklahoma, conducts applied and fundamental research to support our current business, provide new environmental solutions, and provide options for future growth that are aligned with the Phillips 66 strategy. Technology programs include monitoring the quality of crude being processed; development and optimization of catalysts; modeling to anticipate corrosion and fouling rates in the refinery units; and modeling to increase product yield and reliability. Our Energy Transition group currently is developing organic photovoltaic polymers, solid oxide fuel cells, and battery materials while the Sustainability group continues to model air chemistry and water cleanup. Research continues on emerging renewable fuels processes, and a robotics program was introduced in 2019 to identify ways to use robots to do work that involves exposure to hazardous chemicals or working environments, or work that is considered highly repetitive. Additionally, we monitor the global research and development community for technologies that could impact our business.

COMPETITION

In the Midstream segment, our crude oil and products pipelines could face competition with other crude oil and products pipeline companies, major integrated oil companies, and independent crude oil gathering and marketing companies. Competition is based primarily on quality of customer service, competitive pricing and proximity to customers and market hubs. In addition, the Midstream segment, through our equity investment in DCP Midstream and our other operations, competes with numerous integrated petroleum companies, as well as natural gas transmission and distribution companies, to deliver components of natural gas to end users in commodity natural gas markets. DCP Midstream is one of the largest U.S. producers and marketers of NGL, based on published industry sources, and one of the leading natural gas gatherers and processors in the United States based on wellhead volumes. Principal methods of competing include economically securing the right to purchase raw natural gas for gathering systems, managing the pressure of those systems, operating efficient NGL processing plants and securing markets for the products produced.

In the Chemicals segment, CPChem is ranked among the top 10 producers in many of its major product lines according to published industry sources, based on average 2019 production capacity. Petroleum products, petrochemicals and plastics are typically delivered into the worldwide commodity markets. Our Refining and M&S segments compete primarily in the United States and Europe. We are one of the largest refiners of petroleum products in the United States based on published industry sources. Elements of competition for both our Chemicals and Refining segments include product improvement, new product development, low-cost structures, ability to run advantaged feedstocks, and efficient manufacturing and distribution systems. In the Marketing portion of the business, competitive factors include product properties and processability, reliability of supply, customer service, price and credit terms, advertising and sales promotion, and development of customer loyalty to branded products.

GENERAL

At December 31, 2019, we held a total of 483 active patents in 24 countries worldwide, including 367 active U.S. patents. The overall profitability of any business segment is not dependent on any single patent, trademark, license or franchise.

In support of our goal to attain zero incidents, we have implemented a comprehensive Health, Safety and Environmental (HSE) management system to support consistent management of HSE risks across our enterprise. The management system is designed to ensure that personal safety, process safety, and environmental impact risks are identified, and mitigation steps are taken to reduce the risk. The management system requires periodic audits to ensure compliance with government regulations, as well as our internal requirements. Our commitment to continuous improvement is reflected in annual goal setting and performance measurement.

See the environmental information contained in “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Capital Resources and Liquidity—Contingencies” under the captions “Environmental” and “Climate Change.” It includes information on expensed and capitalized environmental costs for 2019 and those expected for 2020 and 2021.

Website Access to SEC Reports

Our Internet website address is <http://www.phillips66.com>. Information contained on our Internet website is not part of this Annual Report on Form 10-K.

Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to these reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 are available on our website, free of charge, as soon as reasonably practicable after such reports are filed with, or furnished to, the U.S. Securities and Exchange Commission (SEC). Alternatively, you may access these reports at the SEC’s website at <http://www.sec.gov>.

Item 1A. RISK FACTORS

You should carefully consider the following risk factors in addition to the other information included in this Annual Report on Form 10-K. Each of these risk factors could adversely affect our business, operating results and financial condition, as well as the value of an investment in our common stock.

Our operating results and future rate of growth are exposed to the effects of changing commodity prices and refining, marketing and petrochemical margins.

Our revenues, operating results and future rate of growth are highly dependent on a number of factors, including fixed and variable expenses (including the cost of crude oil, NGL, and other refining and petrochemical feedstocks) and the margin we can derive from selling refined petroleum, petrochemical and plastics products. The prices of feedstocks and our products fluctuate substantially. These prices depend on numerous factors beyond our control, including the global supply and demand for feedstocks and our products, which are subject to, among other things:

- Changes in the global economy and the level of foreign and domestic production of crude oil, natural gas and NGL and refined petroleum, petrochemical and plastics products.
- Availability of feedstocks and refined petroleum products and the infrastructure to transport them.
- Local factors, including market conditions, the level of operations of other facilities in our markets, and the volume of products imported and exported.
- Threatened or actual terrorist incidents, acts of war and other global political conditions, and public health issues and outbreaks.
- Government regulations.
- Weather conditions, hurricanes or other natural disasters.
- Availability of alternative energy sources.

The price of crude oil influences prices for refined petroleum products. We do not produce crude oil and must purchase all of the crude oil we process. Many crude oils available on the world market will not meet the quality restrictions for use in our refineries. Others are not economical to use due to high transportation costs or for other reasons. The prices for crude oil and refined petroleum products can fluctuate differently based on global, regional and local market conditions, as well as by type and class of products, which can reduce refining margins and could have a significant impact on our refining, wholesale marketing and retail operations, revenues, operating income and cash flows. Also, crude oil supply contracts generally have market-responsive pricing provisions. We normally purchase our refinery feedstocks weeks before manufacturing and selling the refined petroleum products. Changes in prices that occur between when we purchase feedstocks and when we sell the refined petroleum products produced from these feedstocks could have a significant effect on our financial results. We also purchase refined petroleum products produced by others for sale to our customers. Price changes that occur between when we purchase and sell these refined petroleum products also could have a material adverse effect on our business, financial condition and results of operations.

The price of feedstocks also influences prices for petrochemical and plastics products. Although our Chemicals segment transports and fractionates feedstocks to meet a portion of their demand and has certain long-term feedstock supply contracts with others, it is still subject to volatile feedstock prices. In addition, the petrochemicals industry is both cyclical and volatile. Cyclical occurs when periods of tight supply, resulting in increased prices and profit margins, are followed by periods of capacity expansion, resulting in oversupply and declining prices and profit margins. Volatility occurs as a result of changes in supply and demand for products, changes in energy prices, and changes in various other economic conditions around the world.

We expect to continue to incur substantial capital expenditures and operating costs as a result of our compliance with existing and future environmental laws and regulations. Likewise, future environmental laws and regulations may impact or limit our current business plans and reduce demand for our products.

Our business is subject to numerous laws and regulations relating to the protection of the environment. These laws and regulations continue to increase in both number and complexity and affect our operations with respect to, among other things:

- The discharge of pollutants into the environment.
- Emissions into the atmosphere, such as nitrogen oxides, sulfur dioxide and mercury emissions, and greenhouse gas emissions, as they are, or may become, regulated.
- The quantity of renewable fuels that must be blended into motor fuels.
- The handling, use, storage, transportation, disposal and cleanup of hazardous materials and hazardous and nonhazardous wastes.
- The dismantlement and abandonment of our facilities and restoration of our properties at the end of their useful lives.

We have incurred and will continue to incur substantial capital, operating and maintenance, and remediation expenditures as a result of these laws and regulations. To the extent these expenditures, as with all costs, are not ultimately reflected in the prices of our products and services, our business, financial condition, results of operations and cash flows in future periods could be materially adversely affected.

The U.S. Environmental Protection Agency (EPA) has implemented a Renewable Fuel Standard (RFS) pursuant to the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007. The RFS program sets annual quotas for the quantity of renewable fuels, such as ethanol, that must be blended into motor fuels consumed in the United States. To provide certain flexibility in compliance options available to the industry, a Renewable Identification Number (RIN) is assigned to each gallon of renewable fuel produced in, or imported into, the United States. As a producer of petroleum-based motor fuels, we are obligated to blend renewable fuels into the products we produce at a rate that is at least commensurate to the EPA's quota and, to the extent we do not, we must purchase RINs in the open market to satisfy our obligation under the RFS program. To the extent the EPA mandates a blending quantity of renewable fuel that exceeds the amount that is commercially feasible to blend into motor fuel (a situation commonly referred to as "the blend wall"), our operations could be materially adversely impacted, up to and including a reduction in produced motor fuel.

The adoption of climate change legislation or regulation could result in increased operating costs and reduced demand for the refined petroleum products we produce.

The U.S. government, including the EPA, as well as several state and international governments, have either considered or adopted legislation or regulations in an effort to reduce greenhouse gas (GHG) emissions. These proposed or promulgated laws apply or could apply in states and/or countries where we have interests or may have interests in the future. In addition, various groups suggest that additional laws may be needed in an effort to address climate change, as illustrated by the Paris Agreement, which entered into force on November 4, 2016 and establishes a commitment by signatory parties to pursue domestic GHG emission reductions. Although the United States submitted formal notification of its withdrawal from the Paris Agreement to the United Nations in November 2019, a future presidential administration could reverse the withdrawal. We cannot predict the extent to which any such legislation or regulation will be enacted and, if so, what its provisions would be. To the extent we incur additional costs required to comply with the adoption of new laws and regulations that are not ultimately recovered in the prices of our products and services, our business, financial condition, results of operations and cash flows in future periods could be materially adversely affected. In addition, demand for the refined petroleum products we produce could be adversely affected.

Climate change may adversely affect our and our joint ventures' facilities and ongoing operations.

The potential physical effects of climate change on our operations are highly uncertain and depend upon the unique geographic and environmental factors present. We have systems in place to manage potential acute physical risks, but if any such events were to occur, they could have an adverse effect on our assets and operations. Examples of potential physical risks include floods, hurricane-force winds, wildfires and snowstorms, as well as rising sea levels at our coastal facilities. We and our joint ventures have incurred, and will continue to incur, costs to protect our assets from physical risks and to employ processes, to the extent available, to mitigate such risks. Many of our facilities, as well as facilities of our joint ventures, are located near coastal areas. As a result, extreme weather and rising sea levels may disrupt our or our joint ventures' ability to operate those facilities or transport crude oil and refined petroleum products. Extended periods of such disruption could have an adverse effect on our results of operations. We could also incur substantial costs to prevent or repair damage to these facilities. Finally, depending on the severity and duration of any extreme weather events or climate conditions, we or our joint ventures could be required to modify operations and incur costs that could materially and adversely affect our business, financial condition and results of operations.

Political and economic developments could affect our operations and materially reduce our profitability and cash flows.

Actions of federal, state, local and international governments through legislation or regulation, executive order, permit or other review of infrastructure or facility development, and commercial restrictions could delay projects, increase costs, limit development, or otherwise reduce our operating profitability both in the United States and abroad. Any such actions may affect many aspects of our operations, including:

- Requiring permits or other approvals that may impose unforeseen or unduly burdensome conditions or potentially cause delays in our operations.
- Further limiting or prohibiting construction or other activities in environmentally sensitive or other areas.
- Requiring increased capital costs to construct, maintain or upgrade equipment or facilities.
- Restricting the locations where we may construct facilities or requiring the relocation of facilities.

In addition, the U.S. government can prevent or restrict us from doing business in foreign countries and from doing business with entities affiliated with foreign governments, which can include state oil companies and U.S. subsidiaries of those companies. The Office of Foreign Assets Control (OFAC) of the U.S. Department of the Treasury administers and enforces economic and trade sanctions based on U.S. foreign policy and national security matters. For example, sanctions are currently in effect against Venezuela and certain entities affiliated with it. The effect of any such OFAC sanctions could disrupt transactions with or operations involving entities affiliated with sanctioned countries, and could limit our ability to obtain optimum crude slates and other refinery feedstocks and effectively distribute refined petroleum products.

Other risks inherent in doing business internationally include global financial market turmoil; economic volatility and global economic slowdown; currency exchange rate fluctuations and inflationary pressures; import or export restrictions and changes in trade regulations; acts of terrorism, war, civil unrest and other political risks; difficulties in developing, staffing and managing foreign operations; and potentially adverse tax developments. If any of these events occur, our businesses and those of our joint ventures may be adversely affected.

Additionally, renewable fuels, alternative energy mandates and energy conservation efforts could reduce demand for refined petroleum products. Tax incentives and other subsidies can make renewable fuels and alternative energy more competitive with refined petroleum products than they otherwise might be, which may reduce refined petroleum product margins and hinder the ability of refined petroleum products to compete with renewable fuels.

Large capital projects can take many years to complete, and market conditions could deteriorate significantly between the project approval date and the project startup date, negatively impacting expected project returns.

Our basis for approving a large-scale capital project is the expectation that it will deliver an acceptable level of return on the capital invested. We base these forecasted project economics on our best estimate of future market conditions. Most large-scale projects take several years to complete. During this multiyear period, market conditions can change from those we forecast, and these changes could be significant. Accordingly, we may not be able to realize our expected returns from a large investment in a capital project, and this could negatively impact our results of operations, cash flows and our return on capital employed.

Plans we may have to expand existing assets or construct new assets, particularly in our Midstream segment, are subject to risks associated with societal and political pressures and other forms of opposition to the future development, transportation and use of carbon-based fuels. Such risks could adversely impact our ability to realize certain growth strategies.

Certain of our planned expenditures are based upon the assumption that societal sentiment will continue to enable, and existing regulations will remain intact to allow for, the future development, transportation and use of carbon-based fuels. A portion of our growth strategy is dependent on our ability to expand existing assets and to construct additional assets. Policy decisions relating to the production, refining, transportation and marketing of carbon-based fuels are subject to political pressures and the influence and protests of environmental and other special interest groups. For example, our Midstream segment's growth plans include the construction or expansion of pipelines, which can involve numerous regulatory, environmental, political, and legal uncertainties, many of which are beyond our control. Our growth projects may not be completed on schedule or at the budgeted cost. In addition, our revenues may not increase immediately upon the expenditure of funds on a particular project. Delays or cost increases related to capital spending programs could negatively impact our results of operations, cash flows and our return on capital employed.

Our operations are subject to business interruptions and casualty losses. Failure to manage risks associated with business interruptions could adversely impact our operations, financial condition, results of operations and cash flows.

Our operations are subject to business interruptions due to scheduled refinery turnarounds, unplanned maintenance or unplanned events such as explosions, fires, refinery or pipeline releases or other incidents, power outages, severe weather, labor disputes, or other natural or man-made disasters, such as acts of terrorism, including cyber intrusion. The inability to operate one or more of our facilities due to any of these events could significantly impair our ability to manufacture our products. Additionally, our manufacturing equipment is becoming increasingly dependent on our information technology systems. A disruption in our information technology systems due to a catastrophic event or security breach could interrupt or damage our operations.

Explosions, fires, refinery or pipeline releases or other incidents involving our assets or operations could result in serious personal injury or loss of human life, significant damage to property and equipment, environmental pollution, impairment of operations and substantial losses to us. For assets located near populated areas, including residential areas, commercial business centers, industrial sites and other public gathering areas, the level of damage resulting from these risks could be greater. Damages resulting from an incident involving any of our assets or operations may result in our being named as a defendant in one or more lawsuits asserting potentially substantial claims or in our being assessed potentially substantial fines by governmental authorities. Should any of these risks materialize at any of our equity affiliates, it could have a material adverse effect on the business and financial condition of the equity affiliate and negatively impact their ability to make future distributions to us.

There are certain hazards and risks inherent in our operations that could adversely affect those operations and our financial results.

The operation of refineries, power plants, fractionators, pipelines, terminals and vessels is inherently subject to the risks of spills, discharges or other inadvertent releases of petroleum or hazardous substances. If any of these events had previously occurred or occurs in the future in connection with any of our refineries, pipelines or refined petroleum products terminals, or in connection with any facilities that receive our wastes or byproducts for treatment or disposal, other than events for which we are indemnified, we could be liable for all costs and penalties associated with their remediation under federal, state, local and international environmental laws or common law, and could be liable for property damage to third parties caused by contamination from releases and spills.

We do not insure against all potential losses, and, therefore, our business, financial condition, results of operations and cash flows could be adversely affected by unexpected liabilities and increased costs.

We maintain insurance coverage in amounts we believe to be prudent against many, but not all, potential liabilities arising from operating hazards. Uninsured liabilities arising from operating hazards, including but not limited to, explosions, fires, refinery or pipeline releases or other incidents involving our assets or operations, could reduce the funds available to us for capital and investment spending and could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Our investments in joint ventures decrease our ability to manage risk.

We conduct some of our operations, including parts of our Midstream, Refining and M&S segments, and our entire Chemicals segment, through joint ventures in which we share control with our joint venture participants. Our joint venture participants may have economic, business or legal interests or goals that are inconsistent with ours or those of the joint venture, or our joint venture participants may be unable to meet their economic or other obligations, and we may be required to fulfill those obligations alone. Failure by us, or an entity in which we have a joint venture interest, to adequately manage the risks associated with any acquisitions or joint ventures could have a material adverse effect on the financial condition or results of operations of our joint ventures and, in turn, our business and operations.

We are subject to interruptions of supply and increased costs as a result of our reliance on third-party transportation of crude oil, NGL and refined petroleum products.

We often utilize the services of third parties to transport crude oil, NGL and refined petroleum products to and from our facilities. In addition to our own operational risks discussed above, we could experience interruptions of supply or increases in costs to deliver refined petroleum products to market if the ability of the pipelines or vessels to transport crude oil or refined petroleum products is disrupted because of weather events, accidents, governmental regulations or third-party actions. A prolonged disruption of the ability of a pipeline or vessel to transport crude oil, NGL or refined petroleum products to or from one or more of our refineries or other facilities could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Increased regulation of hydraulic fracturing could result in reductions or delays in U.S. production of crude oil and natural gas, which could adversely impact our results of operations.

An increasing percentage of crude oil supplied to our refineries and the crude oil and gas production of our Midstream segment's customers is being produced from unconventional oil shale reservoirs. These reservoirs require hydraulic fracturing completion processes to release the hydrocarbons from the rock so they can flow through casing to the surface. Hydraulic fracturing involves the injection of water, sand and chemicals under pressure into a formation to stimulate hydrocarbon production. The EPA, as well as several state agencies, have commenced studies and/or convened hearings regarding the potential environmental impacts of hydraulic fracturing activities. At the same time, certain environmental groups have suggested that additional laws may be needed to more closely and uniformly regulate the hydraulic fracturing process, and legislation has been proposed to provide for such regulation. In addition, some communities have adopted measures to ban hydraulic fracturing in their communities. We cannot predict whether any such legislation will ever be enacted and, if so, what its provisions would be. Any additional levels of regulation and permits required with the adoption of new laws and regulations at the federal or state level could result in our having to rely on higher priced crude oil for our refineries. This could lead to delays, increased operating costs and process prohibitions that could reduce the volumes of natural gas that move through DCP Midstream's gathering systems and could reduce supplies and increase costs of NGL feedstocks to CPChem's facilities. This could materially adversely affect our results of operations and the ability of DCP Midstream and CPChem to make cash distributions to us.

DCP Midstream's success depends on its ability to obtain new sources of natural gas and NGL. Any decrease in the volumes of natural gas DCP Midstream gathers could adversely affect its business and operating results.

DCP Midstream's gathering and transportation pipeline systems are connected to or dependent on the level of production from natural gas wells, which naturally declines over time. As a result, its cash flows associated with these wells will also decline over time. In order to maintain or increase throughput levels on its gathering and transportation pipeline systems and NGL pipelines and the asset utilization rates at its natural gas processing plants, DCP Midstream must continually obtain new supplies. The primary factors affecting DCP Midstream's ability to obtain new supplies of natural gas and NGL, and to attract new customers to its assets, include the level of successful drilling activity near these assets, prices of, and the demand for, natural gas and crude oil, producers' desire and ability to obtain necessary permits in an efficient manner, natural gas field characteristics and production performance, surface access and infrastructure issues, and its ability to compete for volumes from successful new wells. If DCP Midstream is not able to obtain new supplies of natural gas to replace the natural decline in volumes from existing wells or because of competition, throughput on its pipelines and the utilization rates of its treating and processing facilities would decline. This could have a material adverse effect on its business, results of operations, financial position and cash flows, and its ability to make cash distributions to us.

Competitors that produce their own supply of feedstocks, have more extensive retail outlets, or have greater financial resources may have a competitive advantage.

The refining and marketing industry is highly competitive with respect to both feedstock supply and refined petroleum product markets. We compete with many companies for available supplies of crude oil and other feedstocks and for outlets for our refined petroleum products. We do not produce any of our crude oil feedstocks. Some of our competitors, however, obtain a portion of their feedstocks from their own production and some have more extensive retail outlets than we have. Competitors that have their own production or extensive retail outlets (and greater brand-name recognition) are at times able to offset losses from refining operations with profits from producing or retailing operations, and may be better positioned to withstand periods of depressed refining margins or feedstock shortages.

Some of our competitors also have materially greater financial and other resources than we have. Such competitors have a greater ability to bear the economic risks inherent in all phases of our business. In addition, we compete with other industries that provide alternative means to satisfy the energy and fuel requirements of our industrial, commercial and individual customers.

We may incur losses as a result of our forward contracts and derivative transactions.

We currently use commodity derivative instruments, and we expect to use them in the future. If the instruments we utilize to hedge our exposure to various types of risk are not effective, we may incur losses. Derivative transactions involve the risk that counterparties may be unable to satisfy their obligations to us. The risk of counterparty default is heightened in a poor economic environment.

One of our subsidiaries acts as the general partner of a publicly traded master limited partnership, Phillips 66 Partners, which may involve a greater exposure to legal liability than our historic business operations.

One of our subsidiaries acts as the general partner of Phillips 66 Partners, a publicly traded master limited partnership. Our control of the general partner of Phillips 66 Partners may increase the possibility that we could be subject to claims of breach of fiduciary duties, including claims of conflicts of interest, related to Phillips 66 Partners. Any liability resulting from such claims could have a material adverse effect on our future business, financial condition, results of operations and cash flows.

Security breaches and other disruptions could compromise our information and expose us to liability, which would cause our business and reputation to suffer.

In the ordinary course of our business, we collect sensitive data, including personally identifiable information of our customers and employees. Despite our security measures, our information technology and infrastructure, or information technology and infrastructure of our third-party service providers (e.g., cloud-based service providers), may be vulnerable to attacks by malicious actors or breached due to human error, malfeasance or other disruptions. Although we have experienced occasional, actual or attempted breaches of our cybersecurity, none of these breaches has had a material effect on our business, operations or reputation (or compromised any customer data). Any such breaches could compromise our networks and the information stored there could be accessed, publicly disclosed, lost or stolen. Any such access, disclosure or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of customer information, including the European Union's General Data Protection Regulation, disrupt the services we provide to customers, and damage our reputation, any of which could adversely affect our business.

Uncertainty and illiquidity in credit and capital markets can impair our ability to obtain credit and financing on acceptable terms and can adversely affect the financial strength of our business partners.

Our ability to obtain credit and capital depends in large measure on the state of the credit and capital markets, which is beyond our control. Our ability to access credit and capital markets may be restricted at a time when we would like, or need, access to those markets, which could constrain our flexibility to react to changing economic and business conditions. In addition, the cost and availability of debt and equity financing may be adversely impacted by unstable or illiquid market conditions. Protracted uncertainty and illiquidity in these markets also could have an adverse impact on our lenders, commodity transaction counterparties, or our customers, preventing them from meeting their obligations to us.

From time to time, our cash needs may exceed our internally generated cash flow, and our business could be materially and adversely affected if we are unable to obtain necessary funds from financing activities. From time to time, we may need to supplement cash generated from operations with proceeds from financing activities. Uncertainty and illiquidity in financial markets may materially impact the ability of the participating financial institutions to fund their commitments to us under our liquidity facilities that are supported by a broad syndicate of financial institutions. Accordingly, we may not be able to obtain the full amount of the funds available under our liquidity facilities to satisfy our cash requirements, and our failure to do so could have a material adverse effect on our operations and financial position.

Deterioration in our credit profile could increase our costs of borrowing money and limit our access to the capital markets and commercial credit, and could trigger co-venturer rights under joint venture arrangements.

Our or Phillips 66 Partners' credit ratings could be lowered or withdrawn entirely by a rating agency if, in its judgment, the circumstances warrant. If a rating agency were to downgrade our rating below investment grade, our or Phillips 66 Partners' borrowing costs would increase, and our funding sources could decrease. In addition, a failure by us to maintain an investment grade rating could affect our business relationships with suppliers and operating partners. For example, our agreement with Chevron regarding CPChem permits Chevron to buy our 50% interest in CPChem for fair market value if we experience a change in control or if both Standard & Poor's Financial Services LLC and Moody's Investors Service, Inc. lower our credit ratings below investment grade and the credit rating from either rating agency remains below investment grade for 365 days thereafter, with fair market value determined by agreement or by nationally recognized investment banks. As a result of these factors, a downgrade of credit ratings could have a materially adverse impact on our future operations and financial position.

The level of returns on pension and postretirement plan assets and the actuarial assumptions used for valuation purposes could affect our earnings and cash flows in future periods.

Assumptions used in determining projected benefit obligations and the expected return on plan assets for our pension plans and other postretirement benefit plans are evaluated by us based on a variety of independent sources of market information and in consultation with outside actuaries. If we determine that changes are warranted in the assumptions used, such as the discount rate, expected long-term rate of return, or health care cost trend rate, our future pension and postretirement benefit expenses and funding requirements could increase. In addition, several factors could cause actual results to differ significantly from the actuarial assumptions that we use. Funding obligations are determined based on the value of assets and liabilities on a specific date as required under relevant regulations. Future pension funding requirements, and the timing of funding payments, could be affected by legislation enacted by governmental authorities.

We are subject to continuing contingent liabilities of ConocoPhillips following the Separation relating to taxes and other matters. If we become obligated, we may need to use cash to meet these obligations and our financial results could be negatively impacted. Further, ConocoPhillips has indemnified us for certain matters, but may not be able to satisfy its obligations to us in the future.

Notwithstanding the Separation, there are several significant areas where the liabilities of ConocoPhillips may become our obligations. For example, under the Internal Revenue Code of 1986, as amended (the Code) and the related rules and regulations, each corporation that was a member of the ConocoPhillips consolidated U.S. federal income tax reporting group during any taxable period or portion of any taxable period ending on or before the effective time of the Separation is jointly and severally liable for the U.S. federal income tax liability of the entire ConocoPhillips consolidated tax reporting group for that taxable period. In connection with the Separation, we entered into the Tax Sharing Agreement with ConocoPhillips that allocates the responsibility for prior period taxes of the ConocoPhillips consolidated tax reporting group between us and ConocoPhillips. ConocoPhillips may be unable to pay any prior period taxes for which it is responsible, and we could be required to pay the entire amount of such taxes. Other provisions of federal law establish similar liability for other matters, including laws governing tax-qualified pension plans as well as other contingent liabilities.

Also pursuant to the Tax Sharing Agreement, we agreed to be responsible for, and indemnify ConocoPhillips with respect to, all taxes arising as a result of the Separation and certain related transactions failing to qualify under Sections 368(a) and 355 of the Code for U.S. federal income tax purposes to the extent such tax liability arises as a result of any breach of any representation, warranty, covenant or other obligation by us or certain affiliates made in connection with the issuance of the private letter ruling relating to the Separation or in the Tax Sharing Agreement. Our indemnification obligations to ConocoPhillips and its subsidiaries, officers and directors are not limited by any maximum amount. If we are required to indemnify ConocoPhillips or such other persons under the circumstances set forth in the Tax Sharing Agreement, we may be subject to substantial liabilities.

Pursuant to an Indemnification and Release Agreement and certain other agreements with ConocoPhillips entered into in connection with the Separation, ConocoPhillips agreed to indemnify us for certain liabilities, and we agreed to indemnify ConocoPhillips for certain liabilities. Indemnities that we may be required to provide ConocoPhillips are not subject to any cap, 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 of Phillips 66 stock. Third parties could also seek to hold us responsible for any of the liabilities that ConocoPhillips has agreed to retain. Further, the indemnity from ConocoPhillips may not be sufficient to protect us against the full amount of such liabilities, and ConocoPhillips may not be able to fully satisfy its indemnification obligations. Moreover, even if we ultimately succeed in recovering from ConocoPhillips 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, results of operations and financial condition.

Item 1B. UNRESOLVED STAFF COMMENTS

None.

Item 3. LEGAL PROCEEDINGS

Item 103 of Regulation S-K promulgated by the U.S. Securities and Exchange Commission (SEC) requires disclosure of certain environmental matters when a governmental authority is a party to the proceedings and such proceedings involve potential monetary sanctions, unless we reasonably believe that the matter will result in no monetary sanctions, or in monetary sanctions, exclusive of interest and costs, of less than \$100,000. The following matters are disclosed in accordance with that requirement. We do not currently believe that the eventual outcome of any such matters, individually or in the aggregate, could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

Our U.S. refineries are implementing two separate consent decrees, regarding alleged violations of the Federal Clean Air Act, with the U.S. Environmental Protection Agency (EPA), three states and one local air pollution agency. Some of the requirements and limitations contained in the decrees provide for stipulated penalties for violations. Stipulated penalties under the decrees are not automatic, but must be requested by one of the agency signatories. As part of periodic reports under the decrees or other reports required by permits or regulations, we occasionally report matters that could be subject to a request for stipulated penalties. If a specific request for stipulated penalties meeting the SEC reporting threshold described above is made pursuant to these decrees based on a given reported exceedance, we will separately report that matter and the amount of the proposed penalty.

New Matters

On January 6, 2020, the California State Water Resources Control (Water Board) issued a penalty demand of \$558,300 to resolve the Rodeo Refinery's National Pollutant Discharge Elimination System permit requirement exceedance for total suspended solids that occurred following heavy rains on February 14, 2019. We are working with the Water Board to resolve this matter.

Matters Previously Reported (unresolved or resolved since the quarterly report on Form 10-Q for the quarterly period ended September 30, 2019)

In May 2012, the Illinois Attorney General's office filed and notified us of a complaint with respect to operations at the Wood River Refinery alleging violations of the Illinois groundwater standards and a third party's hazardous waste permit. The complaint seeks as relief remediation of area groundwater; compliance with the hazardous waste permit; enhanced pipeline and tank integrity measures; additional spill reporting; and fines and penalties exceeding \$100,000. We are working with the Illinois Environmental Protection Agency and Attorney General's office to resolve these allegations.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

| <u>Name</u> | <u>Position Held</u> | <u>Age*</u> |
|----------------------|---|-------------|
| Greg C. Garland | Chairman and Chief Executive Officer | 62 |
| Robert A. Herman | Executive Vice President, Refining | 60 |
| Paula A. Johnson | Executive Vice President, Legal and Government Affairs, General Counsel and Corporate Secretary | 56 |
| Brian M. Mandell | Executive Vice President, Marketing and Commercial | 56 |
| Kevin J. Mitchell | Executive Vice President, Finance and Chief Financial Officer | 53 |
| Chukwuemeka A. Oyolu | Vice President and Controller | 50 |
| Timothy D. Roberts | Executive Vice President, Midstream | 58 |

* On February 21, 2020.

There are no family relationships among any of the officers named above. The Board of Directors annually elects the officers to serve until a successor is elected and qualified or as otherwise provided in our By-Laws. Set forth below is information about the executive officers identified above.

Greg C. Garland has been the Chairman and Chief Executive Officer of Phillips 66 since April 2012. Previously, Mr. Garland served as ConocoPhillips' Senior Vice President, Exploration and Production—Americas from October 2010 to April 2012, and as President and Chief Executive Officer of CPChem from 2008 to 2010.

Robert A. Herman is Executive Vice President, Refining of Phillips 66, a position he has held since September 2017. Previously, Mr. Herman served Phillips 66 as Executive Vice President, Midstream from June 2014 to September 2017, Senior Vice President, HSE, Projects and Procurement from February 2014 to June 2014, and Senior Vice President, Health, Safety, and Environment from April 2012 to February 2014.

Paula A. Johnson is Executive Vice President, Legal and Government Affairs, General Counsel and Corporate Secretary of Phillips 66, a position she has held since October 2016. Ms. Johnson served as Executive Vice President, Legal, General Counsel and Corporate Secretary of Phillips 66 from May 2013 to October 2016, and as Senior Vice President, General Counsel and Corporate Secretary from April 2012 to May 2013.

Brian M. Mandell is Executive Vice President, Marketing and Commercial of Phillips 66, a position he has held since March 2019. Mr. Mandell served Phillips 66 as Senior Vice President, Marketing and Commercial from August 2018 to March 2019, Senior Vice President, Commercial from November 2016 to August 2018, President, Global Marketing from March 2015 to November 2016, and Global Trading Lead, Clean Products, Commercial from May 2012 to March 2015.

Kevin J. Mitchell is Executive Vice President, Finance and Chief Financial Officer of Phillips 66, a position he has held since January 2016. Previously, Mr. Mitchell served as Phillips 66's Vice President, Investor Relations from September 2014 to January 2016. Prior to joining the company, he served as the General Auditor of ConocoPhillips from May 2010 until September 2014.

Chukwuemeka A. Oyolu is Vice President and Controller of Phillips 66, a position he has held since December 2014. Mr. Oyolu previously served as Phillips 66's General Manager, Planning and Optimization from February 2014 to December 2014 and General Manager, Finance for Refining, Marketing and Transportation from May 2012 to February 2014.

Timothy D. Roberts is Executive Vice President, Midstream of Phillips 66, a position he has held since August 2018. Previously, Mr. Roberts served as Phillips 66's Executive Vice President, Marketing and Commercial from January 2017 to August 2018 and as Executive Vice President Strategy and Business Development from April 2016 to January 2017. Before joining Phillips 66, Mr. Roberts served in a number of executive roles at LyondellBasell Industries N.V. beginning in 2011, most recently as Executive Vice President, Global Olefins and Polyolefins from October 2013 to March 2016.

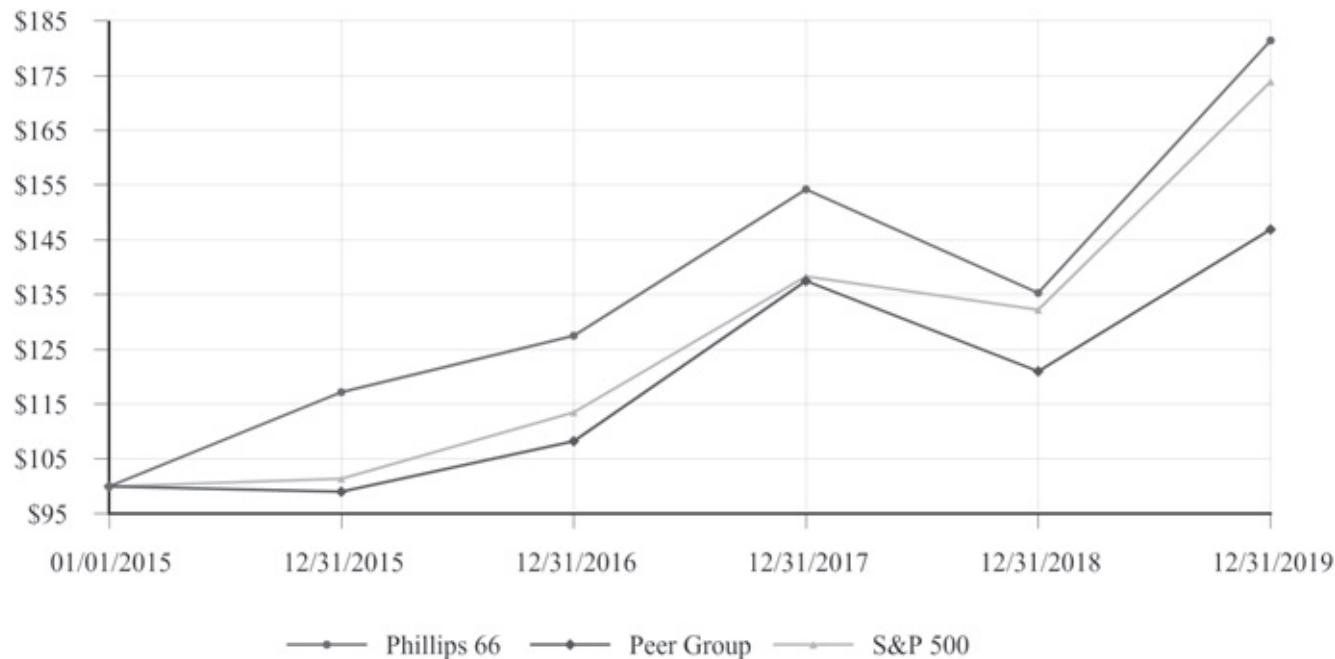
PART II

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

Phillips 66's common stock is traded on the New York Stock Exchange under the symbol "PSX." At January 31, 2020, our number of stockholders of record was 34,639.

Performance Graph

Cumulative Total Shareholder Return on \$100 Invested on January 1, 2015



The performance graph above includes a peer index (the "Peer Group") composed of Celanese Corporation; Delek US Holdings, Inc.; Eastman Chemical Co.; Enterprise Products Partners, LP; HollyFrontier Corporation; Huntsman Corporation; LyondellBasell Industries N.V.; Marathon Petroleum Corporation; Oneok, Inc.; PBF Energy Inc.; Targa Resources Corp.; Valero Energy Corporation; and Westlake Chemical Corp. Additionally, Andeavor is included as a peer for periods prior to its acquisition by Marathon Petroleum Corporation in October 2018.

Issuer Purchases of Equity Securities

| Period | Total Number of Shares Purchased* | Average Price Paid per Share | Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs** | Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs | Millions of Dollars |
|---------------------|-----------------------------------|------------------------------|--|--|---------------------|
| October 1-31, 2019 | 1,371,989 | \$ 105.71 | 1,371,989 | \$ 3,224 | |
| November 1-30, 2019 | 934,053 | 117.79 | 934,053 | 3,114 | |
| December 1-31, 2019 | 1,391,363 | 113.22 | 1,391,363 | 2,957 | |
| Total | 3,697,405 | \$ 111.58 | 3,697,405 | | |

* Includes repurchase of shares of common stock from company employees in connection with the company's broad-based employee incentive plans, when applicable.

** On October 4, 2019, our Board of Directors approved a new share repurchase program that authorizes us to repurchase up to \$3 billion of our common stock, bringing the total amount of share repurchases authorized by our Board of Directors since July 2012 to an aggregate of \$15 billion. The authorizations do not have expiration dates. The share repurchases are expected to be funded primarily through available cash. The shares under these authorizations are repurchased from time to time in the open market at the company's discretion, subject to market conditions and other factors, and in accordance with applicable regulatory requirements. We are not obligated to acquire any particular amount of common stock and may commence, suspend or discontinue purchases at any time or from time to time without prior notice. Shares of stock repurchased are held as treasury shares.

Item 6. SELECTED FINANCIAL DATA

| | Millions of Dollars Except Per Share Amounts | | | | |
|--|--|---------|---------|--------|--------|
| | 2019 | 2018 | 2017 | 2016 | 2015 |
| Sales and other operating revenues* | \$ 107,293 | 111,461 | 102,354 | 84,279 | 98,975 |
| Net income | 3,377 | 5,873 | 5,248 | 1,644 | 4,280 |
| Net income attributable to Phillips 66 | 3,076 | 5,595 | 5,106 | 1,555 | 4,227 |
| Per common share | | | | | |
| Basic | 6.80 | 11.87 | 9.90 | 2.94 | 7.78 |
| Diluted | 6.77 | 11.80 | 9.85 | 2.92 | 7.73 |
| Total assets | 58,720 | 54,302 | 54,371 | 51,653 | 48,580 |
| Long-term debt | 11,216 | 11,093 | 10,069 | 9,588 | 8,843 |
| Cash dividends declared per common share | 3.50 | 3.10 | 2.73 | 2.45 | 2.18 |

* Sales and other operating revenues for the years ended December 31, 2015 through 2017, are presented in accordance with accounting standards in effect prior to our adoption of ASU No. 2014-09 on January 1, 2018. See Note 1—Summary of Significant Accounting Policies, in the Notes to Consolidated Financial Statements, for further discussion regarding our adoption of ASU No. 2014-09.

To ensure full understanding, you should read the selected financial data presented above in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the consolidated financial statements and accompanying notes included elsewhere in this Annual Report on Form 10-K.

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

Unless otherwise indicated, “the company,” “we,” “our,” “us” and “Phillips 66” are used in this report to refer to the businesses of Phillips 66 and its consolidated subsidiaries.

Management’s Discussion and Analysis is the company’s analysis of its financial performance, financial condition, and significant trends that may affect future performance. It should be read in conjunction with the consolidated financial statements and notes thereto included elsewhere in this Annual Report on Form 10-K. It contains forward-looking statements including, without limitation, statements relating to the company’s plans, strategies, objectives, expectations and intentions that are made pursuant to the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995. The words “anticipate,” “estimate,” “believe,” “budget,” “continue,” “could,” “intend,” “may,” “plan,” “potential,” “predict,” “seek,” “should,” “will,” “would,” “expect,” “objective,” “projection,” “forecast,” “goal,” “guidance,” “outlook,” “effort,” “target” and similar expressions identify forward-looking statements. The company does not undertake to update, revise or correct any of the forward-looking information unless required to do so under the federal securities laws. Readers are cautioned that such forward-looking statements should be read in conjunction with the company’s disclosures under the heading: “CAUTIONARY STATEMENT FOR THE PURPOSES OF THE ‘SAFE HARBOR’ PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995.”

The terms “earnings” and “loss” as used in Management’s Discussion and Analysis refer to net income (loss) attributable to Phillips 66. The terms “pre-tax income” or “pre-tax loss” as used in Management’s Discussion and Analysis refer to income (loss) before income taxes.

EXECUTIVE OVERVIEW AND BUSINESS ENVIRONMENT

Phillips 66 is an energy manufacturing and logistics company with midstream, chemicals, refining, and marketing and specialties businesses. At December 31, 2019, we had total assets of \$58.7 billion.

Executive Overview

In 2019, we reported earnings of \$3.1 billion and generated \$4.8 billion in cash from operating activities. In addition, Phillips 66 Partners LP (Phillips 66 Partners) had net debt issuances of \$0.5 billion and received \$0.4 billion from its joint venture partners to partially fund the Gray Oak Pipeline capital project. We used available cash primarily for capital expenditures and investments of \$3.9 billion, repurchases of our common stock of \$1.7 billion, and dividend payments on our common stock of \$1.6 billion. We ended 2019 with \$1.6 billion of cash and cash equivalents and approximately \$5.7 billion of total committed capacity available under our credit facilities.

We continue to focus on the following strategic priorities:

- Operating Excellence. Our commitment to operating excellence guides everything we do. We are committed to protecting the health and safety of everyone who has a role in our operations and the communities in which we operate. Continuous improvement in safety, environmental stewardship, reliability and cost efficiency is a fundamental requirement for our company and employees. We employ rigorous training and audit programs to drive ongoing improvement in both personal and process safety as we strive for zero incidents. Since we cannot control commodity prices, controlling operating expenses and overhead costs, within the context of our commitment to safety and environmental stewardship, is a high priority. Senior management actively monitors these costs. We are committed to protecting the environment and strive to reduce our environmental footprint throughout our operations. Optimizing utilization rates at our refineries through reliable and safe operations enables us to capture the value available in the market in terms of prices and margins. During 2019, our worldwide refining crude oil capacity utilization rate was 94%.

- Growth. A disciplined capital allocation process ensures we focus investments on projects that generate competitive returns through the business cycle. Our strategy focuses on investing in growth opportunities in the Midstream and Chemicals segments. Results from our Transportation and NGL businesses in our Midstream segment for 2019 were a reflection of this, as these businesses benefited from higher equity earnings and cash distributions from completed capital projects. In 2020, we have budgeted \$2.4 billion for Midstream capital expenditures and investments, including \$962 million for Phillips 66 Partners. Capital will be used to continue building out and maintaining our integrated logistics infrastructure network, including pipelines, storage, export and fractionation facilities. In Chemicals, our share of expected self-funded capital spending by Chevron Phillips Chemical Company LLC (CPChem) is \$656 million. CPChem will fund continuing development of petrochemical projects on the U.S. Gulf Coast (USGC) and in Qatar, as well as debottlenecking opportunities on existing assets.
- Returns. We plan to enhance Refining returns by increasing throughput of advantaged feedstocks, improving yields, portfolio optimization and an ongoing commitment to operating excellence. Our Refining segment maintained a strong clean product yield and optimized advantaged crude oil throughput at our U.S. refineries in 2019. For 2020, capital in Refining will be directed toward high-return projects to enhance the yield of higher-value products and other high-return, quick-payout projects. Marketing and Specialties (M&S) will continue to develop and enhance our retail network and brands in the United States and Europe.
- Distributions. We believe shareholder value is enhanced through, among other things, consistent growth of regular dividends, complemented by share repurchases. We increased our quarterly dividend rate by 13% during 2019, and have increased it every year since the company's inception in 2012. Regular dividends demonstrate the confidence our Board of Directors and management have in our capital structure and operations' capability to generate free cash flow throughout the business cycle. In 2019, we repurchased \$1.7 billion, or approximately 17 million shares, of our common stock. On October 4, 2019, our Board of Directors approved a new share repurchase program that authorizes us to repurchase up to \$3 billion of our common stock, bringing the total amount of share repurchases authorized by our Board of Directors since July 2012 to an aggregate of \$15 billion. At the discretion of our Board of Directors, we plan to increase dividends annually and fund our share repurchase programs while continuing to invest in the growth of our business.
- High-Performing Organization. We strive to attract, develop and retain individuals with the knowledge and skills to implement our business strategy and who support our values and culture. Throughout the company, we focus on getting results in the right way, embrace our values as a common bond, and believe success is both what we do and how we do it. We encourage collaboration throughout our company, while valuing differences, respecting diversity, and creating a great place to work. We foster an environment of learning and development through structured programs focused on enhancing functional and technical skills where employees are engaged in our business and committed to their own, as well as the company's, success.

Business Environment

The Midstream segment includes our Transportation and Natural Gas Liquids (NGL) businesses. Our Transportation business contains fee-based operations that are not directly exposed to commodity price risk. Our NGL business is directly linked to NGL prices. The Midstream segment also includes our 50% equity investment in DCP Midstream, LLC (DCP Midstream). NGL prices were significantly lower in 2019, compared with 2018, due to higher inventory levels resulting from supply growth and weak winter demand.

The Chemicals segment consists of our 50% equity investment in CPChem. The chemicals and plastics industry is mainly a commodity-based industry where the margins for key products are based on supply and demand, as well as cost factors. During 2019, the benchmark high-density polyethylene chain margin further decreased, compared with 2018, due to recent capacity additions, the continued trade policy uncertainty and slower demand growth in Asia.

Our Refining segment results are driven by several factors, including refining margins, refinery throughput, feedstock costs, product yields, turnaround activity, and other operating costs. The price of U.S. benchmark crude oil, West Texas Intermediate (WTI) at Cushing, Oklahoma, decreased to an average of \$57.02 per barrel during 2019, compared with an average of \$64.92 per barrel in 2018, due to continued growth in Permian Basin production and higher inventories as exports failed to keep pace with production growth. In addition, heavy Canadian crude differentials narrowed in 2019, compared with 2018, due primarily to production curtailments implemented by the Alberta Provincial government. Market crack spreads are used as indicators of refining margins and measure the difference between market prices for refined petroleum products and crude oil. During 2019, the market crack spreads slightly decreased in the Atlantic Basin/Europe, Gulf Coast and Central Corridor regions, but increased in the West Coast region, compared with 2018.

Results for our M&S segment depend largely on marketing fuel margins, lubricant margins, and other specialty product margins. While M&S margins are primarily driven by market factors, largely determined by the relationship between supply and demand, marketing fuel margins, in particular, are influenced by the trend in spot prices for refined petroleum products. Generally speaking, a downward trend of spot prices has a favorable impact on marketing fuel margins, while an upward trend of spot prices has an unfavorable impact on marketing fuel margins.

RESULTS OF OPERATIONS

Consolidated Results

A summary of income (loss) before income taxes by business segment with a reconciliation to net income attributable to Phillips 66 follows:

| | Millions of Dollars | | |
|---|------------------------|-------|---------|
| | Year Ended December 31 | | |
| | 2019 | 2018 | 2017 |
| Midstream | \$ 684 | 1,181 | 638 |
| Chemicals | 879 | 1,025 | 716 |
| Refining | 1,986 | 4,535 | 2,076 |
| Marketing and Specialties | 1,433 | 1,557 | 1,020 |
| Corporate and Other | (804) | (853) | (895) |
| Income before income taxes | 4,178 | 7,445 | 3,555 |
| Income tax expense (benefit) | 801 | 1,572 | (1,693) |
| Net income | 3,377 | 5,873 | 5,248 |
| Less: net income attributable to noncontrolling interests | 301 | 278 | 142 |
| Net income attributable to Phillips 66 | \$ 3,076 | 5,595 | 5,106 |

2019 vs. 2018

Our earnings decreased \$2,519 million, or 45%, in 2019, mainly reflecting:

- Lower realized refining and marketing margins.
- Impairments associated with our investment in DCP Midstream.
- Decreased equity in earnings of affiliates in our Refining and Chemicals segments.

These decreases were partially offset by:

- Lower income tax expense.
- Improved results from our NGL and transportation businesses.

2018 vs. 2017

Our earnings increased \$489 million, or 10%, in 2018, mainly reflecting:

- Higher realized refining and marketing margins.
- Higher equity in earnings of affiliates in our Midstream and Chemicals segments.
- A lower U.S. federal income tax rate beginning January 1, 2018, as a result of the U.S. Tax Cuts and Jobs Act (the Tax Act) enacted in December 2017.

These increases were partially offset by:

- A \$2,735 million provisional income tax benefit from the enactment of the Tax Act recognized in December 2017, primarily due to the revaluation of deferred income taxes.
- A \$261 million noncash, after-tax gain from the consolidation of Merey Sweeny, L.P., predecessor to Merey Sweeny LLC (both referred to herein as Merey Sweeny), in 2017.
- Higher net income attributable to noncontrolling interests primarily due to the contribution of assets to Phillips 66 Partners in the fourth quarter of 2017.
- Higher interest and debt expense.

See the “Segment Results” section for additional information on our segment results.

Statement of Income Analysis

2019 vs. 2018

Sales and other operating revenues and purchased crude oil and products decreased 4% and 2%, respectively, in 2019. The decreases were mainly driven by lower prices for refined petroleum products, crude oil and NGL.

Equity in earnings of affiliates decreased 21% in 2019. The decrease was mainly due to lower margins at WRB Refining LP (WRB) and CPChem, partially offset by improved results from our Transportation and NGL joint venture assets. Lower equity earnings in 2019 also reflected lower-of-cost-or-market inventory write-downs at CPChem and higher goodwill and other asset impairments at DCP Midstream. See the “Segment Results” section for additional information.

Other income increased \$58 million in 2019. The increase was mainly driven by trading activities not directly related to our physical business. See Note 15—Derivatives and Financial Instruments, in the Notes to Consolidated Financial Statements, for additional information associated with our commodity derivatives.

Impairments increased \$853 million in 2019. The increase was driven by an \$853 million pre-tax impairment associated with our investment in DCP Midstream recognized in the third quarter of 2019. See Note 7—Investments, Loans and Long-Term Receivables, and Note 16—Fair Value Measurements, in the Notes to Consolidated Financial Statements, for additional information associated with this impairment.

Interest and debt expense decreased 9% in 2019. The decrease was primarily attributable to higher capitalized interest associated with capital projects under development in our Midstream segment, partially offset by higher debt balances in 2019.

Income tax expense (benefit) decreased 49% in 2019. The decrease in income tax expense was primarily attributable to lower income before income taxes. See Note 21—Income Taxes, in the Notes to Consolidated Financial Statements, for more information regarding our income taxes.

Sales and other operating revenues and purchased crude oil and products increased 9% and 23%, respectively, in 2018. The increases were mainly due to higher prices for refined petroleum products, crude oil and NGL. The increase in sales and other operating revenues was partially offset by a change in the presentation of excise taxes on sales of refined petroleum products resulting from our adoption of Financial Accounting Standard Board (FASB) Accounting Standards Update (ASU) No. 2014-09, “Revenue from Contracts with Customers (Topic 606),” on January 1, 2018. As part of our adoption of this ASU, prospectively from January 1, 2018, our presentation of excise taxes on sales of refined petroleum products changed to a net basis from a gross basis. As a result, the “Sales and other operating revenues” and “Taxes other than income taxes” line items on our consolidated statement of income for the year ended December 31, 2018, are not presented on a comparable basis to the year ended December 31, 2017. See Note 1—Summary of Significant Accounting Policies, in the Notes to Consolidated Financial Statements, for further information on our presentation of excise taxes on sales of refined petroleum products and our adoption of this ASU, respectively.

Equity in earnings of affiliates increased 55% in 2018, primarily resulting from higher equity in earnings from WRB, CPChem and affiliates in our Midstream segment.

- Equity in earnings of WRB increased \$483 million, primarily due to higher realized margins driven by improved feedstock advantage.
- Equity in earnings of CPChem increased \$312 million, primarily due to commencement of full operations at CPChem’s new U.S. Gulf Coast petrochemicals assets and lower hurricane-related costs and downtime in 2018.
- Equity in earnings for our Midstream segment increased \$222 million, primarily due to higher volumes on affiliate pipelines, including the Bakken Pipeline, which operated for a full year in 2018.

Other income decreased \$460 million in 2018. We recognized a noncash, pre-tax gain of \$423 million in February 2017 related to the consolidation of Merey Sweeny. See Note 6—Business Combinations, in the Notes to Consolidated Financial Statements, for additional information.

Taxes other than income taxes decreased 97% in 2018. The decrease was primarily attributable to the change in our presentation of excise taxes on sales of refined petroleum products resulting from our adoption of ASU No. 2014-09 on January 1, 2018. See the “Sales and other operating revenues” section above for further discussion.

Interest and debt expense increased 15% in 2018. The increase was due to higher average debt principal balances resulting from our issuance of senior notes totaling \$1,500 million in March 2018 and Phillips 66 Partners’ issuance of senior notes totaling \$650 million in October 2017.

Income tax expense (benefit) was an expense in 2018, compared with a benefit in 2017. The benefit in 2017 was due to the recognition of a provisional income tax benefit of \$2,735 million from the enactment of the Tax Act in December 2017. The benefit from the Tax Act was primarily due to the revaluation of deferred income taxes. Excluding this benefit, income tax expense increased in 2018 due to higher income before income taxes, partially offset by the reduction of the U.S. federal corporate income tax rate from 35% to 21% beginning January 1, 2018, as a result of the Tax Act. See Note 21—Income Taxes, in the Notes to Consolidated Financial Statements, for more information regarding our income taxes.

Net income attributable to noncontrolling interests increased \$136 million in 2018, primarily due to the contribution of assets in the fourth quarter of 2017. In October 2017, we contributed to Phillips 66 Partners our 25% ownership interest in both Dakota Access, LLC (Dakota Access) and Energy Transfer Crude Oil Company, LLC (ETCO), and our 100% ownership interest in Merey Sweeny.

Segment Results

Midstream

| | Year Ended December 31 | | |
|--|------------------------|-------|------|
| | 2019 | 2018 | 2017 |
| | Millions of Dollars | | |
| Income (Loss) Before Income Taxes | | | |
| Transportation | \$ 946 | 770 | 530 |
| NGL and Other | 522 | 305 | 32 |
| DCP Midstream | (784) | 106 | 76 |
| Total Midstream | \$ 684 | 1,181 | 638 |

| | Thousands of Barrels Daily | | |
|--------------------|----------------------------|-----------|----------------------|
| | Pipelines* | Terminals | Operating Statistics |
| Pipelines* | 3,396 | 3,441 | 3,320 |
| Terminals | 3,315 | 3,153 | 2,665 |
| NGL fractionated** | 224 | 216 | 186 |
| NGL extracted*** | 417 | 413 | 374 |

* Pipelines represent the sum of volumes transported through each separately tariffed consolidated pipeline segment.

** Excludes DCP Midstream.

*** Includes 100% of DCP Midstream's volumes.

| | Dollars Per Gallon | | |
|---------------|-----------------------------|---------------|---------------|
| | Weighted-Average NGL Price* | DCP Midstream | 2019 vs. 2018 |
| DCP Midstream | \$ 0.51 | 0.75 | 0.62 |

* Based on index prices from the Mont Belvieu market hub, which are weighted by NGL component mix.

The Midstream segment provides crude oil and refined petroleum product transportation, terminaling and processing services, as well as natural gas and NGL transportation, storage, fractionation, processing and marketing services, mainly in the United States. This segment includes our master limited partnership (MLP), Phillips 66 Partners, as well as our 50% equity investment in DCP Midstream, which includes the operations of its MLP, DCP Midstream, LP (DCP Partners).

2019 vs. 2018

Pre-tax income from the Midstream segment decreased \$497 million in 2019, compared with 2018, mainly driven by an \$853 million pre-tax impairment associated with our investment in DCP Midstream and lower equity earnings from DCP Midstream, partially offset by improved results from our Transportation and NGL and Other businesses.

Pre-tax income from our Transportation business increased \$176 million in 2019, compared with 2018. The increase was mainly driven by higher volumes and pipeline tariffs from our portfolio of consolidated and joint venture assets.

Pre-tax income from our NGL and Other business increased \$217 million in 2019, compared with 2018. The increase was mainly due to improved margins and volumes, primarily at the Sweeny Hub, and higher equity earnings from certain pipeline affiliates driven by higher volumes.

Pre-tax income from our investment in DCP Midstream decreased \$890 million in 2019, compared with 2018. The decrease was primarily due to an \$853 million pre-tax impairment associated with our investment in DCP Midstream and lower equity earnings driven by higher goodwill and other asset impairments at DCP Partners in 2019 as described below.

In the third quarter of 2019, DCP Partners performed goodwill and other asset impairment assessments based on internal discounted cash flow models that reflected various observable and nonobservable factors, such as prices, volumes, expenses and discount rates. As a result of these assessments, DCP Partners recorded goodwill and other asset impairments that reduced our equity earnings by \$47 million, included in the “Equity in earnings of affiliates” line item on our consolidated statement of income.

The fair value of our investment in DCP Midstream at September 30, 2019, depended on the market value of DCP Midstream’s general partner interest in DCP Partners and the market value of DCP Partners’ common units. At June 30, 2019, we estimated the fair value of our investment in DCP Midstream was below our book value, but we believed the condition was temporary. The fair value of our investment in DCP Midstream further deteriorated in the third quarter as the market value of DCP Midstream’s general partner interest in DCP Partners and the market value of DCP Partners’ common units declined further. At that time, we concluded the decline in fair value was no longer temporary due to the duration and magnitude of the decline. Accordingly, we recorded an \$853 million impairment in the third quarter of 2019. The impairment is included in the “Impairments” line item on our consolidated statement of income and results in our investment in DCP Midstream having a book value of \$1,374 million at December 31, 2019.

The majority of the difference between the book value of our investment in DCP Midstream and our 50% share of the net assets reported by DCP Midstream is amortized over a 22-year estimated useful life as an annual increase of approximately \$40 million to equity earnings. See Note 7—Investments, Loans and Long-Term Receivables, and Note 16—Fair Value Measurements, in the Notes to Consolidated Financial Statements, for additional information on our investment in DCP Midstream.

See the “Executive Overview and Business Environment” section for information on market factors impacting 2019 results.

2018 vs. 2017

Pre-tax income from the Midstream segment increased \$543 million in 2018, compared with 2017, due to improved results across all business lines.

Pre-tax income from our Transportation business increased \$240 million in 2018, compared with 2017. The increase was mainly driven by higher volumes, tariffs and storage rates from our portfolio of consolidated and joint venture assets. These increases were partially offset by a decrease in equity earnings from Rockies Express Pipeline LLC (REX) due to a favorable settlement recorded in 2017.

Pre-tax income from our NGL and Other business increased \$273 million in 2018, compared with 2017. The increase was primarily due to the contribution of Merey Sweeny to Phillips 66 Partners in October 2017, inventory impacts, improved cargo margins and volumes, and higher equity earnings from pipeline affiliates due to increased volumes.

Pre-tax income from our investment in DCP Midstream increased \$30 million in 2018, compared with 2017. The increase was primarily due to higher equity earnings from affiliates as a result of increased volumes, timing of incentive distribution income allocations from DCP Partners, and favorable hedging results. These increases were partially offset by higher asset impairments and operating costs in 2018.

Chemicals

| | Year Ended December 31 | | |
|---|------------------------|--------|--------|
| | 2019 | 2018 | 2017 |
| | Millions of Dollars | | |
| Income Before Income Taxes | \$ 879 | 1,025 | 716 |
| CPChem Externally Marketed Sales Volumes* | | | |
| Olefins and Polyolefins | 18,788 | 18,435 | 15,870 |
| Specialties, Aromatics and Styrenics | 4,281 | 4,931 | 4,618 |
| | 23,069 | 23,366 | 20,488 |
| Olefins and Polyolefins Capacity Utilization (percent) | | | |
| | 97% | 94 | 87 |

* Represents 100% of CPChem's outside sales of produced petrochemical products, as well as commission sales from equity affiliates.

Olefins and Polyolefins Capacity Utilization (percent)

The Chemicals segment consists of our 50% interest in CPChem, which we account for under the equity method. CPChem uses NGL and other feedstocks to produce petrochemicals. These products are then marketed and sold or used as feedstocks to produce plastics and other chemicals. We structure our reporting of CPChem's operations around two primary business lines: Olefins and Polyolefins (O&P) and Specialties, Aromatics and Styrenics (SA&S). The O&P business line produces and markets ethylene and other olefin products. Ethylene produced is primarily consumed within CPChem for the production of polyethylene, normal alpha olefins and polyethylene pipe. The SA&S business line manufactures and markets aromatics and styrenics products, such as benzene, cyclohexane, styrene and polystyrene. SA&S also manufactures and/or markets a variety of specialty chemical products. Unless otherwise noted, amounts referenced below reflect our net 50% interest in CPChem.

2019 vs. 2018

Pre-tax income from the Chemicals segment decreased \$146 million in 2019, compared with 2018. The decrease was mainly due to lower polyethylene margins attributable to additional industry capacity and slower demand growth in Asia. In addition, CPChem recorded lower-of-cost-or-market write-downs of LIFO-valued inventories during 2019, and our portion of the write-downs reduced our equity earnings from CPChem by \$65 million, pre-tax. The decreases were partially offset by higher polyethylene sales volumes and lower turnaround and maintenance activity during 2019.

See the "Executive Overview and Business Environment" section for information on market factors impacting CPChem's 2019 results.

2018 vs. 2017

Pre-tax income from the Chemicals segment increased \$309 million in 2018, compared with 2017. The increased results reflected the commencement of full operations at CPChem's new U.S. Gulf Coast petrochemicals assets in the second quarter of 2018, which resulted in higher production and sales of polyethylene and ethylene, partially offset by lower capitalized interest. Additionally, lower hurricane-related costs and downtime, as well as lower impairment charges, contributed to the increased results in 2018.

Refining

| | Year Ended December 31 | | |
|--|------------------------|-------|-------|
| | 2019 | 2018 | 2017 |
| | Millions of Dollars | | |
| Income (Loss) Before Income Taxes | | | |
| Atlantic Basin/Europe | \$ 608 | 567 | 448 |
| Gulf Coast | 364 | 1,040 | 809 |
| Central Corridor | 1,338 | 2,817 | 755 |
| West Coast | (324) | 111 | 64 |
| Worldwide | \$ 1,986 | 4,535 | 2,076 |
| | | | |
| Dollars Per Barrel | | | |
| Income (Loss) Before Income Taxes | | | |
| Atlantic Basin/Europe | \$ 3.11 | 3.05 | 2.25 |
| Gulf Coast | 1.24 | 3.55 | 2.83 |
| Central Corridor | 12.95 | 26.50 | 8.19 |
| West Coast | (2.49) | 0.81 | 0.48 |
| Worldwide | 2.75 | 6.29 | 2.92 |
| | | | |
| Realized Refining Margins* | | | |
| Atlantic Basin/Europe | \$ 9.33 | 10.32 | 8.25 |
| Gulf Coast | 7.42 | 9.48 | 7.07 |
| Central Corridor | 14.91 | 22.22 | 12.44 |
| West Coast | 9.18 | 11.20 | 10.49 |
| Worldwide | 9.91 | 12.99 | 9.13 |

* See the “Non-GAAP Reconciliations” section for a reconciliation of this non-GAAP measure to the most directly comparable GAAP measure, income (loss) before income taxes per barrel.

| | Thousands of Barrels Daily | | |
|--------------------------------|----------------------------|-------|-------|
| | Year Ended December 31 | | |
| | 2019 | 2018 | 2017 |
| Operating Statistics | | | |
| Refining operations* | | | |
| Atlantic Basin/Europe | | | |
| Crude oil capacity | 537 | 537 | 520 |
| Crude oil processed | 497 | 477 | 494 |
| Capacity utilization (percent) | 92% | 89 | 95 |
| Refinery production | 541 | 514 | 553 |
| Gulf Coast | | | |
| Crude oil capacity | 764 | 752 | 743 |
| Crude oil processed | 725 | 717 | 709 |
| Capacity utilization (percent) | 95% | 95 | 95 |
| Refinery production | 804 | 808 | 789 |
| Central Corridor | | | |
| Crude oil capacity | 515 | 493 | 493 |
| Crude oil processed | 498 | 507 | 467 |
| Capacity utilization (percent) | 97% | 103 | 95 |
| Refinery production | 518 | 530 | 489 |
| West Coast | | | |
| Crude oil capacity | 364 | 364 | 360 |
| Crude oil processed | 323 | 343 | 342 |
| Capacity utilization (percent) | 89% | 94 | 95 |
| Refinery production | 354 | 373 | 368 |
| Worldwide | | | |
| Crude oil capacity | 2,180 | 2,146 | 2,116 |
| Crude oil processed | 2,043 | 2,044 | 2,012 |
| Capacity utilization (percent) | 94% | 95 | 95 |
| Refinery production | 2,217 | 2,225 | 2,199 |

* Includes our share of equity affiliates.

The Refining segment refines crude oil and other feedstocks into petroleum products, such as gasoline, distillates and aviation fuels, at 13 refineries in the United States and Europe.

2019 vs. 2018

Pre-tax income for the Refining segment decreased \$2,549 million in 2019, compared with 2018. The decrease was primarily driven by lower realized refining margins and lower refinery production at certain refineries due to turnaround activities and unplanned downtime. In 2019, the decrease in realized refining margins was primarily due to lower feedstock advantage driven by narrowing heavy crude differentials.

See the “Executive Overview and Business Environment” section for information on industry crack spreads and other market factors impacting this year’s results.

Our worldwide refining crude oil capacity utilization rate was 94% and 95% in 2019 and 2018, respectively.

2018 vs. 2017

Pre-tax income for the Refining segment increased \$2,459 million in 2018, compared with 2017. The increase was primarily due to higher realized refining margins, partially offset by a noncash gain of \$423 million recognized from the consolidation of Merey Sweeny in February 2017.

The increased realized refining margins were primarily driven by higher feedstock advantage, improved premium coke margins, and increased optimization benefits from using our integrated logistics network to capture market opportunities related to widening Bakken, Canadian and other inland crude differentials. Improved clean product differentials and lower renewable identification number (RIN) costs also benefited margins. These items were partially offset by a decline in market crack spreads.

Our worldwide refining crude oil capacity utilization rate was 95% in both 2018 and 2017.

Marketing and Specialties

| | Year Ended December 31 | | |
|-----------------------------------|------------------------|-------|-------|
| | 2019 | 2018 | 2017 |
| | Millions of Dollars | | |
| Income Before Income Taxes | | | |
| Marketing and Other Specialties | \$ 1,199 | 1,306 | 808 |
| Total Marketing and Specialties | \$ 234 | 251 | 212 |
| | \$ 1,433 | 1,557 | 1,020 |

| | Dollars Per Barrel | | |
|-----------------------------------|--------------------|------|------|
| Income Before Income Taxes | | | |
| U.S. | \$ 1.22 | 1.21 | 0.89 |
| International | 3.58 | 5.00 | 2.23 |

Realized Marketing Fuel Margins*

| | | | |
|---------------|---------|------|------|
| U.S. | \$ 1.57 | 1.62 | 1.48 |
| International | 4.90 | 6.87 | 4.21 |

* See the "Non-GAAP Reconciliations" section for a reconciliation of this non-GAAP measure to the most directly comparable GAAP measure, income before income taxes per barrel.

| | Dollars Per Gallon | | |
|---------------------------------------|--------------------|------|------|
| U.S. Average Wholesale Prices* | | | |
| Gasoline | \$ 2.12 | 2.20 | 1.87 |
| Distillates | 2.12 | 2.29 | 1.85 |

* On third-party branded refined petroleum product sales, excluding excise taxes.

| | Thousands of Barrels Daily | | |
|--|----------------------------|-------|-------|
| Marketing Refined Petroleum Product Sales | | | |
| Gasoline | 1,230 | 1,195 | 1,246 |
| Distillates | 1,104 | 975 | 931 |
| Other | 18 | 18 | 18 |
| | 2,352 | 2,188 | 2,195 |

The M&S segment purchases for resale and markets refined petroleum products, such as gasoline, distillates and aviation fuels, mainly in the United States and Europe. In addition, this segment includes the manufacturing and marketing of specialty products, such as base oils and lubricants.

2019 vs. 2018

Pre-tax income from the M&S segment decreased \$124 million in 2019, compared with 2018. The decrease was primarily due to lower realized marketing fuel margins, mainly driven by international marketing, partially offset by higher sales volumes.

See the "Executive Overview and Business Environment" section for information on marketing fuel margins and other market factors impacting 2019 results.

2018 vs. 2017

Pre-tax income from the M&S segment increased \$537 million in 2018, compared with 2017. The increase was primarily due to higher realized marketing fuel margins, mainly driven by international marketing, benefits from the retroactive extension of the 2017 U.S. biodiesel blender's tax incentive in early 2018, as well as improved specialty product service margins.

Corporate and Other

| | Millions of Dollars | | |
|--|------------------------|--------------|--------------|
| | Year Ended December 31 | | |
| | 2019 | 2018 | 2017 |
| Income (Loss) Before Income Taxes | | | |
| Net interest expense | \$ (415) | (459) | (408) |
| Corporate overhead and other | (389) | (394) | (487) |
| Total Corporate and Other | \$ (804) | (853) | (895) |

2019 vs. 2018

Net interest expense consists of interest and financing expense, net of interest income and capitalized interest. Net interest expense decreased \$44 million in 2019, compared with 2018, primarily due to higher capitalized interest related to capital projects under development in our Midstream segment, partially offset by higher debt balances in 2019.

Corporate overhead and other includes general and administrative expenses, technology costs, environmental costs associated with sites no longer in operation, foreign currency transaction gains and losses and other costs not directly associated with an operating segment. During 2019, Corporate overhead and other decreased \$5 million, compared with 2018.

2018 vs. 2017

Net interest expense increased \$51 million in 2018, compared with 2017, mainly due to higher average debt principal balances from our issuance of senior notes totaling \$1,500 million in March 2018 and Phillips 66 Partners' issuance of senior notes totaling \$650 million in October 2017. This increase was partially offset by higher interest income.

Corporate overhead and other decreased \$93 million in 2018, compared with 2017, primarily due to lower environmental-related expenses and higher equity earnings from our share of income tax benefits recorded by equity affiliates due to the enactment of the Tax Act in December 2017.

CAPITAL RESOURCES AND LIQUIDITY

Financial Indicators

| | Millions of Dollars, Except as Indicated | | |
|---|--|--------|--------|
| | 2019 | 2018 | 2017 |
| Cash and cash equivalents | \$ 1,614 | 3,019 | 3,119 |
| Net cash provided by operating activities | 4,808 | 7,573 | 3,648 |
| Short-term debt | 547 | 67 | 41 |
| Total debt | 11,763 | 11,160 | 10,110 |
| Total equity | 27,169 | 27,153 | 27,428 |
| Percent of total debt to capital* | 30% | 29 | 27 |
| Percent of floating-rate debt to total debt | 9% | 11 | 11 |

* Capital includes total debt and total equity.

To meet our short- and long-term liquidity requirements, we look to a variety of funding sources but rely primarily on cash generated from operating activities. Additionally, Phillips 66 Partners has raised funds for its growth activities through debt and equity financings. During 2019, we generated \$4.8 billion in cash from operations. In addition, Phillips 66 Partners had net debt issuances of \$0.5 billion and received \$0.4 billion from its joint venture partners to partially fund the Gray Oak Pipeline capital project. We used available cash primarily for capital expenditures and investments of \$3.9 billion; repurchases of our common stock of \$1.7 billion; and dividend payments on our common stock of \$1.6 billion. During 2019, cash and cash equivalents decreased \$1.4 billion to \$1.6 billion.

In addition to cash flows from operating activities, we rely on our commercial paper and credit facility programs, asset sales and our ability to issue debt securities to support our short- and long-term liquidity requirements. We believe current cash and cash equivalents and cash generated by operations, together with access to external sources of funds as described below under “Significant Sources of Capital,” will be sufficient to meet our funding requirements in the near and long term, including our capital spending, dividend payments, defined benefit plan contributions, debt repayments and share repurchases.

Significant Sources of Capital

Operating Activities

During 2019, cash generated by operating activities was \$4,808 million, a 37% decrease compared with 2018. The decrease was mainly driven by lower realized refining margins and decreased distributions from our equity affiliates, along with unfavorable working capital impacts, partially offset by improved results from our Transportation and NGL and Other businesses.

During 2018, cash of \$7,573 million was provided by operating activities, a 108% increase compared with 2017. The increase was primarily attributable to higher realized refining and marketing margins, increased distributions from our equity affiliates and lower employee benefit plan contributions. These increases were partially offset by unfavorable working capital impacts primarily driven by the effects of changes in commodity prices and the timing of payments and collections.

Our short- and long-term operating cash flows are highly dependent upon refining and marketing margins, NGL prices and chemicals margins. Prices and margins in our industry are typically volatile, and are driven by market conditions over which we have little or no control. Absent other mitigating factors, as these prices and margins fluctuate, we would expect a corresponding change in our operating cash flows.

The level and quality of output from our refineries also impacts our cash flows. Factors such as operating efficiency, maintenance turnarounds, market conditions, feedstock availability and weather conditions can affect output. We actively manage the operations of our refineries, and any variability in their operations typically has not been as significant to cash flows as that caused by margins and prices. Our worldwide refining crude oil capacity utilization was 94% in 2019 and 95% in both 2018 and 2017.

Equity Affiliate Operating Distributions

Our operating cash flows are also impacted by distribution decisions made by our equity affiliates, including CPChem, DCP Midstream and WRB. Over the three years ended December 31, 2019, we received aggregate distributions from our equity affiliates of \$6,097 million, including \$280 million from DCP Midstream, \$2,187 million from CPChem and \$1,380 million from WRB. We cannot control the amount or timing of future dividends from equity affiliates; therefore, future dividend payments by these and other equity affiliates are not assured.

Phillips 66 Partners

In 2013, we formed Phillips 66 Partners, a publicly traded MLP, to own, operate, develop and acquire primarily fee-based midstream assets.

Ownership and Restructuring Transaction

On August 1, 2019, Phillips 66 Partners completed a restructuring transaction to eliminate the incentive distribution rights (IDRs) held by us and to convert our 2% economic general partner interest into a noneconomic general partner interest in exchange for 101 million Phillips 66 Partners common units. No distributions were made for the general partner interest after August 1, 2019. At December 31, 2019, we owned 170 million Phillips 66 Partners common units, representing 74% of Phillips 66 Partners' limited partner units.

We consolidate Phillips 66 Partners as a variable interest entity for financial reporting purposes. See Note 27—Phillips 66 Partners LP, in the Notes to Consolidated Financial Statements, for additional information on why we consolidate the partnership. As a result of this consolidation, the public common and preferred unitholders' interests in Phillips 66 Partners are reflected as noncontrolling interests of \$2,228 million in our consolidated balance sheet at December 31, 2019.

Debt and Equity Financings

During the three years ended December 31, 2019, Phillips 66 Partners raised net proceeds of approximately \$3 billion from the following third-party debt and equity offerings:

- Phillips 66 Partners has authorized an aggregate of \$750 million under three \$250 million continuous offerings of common units, or at-the-market (ATM) programs. Phillips 66 Partners completed the first two programs in June 2018 and December 2019, respectively, leaving \$250 million available under the third program. For the three years ended December 31, 2019, net proceeds of \$474 million have been received under these programs.
- In September 2019, Phillips 66 Partners received net proceeds of \$892 million from the issuance of \$300 million of 2.450% Senior Notes due December 2024 and \$600 million of 3.150% Senior Notes due December 2029.
- In March 2019, Phillips 66 Partners entered into a senior unsecured term loan facility with a borrowing capacity of \$400 million due March 20, 2020. Phillips 66 Partners borrowed an aggregate amount of \$400 million under the facility during the first half of 2019, which was repaid in full in September 2019.
- In October 2017, Phillips 66 Partners received net proceeds of \$643 million from the issuance of \$500 million of 3.750% Senior Notes due March 2028 and \$150 million of 4.680% Senior Notes due February 2045.
- In October 2017, Phillips 66 Partners received net proceeds of \$737 million from a private placement of 13,819,791 perpetual convertible preferred units, at a price of \$54.27 per unit.
- In October 2017, Phillips 66 Partners received net proceeds of \$295 million from a private placement of 6,304,204 common units, at a price of \$47.59 per unit.

Phillips 66 Partners primarily used these net proceeds to fund the cash portion of acquisitions of assets from Phillips 66 and for capital spending and investments. See Note 27—Phillips 66 Partners LP, in the Notes to Consolidated Financial Statements, for additional information on Phillips 66 Partners.

Transfers of Equity Interests

In December 2018, a third party exercised an option to acquire a 35% interest in Gray Oak Holdings LLC (Holdings LLC), a consolidated subsidiary of Phillips 66 Partners. This transfer did not qualify as a sale under generally accepted accounting principles in the United States (GAAP) because of certain restrictions placed on the acquirer. The contributions received by Holdings LLC from the third party to cover capital calls from Gray Oak Pipeline, LLC are presented as a long-term obligation on our consolidated balance sheet and as financing cash inflows on our consolidated statement of cash flows until construction of the Gray Oak Pipeline is fully completed and these restrictions expire. During 2019, the third party contributed an aggregate of \$342 million into Holdings LLC, and Holdings LLC used these contributions to fund its portion of Gray Oak Pipeline, LLC's cash calls.

In February 2019, Holdings LLC sold a 10% ownership interest in Gray Oak Pipeline, LLC to a third party that exercised a purchase option, for proceeds of \$81 million. The proceeds received from this sale are presented as an investing cash inflow on our consolidated statement of cash flows.

See Note 7—Investments, Loans and Long-Term Receivables and Note 27—Phillips 66 Partners LP, in the Notes to Consolidated Financial Statements, for additional information regarding Phillip 66 Partners' investment in Gray Oak Pipeline, LLC.

Credit Facilities and Commercial Paper

Phillips 66 has a revolving credit facility that may be used for direct bank borrowings, as support for issuances of letters of credit, or as support for our commercial paper program. On July 30, 2019, this revolving credit agreement was amended and restated to extend the scheduled maturity from October 3, 2021, to July 30, 2024. No other material amendments were made to the agreement, and the overall capacity remains at \$5 billion with an option to increase the overall capacity to \$6 billion, subject to certain conditions. The facility is with a broad syndicate of financial institutions and contains covenants that are usual and customary for an agreement of this type for comparable commercial borrowers, including a maximum consolidated net debt-to-capitalization ratio of 65%. The agreement has customary events of default, such as nonpayment of principal when due; nonpayment of interest, fees or other amounts; violation of covenants; cross-payment default and cross-acceleration (in each case, to indebtedness in excess of a threshold amount); and a change of control. Borrowings under the facility will incur interest at the London Interbank Offered Rate (LIBOR) plus a margin based on the credit rating of our senior unsecured long-term debt as determined from time to time by Standard & Poor's Financial Services LLC (S&P) and Moody's Investors Service, Inc. (Moody's). The facility also provides for customary fees, including administrative agent fees and commitment fees. At December 31, 2019 and 2018, no amount had been drawn under this revolving credit agreement.

Phillips 66 has a \$5 billion commercial paper program for short-term working capital needs that is supported by our revolving credit facility. Commercial paper maturities are generally limited to 90 days. At December 31, 2019 and 2018, no borrowings were outstanding under the commercial paper program. At February 21, 2020, there was approximately \$650 million in borrowings outstanding under the program.

Phillips 66 Partners has a revolving credit facility with a broad syndicate of financial institutions. The revolving credit facility contains covenants that are usual and customary for an agreement of this type for comparable commercial borrowers. At Phillips 66 Partners' option, outstanding borrowings under this facility bear interest at either i) the Eurodollar rate plus a margin based on its credit rating; or ii) the base rate (as described in the facility agreement) plus a margin based on its credit rating. Eurodollar rate borrowings are due on the facility's termination date, while base rate borrowings are due the earlier of the facility's termination date or the fourteenth business day after such borrowings were made. On July 30, 2019, Phillips 66 Partners amended and restated its revolving credit agreement. The agreement extended the scheduled maturity from October 3, 2021, to July 30, 2024. No other material amendments were made to the agreement, and the overall capacity remains at \$750 million with an option to increase the overall capacity to \$1 billion, subject to certain conditions. At December 31, 2019, Phillips 66 Partners had no borrowings outstanding under this facility; however, \$1 million in letters of credit had been issued that were supported by this facility. There was \$125 million outstanding under this facility at December 31, 2018.

We had approximately \$5.7 billion and \$5.6 billion of total committed capacity available under our revolving credit facilities at December 31, 2019 and 2018, respectively.

Other Debt Issuances and Financings

On March 1, 2018, Phillips 66 closed on a public offering of \$1,500 million aggregate principal amount of unsecured notes consisting of:

- \$500 million of floating-rate Senior Notes due February 2021. Interest on these notes is equal to the three-month LIBOR plus 0.60% per annum and is payable quarterly in arrears on February 26, May 26, August 26 and November 26, beginning on May 29, 2018.
- \$800 million of 3.900% Senior Notes due March 2028. Interest on these notes is payable semiannually on March 15 and September 15 of each year, beginning on September 15, 2018.
- An additional \$200 million of our 4.875% Senior Notes due November 2044. Interest on these notes is payable semiannually on May 15 and November 15 of each year, beginning on May 15, 2018.

Phillips 66 used the net proceeds from the issuance of these notes and cash on hand to repay commercial paper borrowings during the first quarter of 2018, and for general corporate purposes. The commercial paper borrowings during the first quarter of 2018, were primarily used to repurchase shares of our common stock. See Note 17—Equity, in the Notes to Consolidated Financial Statements, for additional information.

In addition, we have finance lease obligations primarily related to consignment agreements with a domestic retail marketing joint venture and an oil terminal in the United Kingdom. These leases mature within the next twenty years. The present value of our minimum finance lease payments for these obligations as of December 31, 2019, was \$277 million.

Availability of Debt and Equity Financing

Our senior unsecured long-term debt has been rated investment grade by S&P (BBB+) and Moody's (A3). We do not have any ratings triggers on any of our corporate debt that would cause an automatic default, and thereby impact our access to liquidity, in the event of a downgrade of our credit rating. If our credit rating deteriorated to a level prohibiting us from accessing the commercial paper market, we would expect to be able to access funds under our liquidity facilities mentioned above.

Off-Balance Sheet Arrangements

Lease Residual Value Guarantees

Under the operating lease agreement on our headquarters facility in Houston, Texas, we have a residual value guarantee with a maximum future exposure of \$554 million at December 31, 2019. The operating lease term ends in June 2021 and provides us the option, at the end of the lease term, to request to renew the lease, purchase the facility or assist the lessor in marketing it for resale. We also have residual value guarantees associated with railcar and airplane leases with maximum potential future payments totaling \$372 million at December 31, 2019. These leases have remaining terms of up to four years.

Dakota Access

In March 2019, a wholly owned subsidiary of Dakota Access closed an offering of \$2,500 million aggregate principal amount of unsecured senior notes. The net proceeds from the issuance of these notes were used to repay amounts outstanding under existing credit facilities of Dakota Access and ETCO. Dakota Access and ETCO have guaranteed repayment of the notes. In addition, Phillips 66 Partners and its co-venturers in Dakota Access provided a Contingent Equity Contribution Undertaking (CECU) in conjunction with the notes offering. Under the CECU, if Dakota Access receives an unfavorable court ruling related to certain disputed construction permits and Dakota Access determines that an equity contribution trigger event has occurred, the venturers may be severally required to make proportionate equity contributions to Dakota Access and ETCO up to an aggregate maximum of approximately \$2,525 million. Phillips 66 Partners' share of the maximum potential equity contributions under the CECU is approximately \$631 million.

Gray Oak Pipeline

In June 2019, Gray Oak Pipeline, LLC entered into a third-party term loan facility with an initial borrowing capacity of \$1,230 million, which was increased to \$1,317 million in July 2019, and \$1,379 million in January 2020, inclusive of accrued interest. Borrowings under the facility are due on June 3, 2022. Phillips 66 Partners and its co-venturers provided a guarantee through an equity contribution agreement requiring proportionate equity contributions to Gray Oak Pipeline, LLC up to the total outstanding loan amount. Under the agreement, Phillips 66 Partners' maximum potential amount of future obligations is \$583 million, plus any additional accrued interest and associated fees, which would be required if the term loan facility is fully utilized and Gray Oak Pipeline, LLC defaults on certain of its obligations thereunder. At December 31, 2019, Gray Oak Pipeline, LLC had outstanding borrowings of \$1,170 million, and Phillips 66 Partners' 42.25% proportionate exposure under the equity contribution agreement was \$494 million.

Other Guarantees

At December 31, 2019, we had other guarantees outstanding for our portion of certain joint venture debt obligations and purchase obligations that have remaining terms of up to six years. The maximum potential amount of future payments to third parties under these guarantees was approximately \$263 million. Payment would be required if a joint venture defaults on its obligations.

See Note 13—Guarantees, in the Notes to Consolidated Financial Statements, for additional information on our guarantees.

Capital Requirements

Capital Expenditures and Investments

For information about our capital expenditures and investments, see the “Capital Spending” section below.

Debt Financing

Our debt balance at December 31, 2019, was \$11.8 billion and our total debt-to-capital ratio was 30%.

See Note 12—Debt, in the Notes to Consolidated Financial Statements, for our annual debt maturities over the next five years and more information on debt repayments.

Dividends

On February 5, 2020, our Board of Directors declared a quarterly cash dividend of \$0.90 per common share, payable March 2, 2020, to holders of record at the close of business on February 18, 2020. We forecast that our quarterly dividend will continue to increase in 2020.

Share Repurchases

On October 4, 2019, our Board of Directors approved a new share repurchase program that authorizes us to repurchase up to \$3 billion of our common stock, bringing the total amount of share repurchases authorized by our Board of Directors since July 2012 to an aggregate of \$15 billion. The authorizations do not have expiration dates. The share repurchases are expected to be funded primarily through available cash. The shares under these authorizations are repurchased from time to time in the open market at our discretion, subject to market conditions and other factors, and in accordance with applicable regulatory requirements. Since the inception of our share repurchase programs in 2012 through December 31, 2019, we have repurchased 154 million shares at an aggregate cost of \$12 billion. Shares of stock repurchased are held as treasury shares.

Employee Benefit Plan Contributions

For the year ended December 31, 2019, we contributed \$57 million to our U.S. employee benefit plans and \$28 million to our international employee benefit plans. In 2020, we expect to contribute approximately \$75 million to those plans.

Contractual Obligations

The following table summarizes our aggregate contractual fixed and variable obligations as of December 31, 2019:

| | Millions of Dollars | | | | |
|---------------------------------------|------------------------|---------------|---------------|--------------|---------------|
| | Payments Due by Period | | | | |
| | Total | Up to 1 Year | Years 2-3 | Years 4-5 | After 5 Years |
| Debt obligations (a) | \$ 11,576 | 525 | 2,550 | 300 | 8,201 |
| Finance lease obligations | 277 | 19 | 30 | 30 | 198 |
| Software obligations | 10 | 3 | 5 | 2 | — |
| Total debt | 11,863 | 547 | 2,585 | 332 | 8,399 |
| Interest on debt | 7,323 | 497 | 914 | 779 | 5,133 |
| Operating lease obligations | 1,409 | 488 | 427 | 195 | 299 |
| Purchase obligations (b) | 83,449 | 40,666 | 7,519 | 4,382 | 30,882 |
| Other long-term liabilities (c) | | | | | |
| Asset retirement obligations | 280 | 8 | 39 | 25 | 208 |
| Accrued environmental costs | 441 | 75 | 118 | 68 | 180 |
| Repatriation income tax liability (d) | 90 | 1 | 19 | 41 | 29 |
| Total | \$ 104,855 | 42,282 | 11,621 | 5,822 | 45,130 |

- (a) For additional information, see Note 12—Debt, in the Notes to Consolidated Financial Statements.
- (b) Represents any agreement to purchase goods or services that is enforceable, legally binding and specifies all significant terms. We expect these purchase obligations will be fulfilled with operating cash flows in the applicable maturity period. The majority of the purchase obligations are market-based contracts, including exchanges and futures, for the purchase of products such as crude oil and raw NGL. The products are used to supply our refineries and fractionators and optimize our supply chain. Product purchase commitments with third parties totaled \$36,271 million. In addition, \$21,779 million are product purchases from CPChem, mostly for fuel gas and natural gasoline over the remaining contractual term of 80 years, and product purchases of \$3,640 million from DCP Midstream for NGL over the remaining contractual term of nine years.
- Purchase obligations of \$6,187 million are related to agreements to access and utilize the capacity of third-party equipment and facilities, including pipelines and product terminals, to transport, process, treat, and store products. The remainder is primarily our net share of purchase commitments for materials and services for jointly owned facilities where we are the operator.
- (c) Excludes pensions and unrecognized income tax benefits. From 2020 through 2024, we expect to contribute an average of \$110 million per year to our qualified and nonqualified pension and other postretirement benefit plans in the United States and an average of \$25 million per year to our non-U.S. plans. The U.S. five-year average consists of approximately \$50 million for 2020 and \$120 million per year for the remaining four years. Our minimum funding in 2020 is expected to be \$50 million in the United States and \$25 million outside the United States. Unrecognized income tax benefits of \$40 million and the associated interest and penalties of \$10 million were excluded because the ultimate disposition and timing of any payments to be made with regard to such amounts are not reasonably estimable. Although unrecognized income tax benefits are not a contractual obligation, they represent potential demands on our liquidity.
- (d) We elected to pay the one-time deemed repatriation income tax on foreign-sourced earnings, recognized as a result of the Tax Act enacted in December 2017, in installments over eight years beginning in 2018. The amount represents the remaining income tax liability.

Capital Spending

Our capital expenditures and investments represent consolidated capital spending. Our adjusted capital spending is a non-GAAP financial measure that demonstrates our net share of capital spending, and reflects an adjustment for the portion of our consolidated capital spending funded by certain joint venture partners.

| | Millions of Dollars | | | |
|--|---------------------|--------------|-------|-------|
| | 2020 Budget | 2019 | 2018 | 2017 |
| Capital Expenditures and Investments | | | | |
| Midstream | \$ 2,390 | 2,292 | 1,548 | 771 |
| Chemicals | — | — | — | — |
| Refining | 1,035 | 1,001 | 826 | 853 |
| Marketing and Specialties | 161 | 374 | 125 | 108 |
| Corporate and Other | 204 | 206 | 140 | 100 |
| Total Capital Expenditures and Investments | 3,790 | 3,873 | 2,639 | 1,832 |
| Less: capital spending funded by certain joint venture partners* | 469 | 423 | — | — |
| Adjusted Capital Spending | \$ 3,321 | 3,450 | 2,639 | 1,832 |
| Selected Equity Affiliates** | | | | |
| DCP Midstream | \$ 350 | 472 | 484 | 268 |
| CPChem | 656 | 382 | 339 | 776 |
| WRB | 215 | 175 | 156 | 126 |
| | \$ 1,221 | 1,029 | 979 | 1,170 |

* Included in the Midstream segment.

** Our share of joint venture's self-funded capital spending.

Midstream

Capital spending in our Midstream segment during the three-year period ended December 31, 2019, included:

- Construction activities related to additional Gulf Coast fractionation capacity projects.
- Contributions to Gray Oak Pipeline, LLC to progress construction of the pipeline system, of which Phillips 66 Partners had a 42.25% effective ownership interest at December 31, 2019. The Gray Oak Pipeline system will transport crude oil from the Permian and Eagle Ford to Texas Gulf Coast destinations that include Corpus Christi, the Sweeny area, including our Sweeny Refinery, as well as access to the Houston market.
- Construction activities related to increasing storage capacity at our crude oil and refined petroleum products terminal located near Beaumont, Texas.
- Contributions to Bayou Bridge Pipeline, LLC (Bayou Bridge), a Phillips 66 Partners 40 percent-owned joint venture, for the construction of a pipeline from Nederland, Texas, to Lake Charles, Louisiana, and a pipeline segment from Lake Charles to St. James, Louisiana.
- Completion of the construction of Phillips 66 Partners' new isomerization unit at the Lake Charles Refinery.
- Contributions to Dakota Access and ETCO, two Phillips 66 Partners 25 percent-owned joint ventures, for post-construction spending related to Bakken Pipeline.
- Construction activities related to Phillips 66 Partners' new ethane pipeline from the Clemens Caverns to petrochemical facilities in Gregory, Texas, near Corpus Christi (C2G Pipeline).

- Construction activities related to increasing capacity on the Sweeny to Pasadena refined petroleum products pipeline.
- Contributions to South Texas Gateway Terminal for construction activities related to the marine export terminal that connects to the Gray Oak Pipeline in Corpus Christi, Texas.
- Formation of a 50/50 joint venture, Liberty Pipeline LLC, to construct the Liberty Pipeline, which will transport crude oil from the Rockies and Bakken production areas to Cushing, Oklahoma.
- Formation of a 50/50 joint venture, Red Oak Pipeline, LLC, to construct the Red Oak Pipeline System, which will transport crude oil from Cushing, Oklahoma, and the Permian to multiple destinations along the Texas Gulf Coast.
- Spending associated with other return, reliability and maintenance projects in our Transportation and NGL businesses.

During the three-year period ended December 31, 2019, DCP Midstream's self-funded capital expenditures and investments were \$2.4 billion on a 100% basis. Capital spending during this period was primarily for expansion projects, including construction of the Mewbourn 3 and O'Connor 2 plants, and investments in the expansion of Sand Hills NGL pipeline and the Gulf Coast Express pipeline joint venture, as well as maintenance capital expenditures for existing assets.

Chemicals

During the three-year period ended December 31, 2019, CPChem had a self-funded capital program that totaled \$3.0 billion on a 100% basis. The capital spending was primarily for the development of USGC petrochemical projects, debottlenecking projects on existing assets, and the development of a petrochemicals complex in Qatar.

Refining

Capital spending for the Refining segment during the three-year period ended December 31, 2019, was \$2.7 billion, primarily for refinery upgrade projects to increase accessibility of advantaged crudes and improve product yields; improvements to the operating integrity of key processing units; and safety-related projects. Our equity affiliates in the Refining segment had self-funding capital programs in 2019. During this three-year period, on a 100% basis, WRB's capital expenditures and investments were \$913 million.

Key projects completed during the three-year period included:

- Installation of facilities to improve clean product yield at the Lake Charles, Ponca City, and Bayway refineries, as well as the jointly owned Borger and Wood River refineries.
- Installation of facilities to improve processing of advantaged crudes at the Billings and Lake Charles refineries.
- Installation of facilities to comply with the U.S. Environmental Protection Agency (EPA) Tier 3 gasoline regulations at the Bayway, Ferndale, and Sweeny refineries.

Major construction activities in progress include:

- Installation of facilities to increase production of higher-value petrochemical products and higher-octane gasoline at the Sweeny Refinery.
- Installation of facilities to produce biofuels at the Humber Refinery.
- Installation of facilities to improve clean product yield at the Bayway and Ponca City refineries, as well as the jointly owned Borger Refinery.

Marketing and Specialties

Capital spending for the M&S segment during the three-year period ended December 31, 2019, was primarily for the investment in a retail joint venture with operations primarily on the U.S. West Coast; acquisition, construction and improvement of our international retail sites; and safety and reliability projects at our lubricants facilities.

Corporate and Other

Capital spending for Corporate and Other during the three-year period ended December 31, 2019, was primarily for information technology and facilities.

2020 Budget

Our 2020 capital budget is \$3.8 billion, including \$469 million of capital expected to be funded by prospective joint venture partners. Our projected \$3.8 billion capital budget excludes our portion of planned capital spending by our major joint ventures DCP Midstream, CPChem and WRB totaling \$1.2 billion, all of which is expected to be self-funded. Phillips 66 Partners' planned capital spending of \$962 million, which includes \$95 million of capital expected to be funded by joint venture partners, is included in the \$3.8 billion capital budget.

The Midstream capital budget of \$2.4 billion, of which \$469 million will be funded by joint venture partners, includes funding for the Liberty and Red Oak crude oil pipeline joint ventures and 450,000 BPD of additional fractionation capacity at the Sweeny Hub. The Midstream capital budget also includes growth capital at Phillips 66 Partners to support organic projects, including the Gray Oak Pipeline, the C2G Pipeline, the South Texas Gateway Terminal, and the Bakken Pipeline, as well as sustaining capital. Refining's capital budget of \$1.0 billion is primarily directed toward reliability, safety and environmental projects, as well as high-return projects to enhance the yield of higher-value products, including upgrades to the fluid catalytic cracking units at the Ponca City and Sweeny refineries, renewable diesel projects and other high-return, quick-payout projects designed to enhance margins. In M&S, our budgeted spending includes approximately \$160 million of growth and sustaining capital, primarily to develop and enhance our retail sites in Europe. In Corporate and Other, we plan to fund approximately \$205 million in projects primarily related to information technology projects, including an investment in a new enterprise resource planning system.

Contingencies

A number of lawsuits involving a variety of claims that arose in the ordinary course of business have been filed against us or are subject to indemnifications provided by us. We also may be required to remove or mitigate the effects on the environment of the placement, storage, disposal or release of certain chemical, mineral and petroleum substances at various active and inactive sites. We regularly assess the need for financial recognition or disclosure of these contingencies. In the case of all known contingencies (other than those related to income taxes), we accrue a liability when the loss is probable and the amount is reasonably estimable. If a range of amounts can be reasonably estimated and no amount within the range is a better estimate than any other amount, then the minimum of the range is accrued. We do not reduce these liabilities for potential insurance or third-party recoveries. If applicable, we accrue receivables for probable insurance or other third-party recoveries. In the case of income tax-related contingencies, we use a cumulative probability-weighted loss accrual in cases where sustaining a tax position is less than certain.

Based on currently available information, we believe it is remote that future costs related to known contingent liability exposures will exceed current accruals by an amount that would have a material adverse impact on our consolidated financial statements. As we learn new facts concerning contingencies, we reassess our position both with respect to accrued liabilities and other potential exposures. Estimates particularly sensitive to future changes include contingent liabilities recorded for environmental remediation, tax and legal matters. Estimated future environmental remediation costs are subject to change due to such factors as the uncertain magnitude of cleanup costs, the unknown time and extent of such remedial actions that may be required, and the determination of our liability in proportion to that of other potentially responsible parties. Estimated future costs related to tax and legal matters are subject to change as events evolve and as additional information becomes available during the administrative and litigation processes.

Legal and Tax Matters

Our legal and tax matters are handled by our legal and tax organizations. These organizations apply their knowledge, experience and professional judgment to the specific characteristics of our cases and uncertain tax positions. We employ a litigation management process to manage and monitor the legal proceedings. Our process facilitates the early evaluation and quantification of potential exposures in individual cases and enables the tracking of those cases that have been scheduled for trial and/or mediation. Based on professional judgment and experience in using these litigation management tools and available information about current developments in all our cases, our legal organization regularly assesses the adequacy of current accruals and determines if adjustment of existing accruals, or establishment of new accruals, is required. In the case of income tax-related contingencies, we monitor tax legislation and court decisions, the status of tax audits and the statute of limitations within which a taxing authority can assert a liability. See Note 21—Income Taxes, in the Notes to Consolidated Financial Statements, for additional information about income tax-related contingencies.

Environmental

We are subject to international, federal, state and local environmental laws and regulations. Among the most significant of these international and federal environmental laws and regulations are the:

- U.S. Federal Clean Air Act, which governs air emissions.
- U.S. Federal Clean Water Act, which governs discharges into water bodies.
- European Union Regulation for Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), which governs production, marketing and use of chemicals.
- U.S. Federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), which imposes liability on generators, transporters and arrangers of hazardous substances at sites where hazardous substance releases have occurred or are threatening to occur.
- U.S. Federal Resource Conservation and Recovery Act (RCRA), which governs the treatment, storage and disposal of solid waste.
- U.S. Federal Emergency Planning and Community Right-to-Know Act (EPCRA), which requires facilities to report toxic chemical inventories to local emergency planning committees and response departments.
- U.S. Federal Oil Pollution Act of 1990 (OPA90), under which owners and operators of onshore facilities and pipelines as well as owners and operators of vessels are liable for removal costs and damages that result from a discharge of oil into navigable waters of the United States.
- European Union Trading Directive resulting in the European Union Emissions Trading Scheme (EU ETS), which uses a market-based mechanism to incentivize the reduction of greenhouse gas (GHG) emissions.

These laws and their implementing regulations set limits on emissions and, in the case of discharges to water, establish water quality limits. They also, in most cases, require permits in association with new or modified operations. These permits can require an applicant to collect substantial information in connection with the application process, which can be expensive and time consuming. In addition, there can be delays associated with notice and comment periods and the agency's processing of the application. Many of the delays associated with the permitting process are beyond the control of the applicant.

Many states and foreign countries where we operate also have, or are developing, similar environmental laws and regulations governing these same types of activities. While similar, in some cases these regulations may impose additional, or more stringent, requirements that can add to the cost and difficulty of developing infrastructure and marketing and transporting products across state and international borders. For example, in California the South Coast Air Quality Management District (SCAQMD) approved amendments to the Regional Clean Air Incentives Market (RECLAIM) that became effective in 2016, which require a phased reduction of nitrogen oxide emissions through 2022, affecting refineries in the Los Angeles metropolitan area. In 2017, SCAQMD required additional nitrogen dioxide emissions reductions through 2025 and is now promulgating new regulations to replace the RECLAIM program with a traditional command and control regulatory regime.

The ultimate financial impact arising from environmental laws and regulations is neither clearly known nor easily determinable as new standards, such as air emission standards, water quality standards and stricter fuel regulations, continue to evolve. However, environmental laws and regulations, including those that may arise to address concerns about global climate change, are expected to continue to have an increasing impact on our operations in the United States and in other countries in which we operate. Notable areas of potential impacts include air emissions compliance and remediation obligations in the United States.

An example of this in the fuels area is the Energy Independence and Security Act of 2007 (EISA). It requires fuel producers and importers to provide additional renewable fuels for transportation motor fuels and stipulates a mix of various types. RINs form the mechanism used by the EPA to record compliance with the Renewable Fuel Standard. If an obligated party has more RINs than it needs to meet its obligation, it may sell or trade the extra RINs, or instead choose to “bank” them for use the following year. We have met the stringent requirements to date while establishing implementation, operating and capital strategies, along with advanced technology development, to address projected future requirements. It is uncertain how various future requirements contained in EISA, and the regulations promulgated thereunder, may be implemented and what their full impact may be on our operations. For the 2020 compliance year, the EPA has set volumes of advanced and total renewable fuel at higher levels than in previous years; it is uncertain if these increased obligations will be achievable by fuel producers and shippers without drawing on the RIN bank. Additionally, we may experience a decrease in demand for refined petroleum products due to the regulatory program as currently promulgated. This program continues to be the subject of possible Congressional review and re-promulgation in revised form, and the EPA’s regulations pertaining to the 2014 through 2019 compliance years are subject to legal challenge, further creating uncertainty regarding renewable fuel volume requirements and obligations. Compliance with the regulation has been further complicated as the market for RINs has been the subject of fraudulent third-party activity, and it is possible that some RINs that we have purchased may be determined to be invalid. Should that occur, we could incur costs to replace those fraudulent RINs. Although the cost for replacing any fraudulently marketed RINs is not reasonably estimable at this time, we would not expect to incur the full financial impact of fraudulent RINs replacement costs in any single interim or annual period, and would not expect such costs to have a material impact on our results of operations or financial condition.

We also are subject to certain laws and regulations relating to environmental remediation obligations associated with current and past operations. Such laws and regulations include CERCLA and RCRA and their state equivalents. Remediation obligations include cleanup responsibility arising from petroleum releases from underground storage tanks located at numerous previously and currently owned and/or operated petroleum-marketing outlets throughout the United States. Federal and state laws require contamination caused by such underground storage tank releases be assessed and remediated to meet applicable standards. In addition to other cleanup standards, many states have adopted cleanup criteria for methyl tertiary-butyl ether for both soil and groundwater.

At RCRA-permitted facilities, we are required to assess environmental conditions. If conditions warrant, we may be required to remediate contamination caused by prior operations. In contrast to CERCLA, which is often referred to as “Superfund,” the cost of corrective action activities under RCRA corrective action programs typically is borne solely by us. We anticipate increased expenditures for RCRA remediation activities may be required, but such annual expenditures for the near term are not expected to vary significantly from the range of such expenditures we have experienced over the past few years. Longer-term expenditures are subject to considerable uncertainty and may fluctuate significantly.

We occasionally receive requests for information or notices of potential liability from the EPA and state environmental agencies alleging that we are a potentially responsible party under CERCLA or an equivalent state statute. On occasion, we also have been made a party to cost recovery litigation by those agencies or by private parties. These requests, notices and lawsuits assert potential liability for remediation costs at various sites that typically are not owned by us, but allegedly contain wastes attributable to our past operations. As of December 31, 2018, we reported that we had been notified of potential liability under CERCLA and comparable state laws at 27 sites within the United States. During 2019, there were no new sites for which we received notice of potential liability nor were any existing sites deemed resolved and closed, leaving 27 unresolved sites with potential liability at December 31, 2019.

For the majority of Superfund sites, our potential liability will be less than the total site remediation costs because the percentage of waste attributable to us, versus that attributable to all other potentially responsible parties, is relatively low. Although liability of those potentially responsible is generally joint and several for federal sites and frequently so for state sites, other potentially responsible parties at sites where we are a party typically have had the financial strength to meet their obligations, and where they have not, or where potentially responsible parties could not be located, our share of liability has not increased materially. Many of the sites for which we are potentially responsible are still under investigation by the EPA or the state agencies concerned. Prior to actual cleanup, those potentially responsible normally assess site conditions, apportion responsibility and determine the appropriate remediation. In some instances, we may have no liability or attain a settlement of liability. Actual cleanup costs generally occur after the parties obtain the EPA or equivalent state agency approval of a remediation plan. There are relatively few sites where we are a major participant, and given the timing and amounts of anticipated expenditures, neither the cost of remediation at those sites nor such costs at all CERCLA sites, in the aggregate, is expected to have a material adverse effect on our competitive or financial condition.

Expensed environmental costs were \$691 million in 2019 and are expected to be approximately \$765 million and \$760 million in 2020 and 2021, respectively. Capitalized environmental costs were \$133 million in 2019 and are expected to be approximately \$155 million and \$180 million, in 2020 and 2021, respectively. This amount does not include capital expenditures made for another purpose that have an indirect benefit on environmental compliance.

Accrued liabilities for remediation activities are not reduced for potential recoveries from insurers or other third parties and are not discounted (except those assumed in a business combination, which we record on a discounted basis).

Many of these liabilities result from CERCLA, RCRA and similar state laws that require us to undertake certain investigative and remedial activities at sites where we conduct, or once conducted, operations or at sites where our generated waste was disposed. We also have accrued for a number of sites we identified that may require environmental remediation, but which are not currently the subject of CERCLA, RCRA or state enforcement activities. If applicable, we accrue receivables for probable insurance or other third-party recoveries. In the future, we may incur significant costs under both CERCLA and RCRA. Remediation activities vary substantially in duration and cost from site to site, depending on the mix of unique site characteristics, evolving remediation technologies, diverse regulatory agencies and enforcement policies, and the presence or absence of potentially liable third parties. Therefore, it is difficult to develop reasonable estimates of future site remediation costs.

Notwithstanding any of the foregoing, and as with other companies engaged in similar businesses, environmental costs and liabilities are inherent concerns in certain of our operations and products, and there can be no assurance that those costs and liabilities will not be material. However, we currently do not expect any material adverse effect on our results of operations or financial position as a result of compliance with current environmental laws and regulations.

Climate Change

There has been a broad range of proposed or promulgated state, national and international laws focusing on GHG emissions reduction, including various regulations proposed or issued by the EPA. These proposed or promulgated laws apply or could apply in states and/or countries where we have interests or may have interests in the future. Laws regulating GHG emissions continue to evolve, and while it is not possible to accurately estimate either a timetable for implementation or our future compliance costs relating to implementation, such laws potentially could have a material impact on our results of operations and financial condition as a result of increasing costs of compliance, lengthening project implementation and agency reviews, or reducing demand for certain hydrocarbon products. Examples of legislation or precursors for possible regulation that do or could affect our operations include:

- EU ETS, which is part of the European Union's policy to combat climate change and is a key tool for reducing industrial GHG emissions. EU ETS impacts factories, power stations and other installations across all EU member states.
- California's Senate Bill No. 32, which requires reduction of California's GHG emissions to 40% below the 1990 emission level by 2030, and Assembly Bills 398, which extends the California GHG emission cap-and-trade program through 2030. Other GHG emissions programs in the western U.S. states have been enacted or are under consideration or development, including amendments to California's Low Carbon Fuel Standard, Oregon's Low Carbon Fuel Standard, and Washington's carbon reduction programs.

- The U.S. Supreme Court decision in Massachusetts v. EPA, 549 U.S. 497, 127 S. Ct. 1438 (2007), confirming that the EPA has the authority to regulate carbon dioxide as an “air pollutant” under the Federal Clean Air Act.
- The EPA’s announcement on March 29, 2010 (published as “Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs,” 75 Fed. Reg. 17004 (April 2, 2010)), and the EPA’s and U.S. Department of Transportation’s joint promulgation of a Final Rule on April 1, 2010, that triggers regulation of GHGs under the Clean Air Act. These collectively may lead to more climate-based claims for damages, and may result in longer agency review time for development projects to determine the extent of potential climate change.
- The EPA’s 2015 Final Rule regulating GHG emissions from existing fossil fuel-fired electrical generating units under the Federal Clean Air Act, commonly referred to as the Clean Power Plan. The EPA commenced rulemaking in 2017 to rescind the Clean Power Plan and, in August 2018, the EPA proposed the Affordable Clean Energy (ACE) rule as its replacement. The ACE rule has been judicially challenged by environmental organizations and several states and municipalities.
- Carbon taxes in certain jurisdictions.
- GHG emission cap and trade programs in certain jurisdictions.

In the EU, the first phase of the EU ETS completed at the end of 2007 and Phase II was undertaken from 2008 through 2012. The current phase (Phase III) runs from 2013 through to 2020, with the main changes being reduced allocation of free allowances and increased auctioning of new allowances. Phillips 66 has assets that are subject to the EU ETS, and the company is actively engaged in minimizing any financial impact from the EU ETS.

From November 30 to December 12, 2015, more than 190 countries, including the United States, participated in the United Nations Climate Change Conference in Paris, France. The conference culminated in what is known as the “Paris Agreement,” which, upon certain conditions being met, entered into force on November 4, 2016. The Paris Agreement establishes a commitment by signatory parties to pursue domestic GHG emission reductions. In 2017, the President of the United States announced his intention to withdraw the United States from the Paris Agreement. On November 4, 2019, the United States submitted formal notification of its withdrawal to the United Nations, triggering a one-year waiting period to final withdrawal.

In the United States, some additional form of regulation is likely to be forthcoming in the future at the state or federal levels with respect to GHG emissions. Such regulation could take any of several forms that may result in additional financial burden in the form of taxes, the restriction of output, investments of capital to maintain compliance with laws and regulations, or required acquisition or trading of emission allowances.

Compliance with changes in laws and regulations that create a GHG emission trading program, GHG reduction requirements or carbon taxes could significantly increase our costs, reduce demand for fossil energy derived products, impact the cost and availability of capital and increase our exposure to litigation. Such laws and regulations could also increase demand for less carbon intensive energy sources.

An example of one such program is California’s cap and trade program, which was promulgated pursuant to the State’s Global Warming Solutions Act. The program had been limited to certain stationary sources, which include our refineries in California, but beginning in January 2015 was expanded to include emissions from transportation fuels distributed in California. Inclusion of transportation fuels in California’s cap and trade program as currently promulgated has increased our cap and trade program compliance costs. The ultimate impact on our financial performance, either positive or negative, from this and similar programs, will depend on a number of factors, including, but not limited to:

- Whether and to what extent legislation or regulation is enacted.
- The nature of the legislation or regulation, such as a cap and trade system or a tax on emissions.
- The GHG reductions required.
- The price and availability of offsets.
- The demand for, and amount and allocation of allowances.
- Technological and scientific developments leading to new products or services.

- Any potential significant physical effects of climate change, such as increased severe weather events, changes in sea levels and changes in temperature.
- Whether, and the extent to which, increased compliance costs are ultimately reflected in the prices of our products and services.

We consider and take into account anticipated future GHG emissions in designing and developing major facilities and projects, and implement energy efficiency initiatives to reduce GHG emissions. Data on our GHG emissions, legal requirements regulating such emissions, and the possible physical effects of climate change on our coastal assets are incorporated into our planning, investment, and risk management decision-making. We are working to continuously improve operational and energy efficiency through resource and energy conservation throughout our operations.

CRITICAL ACCOUNTING ESTIMATES

The preparation of financial statements in conformity with GAAP requires management to select appropriate accounting policies and to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. See Note 1—Summary of Significant Accounting Policies, in the Notes to Consolidated Financial Statements, for descriptions of our major accounting policies. Some of these accounting policies involve judgments and uncertainties to such an extent that there is a reasonable likelihood that materially different amounts would have been reported under different conditions, or if different assumptions had been used. The following discussion of critical accounting estimates, along with the discussion of contingencies in this report, address all important accounting areas where the nature of accounting estimates or assumptions could be material due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change.

Impairments

Long-lived assets used in operations are assessed for impairment whenever changes in facts and circumstances indicate a possible significant deterioration in future expected cash flows. If the sum of the undiscounted expected future pre-tax cash flows of an asset group is less than the carrying value, including applicable liabilities, the carrying value is written down to estimated fair value. Individual assets are grouped for impairment purposes based on a judgmental assessment of the lowest level for which there are identifiable cash flows that are largely independent of the cash flows of other assets (for example, at a refinery complex level). Because there usually is a lack of quoted market prices for long-lived assets, the fair value of impaired assets is typically determined using one or more of the following methods: the present value of expected future cash flows using discount rates and other assumptions believed to be consistent with those used by principal market participants; a market multiple for similar assets; or historical market transactions including similar assets, adjusted using principal market participant assumptions when necessary. The expected future cash flows used for impairment reviews and related fair value calculations are based on judgmental assessments, including future volumes, commodity prices, operating costs, margins, discount rates and capital project decisions, considering all available information at the date of review.

Investments in nonconsolidated entities accounted for under the equity method are assessed for impairment when there are indicators of a loss in value, such as a lack of sustained earnings capacity or a current fair value less than the investment's carrying amount. When it is determined that an indicated impairment is other than temporary, a charge is recognized for the difference between the investment's carrying value and its estimated fair value.

When determining whether a decline in value is other than temporary, management considers factors such as the duration and extent of the decline, the investee's financial condition and near-term prospects, and our ability and intention to retain our investment for a period that allows for recovery. When quoted market prices are not available, the fair value is usually based on the present value of expected future cash flows using discount rates and other assumptions believed to be consistent with those used by principal market participants and observed market earnings multiples of comparable companies, if appropriate. Different assumptions could affect the timing and the amount of an impairment of an investment in any period.

Asset Retirement Obligations

Under various contracts, permits and regulations, we have legal obligations to remove tangible equipment and restore the land at the end of operations at certain operational sites. Our largest asset removal obligations involve asbestos abatement at refineries. Estimating the timing and cost of future asset removals is difficult. Most of these removal obligations are many years, or decades, in the future, and the contracts and regulations often have vague descriptions of what removal practices and criteria must be met when the removal event actually occurs. Asset removal technologies and costs, regulatory and other compliance considerations, expenditure timing, and other inputs into valuation of the obligation, including discount and inflation rates, are also subject to change.

Environmental Costs

In addition to asset retirement obligations discussed above, we have certain obligations to complete environmental-related projects. These projects are primarily related to cleanup at domestic refineries, underground storage sites and nonoperated sites. Future environmental remediation costs are difficult to estimate because they are subject to change due to such factors as the uncertain magnitude of cleanup costs, timing and extent of such remedial actions that may be required, and the determination of our liability in proportion to that of other responsible parties.

Intangible Assets and Goodwill

At December 31, 2019, we had \$752 million of intangible assets that we have determined to have indefinite useful lives, and therefore do not amortize. The judgmental determination that an intangible asset has an indefinite useful life is continuously evaluated. If, due to changes in facts and circumstances, management determines these intangible assets have finite useful lives, amortization will commence at that time on a prospective basis. As long as these intangible assets are determined to have indefinite lives, they will be subject to at least annual impairment tests that require management's judgment of their estimated fair value.

At December 31, 2019, we had \$3.3 billion of goodwill recorded in conjunction with past business combinations. Goodwill is not amortized. Instead, goodwill is subject to at least annual tests for impairment at a reporting unit level. A reporting unit is an operating segment or a component that is one level below an operating segment and they are determined primarily based on the manner in which the business is managed.

We perform our annual goodwill impairment test using a qualitative assessment and a quantitative assessment, if one is deemed necessary. As part of our qualitative assessment, we evaluate relevant events and circumstances that could affect the fair value of our reporting units, including macroeconomic conditions, overall industry and market considerations and regulatory changes, as well as company-specific market metrics, performance and events. The evaluation of company-specific events and circumstances includes evaluating changes in our stock price and cost of capital, actual and forecasted financial performance, as well as the effect of significant asset dispositions. If our qualitative assessment indicates it is likely the fair value of a reporting unit has declined below its carrying value (including goodwill), a quantitative assessment is performed.

When a quantitative assessment is performed, management applies judgment in determining the estimated fair values of the reporting units because quoted market prices for our reporting units are not available. Management uses available information to make this fair value determination, including estimated future cash flows, cost of capital, observed market earnings multiples of comparable companies, our common stock price and associated total company market capitalization.

We completed our annual qualitative assessment of goodwill as of October 1, 2019, and concluded that the fair values of our reporting units continued to exceed their respective carrying values (including goodwill) by significant percentages. A decline in the estimated fair value of one or more of our reporting units in the future could result in an impairment. As such, we continue to monitor for indicators of impairment until our next annual impairment test is performed.

Tax Assets and Liabilities

Our operations are subject to various taxes, including federal, state and foreign income taxes, property taxes, and transactional taxes such as excise, sales/use, value-added and payroll taxes. We record tax liabilities based on our assessment of existing tax laws and regulations. The recording of tax liabilities requires significant judgment and estimates. We recognize the financial statement effects of an income tax position when it is more likely than not that the position will be sustained upon examination by a taxing authority. A contingent liability related to a transactional tax claim is recorded if the loss is both probable and reasonably estimable. Actual incurred tax liabilities can vary from our estimates for a variety of reasons, including different interpretations of tax laws and regulations and different assessments of the amount of tax due.

In determining our income tax expense (benefit), we assess the likelihood our deferred tax assets will be recovered through future taxable income. Valuation allowances reduce deferred tax assets to an amount that will, more likely than not, be realized. Judgment is required in estimating the amount of valuation allowance, if any, that should be recorded against our deferred tax assets. Based on our historical taxable income, our expectations for the future, and available tax-planning strategies, we expect the net deferred tax assets will more likely than not be realized as offsets to reversing deferred tax liabilities and as reductions to future taxable income. If our actual results of operations differ from such estimates or our estimates of future taxable income change, the valuation allowance may need to be revised.

New tax laws and regulations, as well as changes to existing tax laws and regulations, are continuously being proposed or promulgated. The implementation of future legislative and regulatory tax initiatives could result in increased income tax liabilities that cannot be predicted at this time.

Projected Benefit Obligations

Calculation of the projected benefit obligations for our defined benefit pension and postretirement plans impacts the obligations on the balance sheet and the amount of benefit expense in the income statement. The actuarial calculation of projected benefit obligations and company contribution requirements involves judgment about uncertain future events, including estimated retirement dates, salary levels at retirement, mortality rates, lump-sum election rates, rates of return on plan assets, future interest rates, future health care cost-trend rates, and rates of utilization of health care services by retirees. We engage outside actuarial firms to assist in the calculation of these projected benefit obligations and company contribution requirements due to the specialized nature of these calculations. As financial accounting rules and the pension plan funding regulations promulgated by governmental agencies have different objectives and requirements, the actuarial methods and assumptions for the two purposes differ in certain important respects. Ultimately, we will be required to fund all promised benefits under pension and postretirement benefit plans not funded by plan assets or investment returns, but the judgmental assumptions used in the actuarial calculations significantly affect periodic financial statements and funding patterns over time. Benefit expense is particularly sensitive to the discount rate and return on plan assets assumptions. A one percentage-point decrease in the discount rate assumption used for the plan obligation would increase annual benefit expense by an estimated \$55 million, while a one percentage-point decrease in the return on plan assets assumption would increase annual benefit expense by an estimated \$35 million. In determining the discount rate, we use yields on high-quality fixed income investments with payments matched to the estimated distributions of benefits from our plans.

The expected weighted-average long-term rate of return for worldwide pension plan assets was approximately 6% for both 2019 and 2018, while the actual weighted-average rate of return was 18% in 2019 and negative 4% in 2018. For the past ten years, our actual weighted-average rate of return for worldwide pension plan assets was 9%.

NON-GAAP RECONCILIATIONS

Refining

Our realized refining margins measure the difference between a) sales and other operating revenues derived from the sale of petroleum products manufactured at our refineries and b) purchase costs of feedstocks, primarily crude oil, used to produce the petroleum products. The realized refining margins are adjusted to include our proportional share of our joint venture refineries' realized margins, as well as to exclude those items that are not representative of the underlying operating performance of a period, which we call "special items." The realized refining margins are converted to a per-barrel basis by dividing them by total refinery processed inputs (primarily crude oil) measured on a barrel basis, including our share of inputs processed by our joint venture refineries. Our realized refining margin per barrel is intended to be comparable with industry refining margins, which are known as "crack spreads." As discussed in "Business Environment," industry crack spreads measure the difference between market prices for refined petroleum products and crude oil. We believe realized refining margin per barrel calculated on a similar basis as industry crack spreads provides a useful measure of how well we performed relative to benchmark industry refining margins.

The GAAP performance measure most directly comparable to realized refining margin per barrel is the Refining segment's "income (loss) before income taxes per barrel." Realized refining margin per barrel excludes items that are typically included in a manufacturer's gross margin, such as depreciation and operating expenses, and other items used to determine income (loss) before income taxes, such as general and administrative expenses. It also includes our proportional share of joint venture refineries' realized refining margins and excludes special items. Because realized refining margin per barrel is calculated in this manner, and because realized refining margin per barrel may be defined differently by other companies in our industry, it has limitations as an analytical tool. Following are reconciliations of income (loss) before income taxes to realized refining margins:

| Realized Refining Margins | Millions of Dollars, Except as Indicated | | | | |
|---|--|--------------|------------------|--------------|---------------|
| | Atlantic Basin/ Europe | Gulf Coast | Central Corridor | West Coast | Worldwide |
| Year Ended December 31, 2019 | | | | | |
| Income (loss) before income taxes | \$ 608 | 364 | 1,338 | (324) | 1,986 |
| <i>Plus:</i> | | | | | |
| Taxes other than income taxes | 52 | 73 | 40 | 85 | 250 |
| Depreciation, amortization and impairments | 198 | 271 | 135 | 253 | 857 |
| Selling, general and administrative expenses | 39 | 23 | 22 | 31 | 115 |
| Operating expenses | 863 | 1,449 | 550 | 1,143 | 4,005 |
| Equity in (earnings) losses of affiliates | 11 | 2 | (331) | — | (318) |
| Other segment (income) expense, net | (16) | (3) | — | 5 | (14) |
| Proportional share of refining gross margins contributed by equity affiliates | 69 | — | 1,073 | — | 1,142 |
| Special items: | | | | | |
| Pending claims and settlements | — | — | (21) | — | (21) |
| Realized refining margins | \$ 1,824 | 2,179 | 2,806 | 1,193 | 8,002 |
| Total processed inputs (<i>thousands of barrels</i>) | 195,506 | 293,666 | 103,294 | 130,014 | 722,480 |
| Adjusted total processed inputs (<i>thousands of barrels</i>)* | 195,506 | 293,666 | 188,045 | 130,014 | 807,231 |
| Income (loss) before income taxes per barrel (<i>dollars per barrel</i>)** | \$ 3.11 | 1.24 | 12.95 | (2.49) | 2.75 |
| Realized refining margins (<i>dollars per barrel</i>)*** | 9.33 | 7.42 | 14.91 | 9.18 | 9.91 |
| Year Ended December 31, 2018 | | | | | |
| Income before income taxes | \$ 567 | 1,040 | 2,817 | 111 | 4,535 |
| <i>Plus:</i> | | | | | |
| Taxes other than income taxes | 56 | 88 | 43 | 100 | 287 |
| Depreciation, amortization and impairments | 201 | 268 | 135 | 237 | 841 |
| Selling, general and administrative expenses | 63 | 57 | 34 | 50 | 204 |
| Operating expenses | 950 | 1,312 | 488 | 1,040 | 3,790 |
| Equity in (earnings) losses of affiliates | 10 | 6 | (812) | — | (796) |
| Other segment (income) expense, net | (11) | 3 | (13) | (9) | (30) |
| Proportional share of refining gross margins contributed by equity affiliates | 87 | — | 1,565 | — | 1,652 |
| Special items: | | | | | |
| Certain tax impacts | (5) | — | — | — | (5) |
| Realized refining margins | \$ 1,918 | 2,774 | 4,257 | 1,529 | 10,478 |
| Total processed inputs (<i>thousands of barrels</i>) | 186,042 | 292,665 | 106,299 | 136,332 | 721,338 |
| Adjusted total processed inputs (<i>thousands of barrels</i>)* | 186,042 | 292,665 | 191,561 | 136,332 | 806,600 |
| Income before income taxes per barrel (<i>dollars per barrel</i>)** | \$ 3.05 | 3.55 | 26.50 | 0.81 | 6.29 |
| Realized refining margins (<i>dollars per barrel</i>)*** | 10.32 | 9.48 | 22.22 | 11.20 | 12.99 |

* Adjusted total processed inputs include our proportional share of processed inputs of an equity affiliate.

** Income (loss) before income taxes divided by total processed inputs.

*** Realized refining margins per barrel, as presented, are calculated using the underlying realized margin amounts, in dollars, divided by adjusted total processed inputs, in barrels. As such, recalculated per barrel amounts using the rounded margins and barrels presented may slightly differ from the presented per barrel amounts.

| Realized Refining Margins | Millions of Dollars, Except as Indicated | | | | |
|---|--|--------------|------------------|--------------|--------------|
| | Atlantic Basin/ Europe | Gulf Coast | Central Corridor | West Coast | Worldwide |
| Year Ended December 31, 2017 | | | | | |
| Income before income taxes | \$ 448 | 809 | 755 | 64 | 2,076 |
| <i>Plus:</i> | | | | | |
| Taxes other than income taxes | 56 | 97 | 46 | 64 | 263 |
| Depreciation, amortization and impairments | 192 | 273 | 129 | 244 | 838 |
| Selling, general and administrative expenses | 61 | 55 | 34 | 48 | 198 |
| Operating expenses | 847 | 1,212 | 593 | 982 | 3,634 |
| Equity in (earnings) losses of affiliates | 11 | (4) | (329) | — | (322) |
| Other segment (income) expense, net | (10) | (421) | 13 | 5 | (413) |
| Proportional share of refining gross margins contributed by equity affiliates | 59 | 1 | 959 | — | 1,019 |
| Special items: | | | | | |
| Certain tax impacts | (23) | — | — | — | (23) |
| Realized refining margins | \$ 1,641 | 2,022 | 2,200 | 1,407 | 7,270 |
| Total processed inputs (<i>thousands of barrels</i>) | 199,068 | 285,951 | 92,146 | 134,089 | 711,254 |
| Adjusted total processed inputs (<i>thousands of barrels</i>)* | 199,068 | 285,951 | 176,823 | 134,089 | 795,931 |
| Income before income taxes per barrel (<i>dollars per barrel</i>)** | \$ 2.25 | 2.83 | 8.19 | 0.48 | 2.92 |
| Realized refining margins (<i>dollars per barrel</i>)*** | 8.25 | 7.07 | 12.44 | 10.49 | 9.13 |

* Adjusted total processed inputs include our proportional share of processed inputs of an equity affiliate.

** Income before income taxes divided by total processed inputs.

*** Realized refining margins per barrel, as presented, are calculated using the underlying realized refining margin amounts, in dollars, divided by adjusted total processed inputs, in barrels. As such, recalculated per barrel amounts using the rounded margins and barrels presented may slightly differ from the presented per barrel amounts.

Marketing

Our realized marketing fuel margins measure the difference between a) sales and other operating revenues derived from the sale of fuels in our M&S segment and b) purchase costs of those fuels. The realized marketing fuel margins are adjusted to exclude those items that are not representative of the underlying operating performance of a period, which we call “special items.” The realized marketing fuel margins are converted to a per-barrel basis by dividing them by sales volumes measured on a barrel basis. We believe realized marketing fuel margin per barrel demonstrates the value uplift our marketing operations provide by optimizing the placement and ultimate sale of our refineries’ fuel production.

Within the M&S segment, the GAAP performance measure most directly comparable to realized marketing fuel margin per barrel is the marketing business’ “income before income taxes per barrel.” Realized marketing fuel margin per barrel excludes items that are typically included in gross margin, such as depreciation and operating expenses, and other items used to determine income before income taxes, such as general and administrative expenses. Because realized marketing fuel margin per barrel excludes these items, and because realized marketing fuel margin per barrel may be defined differently by other companies in our industry, it has limitations as an analytical tool. Following are reconciliations of income before income taxes to realized marketing fuel margins:

| | Millions of Dollars, Except as Indicated | | | | | |
|---|--|---------|---------|---------------|---------|---------|
| | U.S. | | | International | | |
| | 2019 | 2018 | 2017 | 2019 | 2018 | 2017 |
| Realized Marketing Fuel Margins | | | | | | |
| Income before income taxes | \$ 916 | 843 | 628 | 380 | 505 | 217 |
| <i>Plus:</i> | | | | | | |
| Taxes other than income taxes* | 5 | (2) | 5,481 | 6 | 2 | 7,579 |
| Depreciation, amortization and impairment | 10 | 13 | 14 | 65 | 71 | 67 |
| Selling, general and administrative expenses | 743 | 763 | 751 | 249 | 280 | 264 |
| Equity in earnings of affiliates | (27) | (8) | (5) | (99) | (91) | (83) |
| Other operating revenues* | (379) | (379) | (5,815) | (37) | (32) | (7,594) |
| Other segment (income) expense, net | — | — | (15) | 1 | 2 | 2 |
| Special items: | | | | | | |
| Certain tax impacts | (90) | (100) | — | — | — | — |
| Marketing margins | 1,178 | 1,130 | 1,039 | 565 | 737 | 452 |
| Less: margin for nonfuel related sales | — | — | — | 44 | 44 | 42 |
| Realized marketing fuel margins | \$ 1,178 | 1,130 | 1,039 | 521 | 693 | 410 |
| Total fuel sales volumes (<i>thousands of barrels</i>) | 752,064 | 697,696 | 703,928 | 106,263 | 100,949 | 97,346 |
| Income before income taxes per barrel (<i>dollars per barrel</i>) | \$ 1.22 | 1.21 | 0.89 | 3.58 | 5.00 | 2.23 |
| Realized marketing fuel margins (<i>dollars per barrel</i>)** | 1.57 | 1.62 | 1.48 | 4.90 | 6.87 | 4.21 |

* Includes excise taxes on sales of refined petroleum products for the year ended December 31, 2017, prior to our adoption of ASU No. 2014-09 on January 1, 2018. See Note 1—Summary of Significant Accounting Policies, in the Notes to Consolidated Financial Statements, for further information on our adoption of this ASU. Other operating revenues also includes other nonfuel revenues.

** Realized marketing fuel margins per barrel, as presented, are calculated using the underlying realized marketing fuel margin amounts, in dollars, divided by sales volumes, in barrels. As such, recalculated per barrel amounts using the rounded margins and barrels presented may slightly differ from the presented per barrel amounts.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Financial Instrument Market Risk

We and certain of our subsidiaries are exposed to market risks produced by changes in the prices of crude oil, refined petroleum products, natural gas, NGL and electric power, as well as fluctuations in interest rates and foreign currency exchange rates. We and certain of our subsidiaries may hold and use derivative contracts to manage these risks.

Commodity Price Risk

Generally, our policy is to remain exposed to the market prices of commodities. Consistent with this policy, we use derivative contracts to convert our exposure from fixed-price sales or purchase contracts, often specified in contracts with refined petroleum product customers, back to floating market prices. We also use futures, forwards, swaps and options in various markets to accomplish the following objectives:

- Balance physical systems or to meet our refinery requirements and market demand. In addition to cash settlement prior to contract expiration, exchange-traded futures contracts may be settled by physical delivery of the underlying commodity.
- Enable us to use the market knowledge gained from our physical commodity market activities to capture market opportunities, such as moving physical commodities to more profitable locations, storing commodities to capture seasonal or time premiums, and blending commodities to capture quality upgrades. Derivatives may be utilized to optimize these activities.
- Manage the risk to our cash flows from price exposures on specific crude oil, refined petroleum product, natural gas and NGL transactions.

These objectives optimize the value of our supply chain and may reduce our exposure to fluctuations in market prices.

Our use of derivative instruments is governed by an “Authority Limitations” document approved by our Board of Directors, which prohibits the use of highly leveraged derivatives or derivative instruments without sufficient market liquidity for comparable valuations and establishes Value at Risk (VaR) limits. Compliance with these limits is monitored daily by our global risk group.

We use a VaR model to estimate the loss in fair value that could potentially result on a single day from the effect of adverse changes in market conditions on the derivative commodity instruments held or issued. Using Monte Carlo simulation, a 95% confidence level and a one-day holding period, the VaR for derivative commodity instruments issued or held at December 31, 2019 and 2018, was immaterial to our cash flows and net income.

Interest Rate Risk

Our use of fixed- or variable-rate debt directly exposes us to interest rate risk. Fixed-rate debt, such as our senior notes, exposes us to changes in the fair value of our debt due to changes in market interest rates. Fixed-rate debt also exposes us to the risk that we may need to refinance maturing debt with new debt at higher rates, or that we may be obligated to pay rates higher than the current market. Variable-rate debt, such as our floating-rate notes or borrowings under our revolving credit facility, exposes us to short-term changes in market rates that impact our interest expense. The following tables provide information about our debt instruments that are sensitive to changes in U.S. interest rates. These tables present principal cash flows and related weighted-average interest rates by expected maturity dates. Weighted-average variable rates are based on effective rates at each reporting date. The carrying amount of our floating-rate debt approximates its fair value. The fair value of the fixed-rate financial instruments is estimated based on observable market prices.

| Expected Maturity Date | Millions of Dollars, Except as Indicated | | | |
|------------------------|--|-----------------------|------------------------|-----------------------|
| | Fixed Rate Maturity | Average Interest Rate | Floating Rate Maturity | Average Interest Rate |
| Year-End 2019 | | | | |
| 2020 | \$ — | —% | \$ 525 | 2.69% |
| 2021 | — | — | 550 | 2.46 |
| 2022 | 2,000 | 4.30 | — | — |
| 2023 | — | — | — | — |
| 2024 | 300 | 2.45 | — | — |
| Remaining years | 8,176 | 4.57 | 25 | 2.39 |
| Total | \$ 10,476 | | \$ 1,100 | |
| Fair value | \$ 11,813 | | \$ 1,100 | |

| Expected Maturity Date | Millions of Dollars, Except as Indicated | | | |
|------------------------|--|-----------------------|------------------------|-----------------------|
| | Fixed Rate Maturity | Average Interest Rate | Floating Rate Maturity | Average Interest Rate |
| Year-End 2018 | | | | |
| 2019 | \$ — | —% | \$ 50 | 3.65% |
| 2020 | 300 | 2.65 | 525 | 3.21 |
| 2021 | — | — | 625 | 3.23 |
| 2022 | 2,000 | 4.30 | — | — |
| 2023 | — | — | — | — |
| Remaining years | 7,576 | 4.69 | — | — |
| Total | \$ 9,876 | | \$ 1,200 | |
| Fair value | \$ 9,727 | | \$ 1,200 | |

Our Chief Executive Officer and Chief Financial Officer monitor risks resulting from commodity prices, interest rates and foreign currency exchange rates.

For additional information about our use of derivative instruments, see Note 15—Derivatives and Financial Instruments, in the Notes to Consolidated Financial Statements.

CAUTIONARY STATEMENT FOR THE PURPOSES OF THE “SAFE HARBOR” PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995

This report includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. You can identify our forward-looking statements by the words “anticipate,” “estimate,” “believe,” “budget,” “continue,” “could,” “intend,” “may,” “plan,” “potential,” “predict,” “seek,” “should,” “will,” “would,” “expect,” “objective,” “projection,” “forecast,” “goal,” “guidance,” “outlook,” “effort,” “target” and similar expressions.

We based the forward-looking statements on our current expectations, estimates and projections about us and the industries in which we operate in general. We caution you these statements are not guarantees of future performance as they involve assumptions that, while made in good faith, may prove to be incorrect, and involve risks and uncertainties we cannot predict. In addition, we based many of these forward-looking statements on assumptions about future events that may prove to be inaccurate. Accordingly, our actual outcomes and results may differ materially from what we have expressed or forecast in the forward-looking statements. Any differences could result from a variety of factors, including the following:

- Fluctuations in NGL, crude oil, refined petroleum product and natural gas prices and refining, marketing and petrochemical margins.
- Failure of new products and services to achieve market acceptance.
- Unexpected changes in costs or technical requirements for constructing, modifying or operating our facilities or transporting our products.
- Unexpected technological or commercial difficulties in manufacturing, refining or transporting our products, including chemical products.
- Lack of, or disruptions in, adequate and reliable transportation for our NGL, crude oil, natural gas and refined petroleum products.
- The level and success of drilling and quality of production volumes around our Midstream assets.
- Our inability to timely obtain or maintain permits, including those necessary for capital projects.
- Our inability to comply with government regulations or make capital expenditures required to maintain compliance.
- Failure to complete definitive agreements and feasibility studies for, and to complete construction of, announced and future capital projects on time and within budget.
- Potential disruption or interruption of our operations due to accidents, weather events, civil unrest, political events, terrorism or cyber attacks.
- International monetary conditions and exchange controls.
- Substantial investment or reduced demand for products as a result of existing or future environmental rules and regulations.
- Liability resulting from litigation or for remedial actions, including removal and reclamation obligations under environmental regulations.
- General domestic and international economic and political developments including: armed hostilities; expropriation of assets; changes in governmental policies relating to NGL, crude oil, natural gas or refined petroleum products pricing, regulation or taxation; and other political, economic or diplomatic developments, including those caused by public health issues and outbreaks.
- Changes in tax, environmental and other laws and regulations (including alternative energy mandates) applicable to our business.
- Limited access to capital or significantly higher cost of capital related to changes to our credit profile or illiquidity or uncertainty in the domestic or international financial markets.
- The operation, financing and distribution decisions of our joint ventures.
- Domestic and foreign supplies of crude oil and other feedstocks.
- Domestic and foreign supplies of petrochemicals and refined petroleum products, such as gasoline, diesel, aviation fuel and home heating oil.
- Governmental policies relating to exports of crude oil and natural gas.
- Overcapacity or undercapacity in the midstream, chemicals and refining industries.
- Fluctuations in consumer demand for refined petroleum products.
- The factors generally described in Item 1A.—Risk Factors in this report.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**PHILLIPS 66****INDEX TO FINANCIAL STATEMENTS**

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Report of Management

Management prepared, and is responsible for, the consolidated financial statements and the other information appearing in this Annual Report. The consolidated financial statements present fairly the company's financial position, results of operations and cash flows in conformity with generally accepted accounting principles in the United States. In preparing its consolidated financial statements, the company includes amounts that are based on estimates and judgments management believes are reasonable under the circumstances. The company's financial statements have been audited by Ernst & Young LLP, an independent registered public accounting firm appointed by the Audit and Finance Committee of the Board of Directors. Management has made available to Ernst & Young LLP all of the company's financial records and related data, as well as the minutes of stockholders' and directors' meetings.

Assessment of Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Phillips 66's internal control system was designed to provide reasonable assurance to the company's management and directors regarding the preparation and fair presentation of published financial statements.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

Management assessed the effectiveness of the company's internal control over financial reporting as of December 31, 2019. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control—Integrated Framework* (2013). Based on this assessment, management concluded the company's internal control over financial reporting was effective as of December 31, 2019.

Ernst & Young LLP has issued an audit report on the company's internal control over financial reporting as of December 31, 2019, and their report is included herein.

/s/ Greg C. Garland

/s/ Kevin J. Mitchell

Greg C. Garland

Chairman of the Board of Directors and
Chief Executive Officer

Kevin J. Mitchell

Executive Vice President, Finance and
Chief Financial Officer

Date: February 21, 2020

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Phillips 66

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of Phillips 66 (the Company) as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows, for each of the three years in the period ended December 31, 2019, and the related notes (collectively referred to as the financial statements). In our opinion, the financial statements present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2019 and 2018, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control-Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 21, 2020 expressed an unqualified opinion thereon.

Adoption of ASU No. 2014-09

As discussed in Note 1 to the consolidated financial statements, the Company adopted ASU No. 2014-09, "Revenue from Contracts with Customers (Topic 606)" effective January 1, 2018. As a result, for the years ended December 31, 2019 and 2018, the Company changed its presentation of excise taxes collected from customers on sales of refined petroleum products.

Basis for Opinion

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

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

Critical Audit Matter

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

Impairment review of equity method investments

Description of the Matter

As discussed in Note 7 to the consolidated financial statements, the Company has investments in nonconsolidated entities accounted for using the equity method, totaling \$14.3 billion as of December 31, 2019. The carrying value of each equity method investment is evaluated for impairment when indicators of a loss in value below the carrying value exist, including, a lack of sustained earnings or a deterioration of market conditions, among others. When there are indicators of impairment, the fair value of the equity method investment is estimated. Fair value is determined using various methods, including quoted market prices and market multiples based on market analyses of comparable entities applied to current and forecasted earnings. When the determined fair value is lower than carrying value, the Company considers whether that impairment is other-than-temporary.

Auditing the Company's impairment assessments was complex and judgmental due to the estimation required in determining whether an investment had an indicator of impairment, the determination of fair value of the investment if an impairment was indicated, and to the extent that the estimated fair value is lower than carrying value, whether that impairment was other-than-temporary.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's equity method impairment review process, including controls over the identification of factors that may indicate an equity method investment is impaired, and as necessary, the subsequent determination of fair value and assessment of whether indicated impairments are other-than-temporary.

In order to test whether an impairment was indicated, we tested the Company's evaluation of quoted market prices, if available, and the investments' earnings history and sustainability under current and expected market conditions. When impairment indicators were present, we performed audit procedures that included, among others, assessing the methodologies used by management to determine fair value, testing the significant assumptions discussed above and the underlying data used by the Company in its analyses. For example, we compared the estimated cash flows used within the assessment to current operating results and future expected economic trends. We also performed sensitivity analyses of significant assumptions to evaluate the impact of changes in significant assumptions to management's fair value estimate and recalculated management's estimate. We involved our valuation specialists to assist us in analyzing management's determination of the appropriate market multiples used in estimating fair value. Lastly, we evaluated management's determination as to whether an indicated impairment was other than temporary, considering factors such as the duration and magnitude of the decline in value.

/s/ Ernst & Young LLP

Houston, Texas
February 21, 2020

We have served as the Company's auditor since 2011.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Phillips 66

Opinion on Internal Control over Financial Reporting

We have audited Phillips 66's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Phillips 66 (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows, for each of the three years in the period ended December 31, 2019, and the related notes and our report dated February 21, 2020 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included under the heading "Assessment of Internal Control Over Financial Reporting" in the accompanying "Report of Management." Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ Ernst & Young LLP

Houston, Texas
February 21, 2020

| Years Ended December 31 | Millions of Dollars | | |
|---|---------------------|----------------|----------------|
| | 2019 | 2018 | 2017 |
| Revenues and Other Income | | | |
| Sales and other operating revenues* | \$ 107,293 | 111,461 | 102,354 |
| Equity in earnings of affiliates | 2,127 | 2,676 | 1,732 |
| Net gain on dispositions | 20 | 19 | 15 |
| Other income | 119 | 61 | 521 |
| Total Revenues and Other Income | 109,559 | 114,217 | 104,622 |
| Costs and Expenses | | | |
| Purchased crude oil and products | 95,529 | 97,930 | 79,409 |
| Operating expenses | 5,074 | 4,880 | 4,699 |
| Selling, general and administrative expenses | 1,681 | 1,677 | 1,695 |
| Depreciation and amortization | 1,341 | 1,356 | 1,318 |
| Impairments | 861 | 8 | 24 |
| Taxes other than income taxes* | 409 | 425 | 13,462 |
| Accretion on discounted liabilities | 23 | 23 | 22 |
| Interest and debt expense | 458 | 504 | 438 |
| Foreign currency transaction (gains) losses | 5 | (31) | — |
| Total Costs and Expenses | 105,381 | 106,772 | 101,067 |
| Income before income taxes | 4,178 | 7,445 | 3,555 |
| Income tax expense (benefit) | 801 | 1,572 | (1,693) |
| Net Income | 3,377 | 5,873 | 5,248 |
| Less: net income attributable to noncontrolling interests | 301 | 278 | 142 |
| Net Income Attributable to Phillips 66 | \$ 3,076 | 5,595 | 5,106 |
| Net Income Attributable to Phillips 66 Per Share of Common Stock (dollars) | | | |
| Basic | \$ 6.80 | 11.87 | 9.90 |
| Diluted | 6.77 | 11.80 | 9.85 |
| Weighted-Average Common Shares Outstanding (thousands) | | | |
| Basic | 451,364 | 470,708 | 515,090 |
| Diluted | 453,888 | 474,047 | 518,508 |

* Includes excise taxes on sales of refined petroleum products for the year ended December 31, 2017, prior to the adoption of Accounting Standards Update No. 2014-09 on January 1, 2018.

See Notes to Consolidated Financial Statements.

Consolidated Statement of Comprehensive Income
Phillips 66

| Years Ended December 31 | Millions of Dollars | | |
|---|---------------------|--------------|--------------|
| | 2019 | 2018 | 2017 |
| Net Income | \$ 3,377 | 5,873 | 5,248 |
| Other comprehensive income (loss) | | | |
| Defined benefit plans | | | |
| Net actuarial loss arising during the period | (156) | (16) | (1) |
| Prior service credit arising during the period | 2 | — | — |
| Amortization to income of net actuarial loss, net prior service cost (credit) and settlements | 63 | 148 | 176 |
| Curtailment gain | — | 5 | — |
| Plans sponsored by equity affiliates | (21) | 22 | 10 |
| Income taxes on defined benefit plans | 21 | (33) | (70) |
| Defined benefit plans, net of income taxes | (91) | 126 | 115 |
| Foreign currency translation adjustments | 94 | (205) | 268 |
| Income taxes on foreign currency translation adjustments | 1 | 3 | (9) |
| Foreign currency translation adjustments, net of income taxes | 95 | (202) | 259 |
| Cash flow hedges | (15) | 1 | 6 |
| Income taxes on hedging activities | 4 | — | (2) |
| Hedging activities, net of income taxes | (11) | 1 | 4 |
| Other Comprehensive Income (Loss), Net of Income Taxes | (7) | (75) | 378 |
| Comprehensive Income | 3,370 | 5,798 | 5,626 |
| Less: comprehensive income attributable to noncontrolling interests | 301 | 278 | 142 |
| Comprehensive Income Attributable to Phillips 66 | \$ 3,069 | 5,520 | 5,484 |

See Notes to Consolidated Financial Statements.

Consolidated Balance Sheet
Phillips 66

| | Millions of Dollars | |
|---|---------------------|-------------|
| At December 31 | 2019 | 2018 |
| Assets | | |
| Cash and cash equivalents | \$ 1,614 | 3,019 |
| Accounts and notes receivable (net of allowances of \$41 million in 2019 and \$22 million in 2018) | 7,376 | 5,414 |
| Accounts and notes receivable—related parties | 1,134 | 759 |
| Inventories | 3,776 | 3,543 |
| Prepaid expenses and other current assets | 495 | 474 |
| Total Current Assets | 14,395 | 13,209 |
| Investments and long-term receivables | 14,571 | 14,421 |
| Net properties, plants and equipment | 23,786 | 22,018 |
| Goodwill | 3,270 | 3,270 |
| Intangibles | 869 | 869 |
| Other assets | 1,829 | 515 |
| Total Assets | \$ 58,720 | 54,302 |
| Liabilities | | |
| Accounts payable | \$ 8,043 | 6,113 |
| Accounts payable—related parties | 532 | 473 |
| Short-term debt | 547 | 67 |
| Accrued income and other taxes | 979 | 1,116 |
| Employee benefit obligations | 710 | 724 |
| Other accruals | 835 | 442 |
| Total Current Liabilities | 11,646 | 8,935 |
| Long-term debt | 11,216 | 11,093 |
| Asset retirement obligations and accrued environmental costs | 638 | 624 |
| Deferred income taxes | 5,553 | 5,275 |
| Employee benefit obligations | 1,044 | 867 |
| Other liabilities and deferred credits | 1,454 | 355 |
| Total Liabilities | 31,551 | 27,149 |
| Equity | | |
| Common stock (2,500,000,000 shares authorized at \$0.01 par value) Issued (2019—647,416,633 shares; 2018—645,691,761 shares) | | |
| Par value | 6 | 6 |
| Capital in excess of par | 20,301 | 19,873 |
| Treasury stock (at cost: 2019—206,390,806 shares; 2018—189,526,331 shares) | (16,673) | (15,023) |
| Retained earnings | 22,064 | 20,489 |
| Accumulated other comprehensive loss | (788) | (692) |
| Total Stockholders' Equity | 24,910 | 24,653 |
| Noncontrolling interests | 2,259 | 2,500 |
| Total Equity | 27,169 | 27,153 |
| Total Liabilities and Equity | \$ 58,720 | 54,302 |

See Notes to Consolidated Financial Statements.

Consolidated Statement of Cash Flows
Phillips 66

| Years Ended December 31 | Millions of Dollars | | |
|--|---------------------|--------------|------------|
| | 2019 | 2018 | 2017 |
| Cash Flows From Operating Activities | | | |
| Net income | \$ 3,377 | 5,873 | 5,248 |
| Adjustments to reconcile net income to net cash provided by operating activities | | | |
| Depreciation and amortization | 1,341 | 1,356 | 1,318 |
| Impairments | 861 | 8 | 24 |
| Accretion on discounted liabilities | 23 | 23 | 22 |
| Deferred income taxes | 183 | 252 | (1,886) |
| Undistributed equity earnings | (143) | 221 | (516) |
| Net gain on dispositions | (20) | (19) | (15) |
| Gain on consolidation of business | — | — | (423) |
| Other | 16 | 132 | (186) |
| Working capital adjustments | | | |
| Accounts and notes receivable | (2,308) | 1,320 | (1,182) |
| Inventories | (204) | (202) | (176) |
| Prepaid expenses and other current assets | (14) | (113) | 104 |
| Accounts payable | 1,941 | (1,546) | 1,153 |
| Taxes and other accruals | (245) | 268 | 163 |
| Net Cash Provided by Operating Activities | 4,808 | 7,573 | 3,648 |
| Cash Flows From Investing Activities | | | |
| Capital expenditures and investments | (3,873) | (2,639) | (1,832) |
| Proceeds from asset dispositions* | 157 | 57 | 86 |
| Advances/loans—related parties | (98) | (1) | (10) |
| Collection of advances/loans—related parties | 95 | — | 326 |
| Restricted cash received from consolidation of business | — | — | 318 |
| Other | 31 | 112 | (34) |
| Net Cash Used in Investing Activities | (3,688) | (2,471) | (1,146) |
| Cash Flows From Financing Activities | | | |
| Issuance of debt | 1,783 | 2,184 | 3,508 |
| Repayment of debt | (1,307) | (1,144) | (3,678) |
| Issuance of common stock | 32 | 39 | 35 |
| Repurchase of common stock | (1,650) | (4,645) | (1,590) |
| Dividends paid on common stock | (1,570) | (1,436) | (1,395) |
| Distributions to noncontrolling interests | (241) | (207) | (120) |
| Net proceeds from issuance of Phillips 66 Partners LP common and preferred units | 173 | 128 | 1,205 |
| Other | 269 | (86) | (76) |
| Net Cash Used in Financing Activities | (2,511) | (5,167) | (2,111) |
| Effect of Exchange Rate Changes on Cash, Cash Equivalents and Restricted Cash | (14) | (35) | 17 |
| Net Change in Cash, Cash Equivalents and Restricted Cash | (1,405) | (100) | 408 |
| Cash, cash equivalents and restricted cash at beginning of year | 3,019 | 3,119 | 2,711 |
| Cash, Cash Equivalents and Restricted Cash at End of Year | \$ 1,614 | 3,019 | 3,119 |

** Includes return of investments in equity affiliates.*
See Notes to Consolidated Financial Statements.

Consolidated Statement of Changes in Equity
Phillips 66

| | Millions of Dollars | | | | | | |
|---|-----------------------------|--------------------------|----------------|-------------------|---------------------------------|--------------------------|---------|
| | Attributable to Phillips 66 | | | | | | |
| | Common Stock | | | | | | |
| | Par Value | Capital in Excess of Par | Treasury Stock | Retained Earnings | Accum. Other Comprehensive Loss | Noncontrolling Interests | Total |
| December 31, 2016 | \$ 6 | 19,559 | (8,788) | 12,608 | (995) | 1,335 | 23,725 |
| Net income | — | — | — | 5,106 | — | 142 | 5,248 |
| Other comprehensive income | — | — | — | — | 378 | — | 378 |
| Dividends paid on common stock | — | — | — | (1,395) | — | — | (1,395) |
| Repurchase of common stock | — | — | (1,590) | — | — | — | (1,590) |
| Benefit plan activity | — | 72 | — | (13) | — | — | 59 |
| Issuance of Phillips 66 Partners LP common and preferred units | — | 137 | — | — | — | 986 | 1,123 |
| Distributions to noncontrolling interests | — | — | — | — | — | (120) | (120) |
| December 31, 2017 | 6 | 19,768 | (10,378) | 16,306 | (617) | 2,343 | 27,428 |
| Cumulative effect of accounting changes | — | — | — | 36 | — | 13 | 49 |
| Net income | — | — | — | 5,595 | — | 278 | 5,873 |
| Other comprehensive loss | — | — | — | — | (75) | — | (75) |
| Dividends paid on common stock | — | — | — | (1,436) | — | — | (1,436) |
| Repurchase of common stock | — | — | (4,645) | — | — | — | (4,645) |
| Benefit plan activity | — | 63 | — | (12) | — | — | 51 |
| Issuance of Phillips 66 Partners LP common units | — | 42 | — | — | — | 73 | 115 |
| Distributions to noncontrolling interests | — | — | — | — | — | (207) | (207) |
| December 31, 2018 | 6 | 19,873 | (15,023) | 20,489 | (692) | 2,500 | 27,153 |
| Cumulative effect of accounting changes | — | — | — | 81 | (89) | (1) | (9) |
| Net income | — | — | — | 3,076 | — | 301 | 3,377 |
| Other comprehensive loss | — | — | — | — | (7) | — | (7) |
| Dividends paid on common stock | — | — | — | (1,570) | — | — | (1,570) |
| Repurchase of common stock | — | — | (1,650) | — | — | — | (1,650) |
| Benefit plan activity | — | 85 | — | (12) | — | — | 73 |
| Issuance of Phillips 66 Partners LP common units | — | 68 | — | — | — | 73 | 141 |
| Impacts from Phillips 66 Partners LP GP/IDR restructuring transaction | — | 275 | — | — | — | (373) | (98) |
| Distributions to noncontrolling interests | — | — | — | — | — | (241) | (241) |
| December 31, 2019 | \$ 6 | 20,301 | (16,673) | 22,064 | (788) | 2,259 | 27,169 |

| | Shares in Thousands | |
|--|---------------------|----------------|
| | Common Stock Issued | Treasury Stock |
| December 31, 2016 | 641,594 | 122,827 |
| Repurchase of common stock | — | 18,738 |
| Shares issued—share-based compensation | 2,241 | — |
| December 31, 2017 | 643,835 | 141,565 |
| Repurchase of common stock | — | 47,961 |
| Shares issued—share-based compensation | 1,857 | — |
| December 31, 2018 | 645,692 | 189,526 |
| Repurchase of common stock | — | 16,865 |
| Shares issued—share-based compensation | 1,725 | — |
| December 31, 2019 | 647,417 | 206,391 |

| Years Ended December 31 | Dollars |
|-------------------------|--|
| | Dividends Paid Per Share of Common Stock |
| 2017 | \$ 2.73 |
| 2018 | 3.10 |
| 2019 | 3.50 |

See Notes to Consolidated Financial Statements.

Note 1—Summary of Significant Accounting Policies

- **Consolidation Principles and Investments**—Our consolidated financial statements include the accounts of majority-owned, controlled subsidiaries and variable interest entities (VIEs) where we are the primary beneficiary. Undivided interests in pipelines, natural gas plants and terminals are consolidated on a proportionate basis. See Note 27—Phillips 66 Partners LP, for further discussion on our significant consolidated VIE.

The equity method is used to account for investments in affiliates in which we have the ability to exert significant influence over the affiliates' operating and financial policies, including VIEs, of which we are not the primary beneficiary. Other securities and investments are generally carried at fair value, or cost less impairments, if any, adjusted up or down for price changes in similar financial instruments issued by the investee, when and if observed. See Note 7—Investments, Loans and Long-Term Receivables, for further discussion on our significant nonconsolidated VIEs.

- **Recast Financial Information**—Certain prior period financial information has been recast to reflect the current year's presentation.
- **Use of Estimates**—The preparation of financial statements in conformity with generally accepted accounting principles in the United States (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and the disclosure of contingent assets and liabilities. Actual results could differ from these estimates.
- **Foreign Currency Translation**—Adjustments resulting from the process of translating financial statements with foreign functional currencies into U.S. dollars are included in accumulated other comprehensive income (loss) in stockholders' equity. Foreign currency transaction gains and losses result from remeasuring monetary assets and liabilities denominated in a foreign currency into the functional currency of our subsidiary holding the asset or liability. We include these transaction gains and losses in current earnings. Most of our foreign operations use their local currency as the functional currency.
- **Cash Equivalents**—Cash equivalents are highly liquid, short-term investments that are readily convertible to known amounts of cash and will mature within 90 days or less from the date of acquisition. We carry these investments at cost plus accrued interest.
- **Inventories**—We have several valuation methods for our various types of inventories and consistently use the following methods for each type of inventory. Crude oil and petroleum products inventories are valued at the lower of cost or market in the aggregate, primarily on the last-in, first-out (LIFO) basis. Any necessary lower-of-cost-or-market write-downs at year end are recorded as permanent adjustments to the LIFO cost basis. LIFO is used to better match current inventory costs with current revenues and to meet tax-conformity requirements. Costs include both direct and indirect expenditures incurred in bringing an item or product to its existing condition and location. Materials and supplies inventories are valued using the weighted-average-cost method.
- **Fair Value Measurements**—We categorize assets and liabilities measured at fair value into one of three different levels depending on the observability of the inputs employed in the measurement. Level 1 inputs are quoted prices in active markets for identical assets or liabilities. Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly, through market-corroborated inputs. Level 3 inputs are unobservable inputs for the asset or liability that are used to measure fair value to the extent that relevant observable inputs are not available, and that reflect the assumptions we believe market participants would use when pricing an asset or liability for which there is little, if any, market activity at the measurement date.

- **Derivative Instruments**—Derivative instruments are recorded on the balance sheet at fair value. We have master netting agreements with our exchange-cleared instrument counterparties and certain of our counterparties to other commodity instrument contracts (e.g., physical commodity forward contracts). We have elected to net derivative assets and liabilities with the same counterparty on the balance sheet if the legal right of offset exists and certain other criteria are met. We also net collateral payables and receivables against derivative assets and derivative liabilities, respectively.

Recognition and classification of the gain or loss that results from recording and adjusting a derivative to fair value depends on the purpose for issuing or holding the derivative. All realized and unrealized gains and losses from derivative instruments for which we do not apply hedge accounting are immediately recognized in our consolidated statement of income. Unrealized gains or losses from derivative instruments that qualify for and are designated as cash flow hedges are recognized in other comprehensive income (loss) and appear on the balance sheet in accumulated other comprehensive income (loss) until the hedged transactions are recognized in earnings. However, to the extent the change in the fair value of a derivative instrument exceeds the change in the anticipated cash flows of the hedged transaction, the excess gain or loss is recognized immediately in earnings.

- **Loans and Long-Term Receivables**—We enter into agreements with other parties to pursue business opportunities, which may require us to provide loans or advances to certain affiliated and nonaffiliated companies. Loans are recorded when cash is transferred or seller financing is provided to the affiliated or nonaffiliated company pursuant to a loan agreement. The loan balance will increase as interest is earned on the outstanding loan balance and will decrease as interest and principal payments are received. Interest is earned at the loan agreement's stated interest rate. Loans and long-term receivables are evaluated for impairment based on an expected credit loss assessment.
- **Impairment of Investments in Nonconsolidated Entities**—Investments in nonconsolidated entities accounted for under the equity method are assessed for impairment whenever changes in the facts and circumstances indicate a loss in value has occurred. When indicators exist, the fair value is estimated and compared to the investment carrying value. If any impairment is judgmentally determined to be other than temporary, the carrying value of the investment is written down to fair value. The fair value of the impaired investment is determined based on quoted market prices, if available, or upon the present value of expected future cash flows using discount rates and other assumptions believed to be consistent with those used by principal market participants and observed market earnings multiples of comparable companies.
- **Depreciation and Amortization**—Depreciation and amortization of properties, plants and equipment (PP&E) are determined by either the individual-unit-straight-line method or the group-straight-line method (for those individual units that are highly integrated with other units).
- **Capitalized Interest**—A portion of interest from external borrowings is capitalized on major projects with an expected construction period of one year or longer. Capitalized interest is added to the cost of the related asset, and is amortized over the useful life of the related asset.

- **Impairment of Properties, Plants and Equipment**—PP&E used in operations are assessed for impairment whenever changes in facts and circumstances indicate a possible significant deterioration in the future cash flows expected to be generated by an asset group. If indicators of potential impairment exist, an undiscounted cash flow test is performed. If the sum of the undiscounted expected future pre-tax cash flows of an asset group is less than the carrying value of the asset group, including applicable liabilities, the carrying value of the PP&E included in the asset group is written down to estimated fair value and the write down is reported in the “Impairments” line item on our consolidated statement of income in the period in which the impairment determination is made. Individual assets are grouped for impairment purposes at the lowest level for which identifiable cash flows are available (for example, at a refinery complex level). Because there is usually a lack of quoted market prices for long-lived assets, the fair value of impaired assets is typically determined using one or more of the following methods: the present values of expected future cash flows using discount rates and other assumptions believed to be consistent with those used by principal market participants; a market multiple of earnings for similar assets; or historical market transactions including similar assets, adjusted using principal market participant assumptions when necessary. Long-lived assets held for sale are accounted for at the lower of amortized cost or fair value, less cost to sell, with fair value determined using a binding negotiated price, if available, estimated replacement cost, or present value of expected future cash flows as previously described.

The expected future cash flows used for impairment reviews and related fair value calculations are based on estimated future volumes, prices, costs, margins and capital project decisions, considering all available evidence at the date of review.

- **Property Dispositions**—When complete units of depreciable property are sold, the asset cost and related accumulated depreciation are eliminated, with any gain or loss reflected in the “Net gain (loss) on dispositions” line item on our consolidated statement of income. When less than complete units of depreciable property are disposed of or retired, the difference between asset cost and salvage value is charged or credited to accumulated depreciation.
- **Goodwill**—Goodwill represents the excess of the purchase price over the estimated fair value of the net assets acquired in a business combination. Goodwill is not amortized, but is tested for impairment annually and when events or changes in circumstance indicate that the fair value of a reporting unit with goodwill is below its carrying value. The impairment test requires allocating goodwill and other assets and liabilities to reporting units. The fair value of each reporting unit is determined and compared to the book value of the reporting unit. If the fair value of the reporting unit is less than the book value, an impairment is recognized for the amount by which the book value exceeds the reporting unit’s fair value. A goodwill loss cannot exceed the total amount of goodwill allocated to that reporting unit. For purposes of testing goodwill for impairment, we have three reporting units with goodwill balances: Transportation, Refining, and Marketing and Specialties.
- **Intangible Assets Other Than Goodwill**—Intangible assets with finite useful lives are amortized using the straight-line method over their useful lives. Intangible assets with indefinite useful lives are not amortized, but are tested at least annually for impairment. Each reporting period, we evaluate intangible assets with indefinite useful lives to determine whether events and circumstances continue to support this classification. Indefinite-lived intangible assets are considered impaired if their fair value is lower than their net book value. The fair value of intangible assets is determined based on quoted market prices in active markets, if available. If quoted market prices are not available, the fair value of intangible assets is determined based upon the present values of expected future cash flows using discount rates and other assumptions believed to be consistent with those used by principal market participants, or upon estimated replacement cost, if expected future cash flows from the intangible asset are not determinable.

- **Asset Retirement Obligations and Environmental Costs**—The fair values of legal obligations to retire and remove long-lived assets are recorded in the period in which the obligations arise. When the liabilities are initially recorded, we capitalize these costs by increasing the carrying amount of the related PP&E. Over time, the liabilities are increased for the change in present value, and the capitalized costs in PP&E are depreciated over the useful life of the related assets. If our estimate of the liability changes after initial recognition, we record an adjustment to the liabilities and PP&E.

Environmental expenditures are expensed or capitalized, depending upon their future economic benefit. Expenditures relating to an existing condition caused by past operations, and those having no future economic benefit, are expensed. When environmental assessments or cleanups are probable and the costs can be reasonably estimated, environmental expenditures are accrued on an undiscounted basis (unless acquired in a business combination). Recoveries of environmental remediation costs from other parties, such as state reimbursement funds, are recorded as a reduction to environmental expenditures.

- **Guarantees**—The fair value of a guarantee is determined and recorded as a liability at the time the guarantee is given. The initial liability is subsequently reduced as we are released from exposure under the guarantee. We amortize the guarantee liability over the relevant time period, if one exists, based on the facts and circumstances surrounding each type of guarantee. We amortize the guarantee liability to the related income statement line item based on the nature of the guarantee. In cases where the guarantee term is indefinite, we reverse the liability when we have information to support the reversal. When the performance on the guarantee becomes probable and the liability can be reasonably estimated, we accrue a separate liability for the excess amount above the guarantee's book value based on the facts and circumstances at that time. We reverse the fair value liability only when there is no further exposure under the guarantee.
- **Treasury Stock**—We record treasury stock purchases at cost, which includes incremental direct transaction costs. Amounts are recorded as reductions of stockholders' equity on the consolidated balance sheet.
- **Revenue Recognition**—Our revenues are primarily associated with sales of refined petroleum products, crude oil and natural gas liquids (NGL). Each gallon, or other unit of measure of product, is separately identifiable and represents a distinct performance obligation to which a transaction price is allocated. The transaction prices of our contracts with customers are either fixed or variable, with variable pricing based upon various market indices. For our contracts that include variable consideration, we utilize the variable consideration allocation exception, whereby the variable consideration is only allocated to the performance obligations that are satisfied during the period. The related revenue is recognized at a point in time when control passes to the customer, which is when title and the risk of ownership passes to the customer and physical delivery of goods occurs, either immediately or within a fixed delivery schedule that is reasonable and customary in the industry. The payment terms with our customers vary based on the product or service provided, but usually are 30 days or less.

Revenues associated with pipeline transportation services are recognized at a point in time when the volumes are delivered based on contractual rates. Revenues associated with terminaling and storage services are recognized over time as the services are performed based on throughput volume or capacity utilization at contractual rates.

Revenues associated with transactions commonly called buy/sell contracts, in which the purchase and sale of inventory with the same counterparty are entered into in contemplation of one another, are combined and reported in the "Purchased crude oil and products" line item on our consolidated statement of income (i.e., these transactions are recorded net).

- **Taxes Collected from Customers and Remitted to Governmental Authorities**—Effective for reporting periods ending after our adoption of Financial Accounting Standards Board (FASB) Accounting Standards Update (ASU) No. 2014-09, “Revenue from Contracts with Customers (Topic 606)” on January 1, 2018, excise taxes on sales of refined petroleum products charged to our customers are presented net of taxes on sales of refined petroleum products payable to governmental authorities in the “Taxes other than income taxes” line item on our consolidated statement of income. For reporting periods ending prior to January 1, 2018, excise taxes on sales of refined petroleum products charged to our customers are presented in the “Sales and other operating revenues” line item on our consolidated statement of income, and excise taxes on sales of refined petroleum products payable to governmental authorities are presented in the “Taxes other than income taxes” line item on our consolidated statement of income.

Other sales and value-added taxes are recorded net in the “Taxes other than income taxes” line item on our consolidated statement of income.

- **Shipping and Handling Costs**—We have elected to account for shipping and handling costs as fulfillment activities and include these activities in the “Purchased crude oil and products” line item on our consolidated statement of income. Freight costs billed to customers are recorded in “Sales and other operating revenues.”
- **Maintenance and Repairs**—Costs of maintenance and repairs, which are not significant improvements, are expensed when incurred. Major refinery maintenance turnarounds are expensed as incurred.
- **Share-Based Compensation**—We recognize share-based compensation expense over the shorter of: (1) the service period (i.e., the stated period of time required to earn the award); or (2) the period beginning at the start of the service period and ending when an employee first becomes eligible for retirement, but not less than six months as this is the minimum period of time required for an award not to be subject to forfeiture. Our equity-classified programs generally provide accelerated vesting (i.e., a waiver of the remaining period of service required to earn an award) for awards held by employees at the time they become eligible for retirement (at age 55 with 5 years of service). We have elected to recognize expense on a straight-line basis over the service period for the entire award, irrespective of whether the award was granted with ratable or cliff vesting, and have elected to recognize forfeitures of awards when they occur.
- **Income Taxes**—Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. Interest related to unrecognized income tax benefits is reflected in interest expense, and penalties in operating expenses or selling, general and administrative expenses.

Note 2—Changes in Accounting Principles

Effective January 1, 2019, we elected to adopt ASU No. 2018-02, “Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income.” This ASU permits the deferred income tax effects stranded in accumulated other comprehensive income (AOCI) resulting from the U.S. Tax Cuts and Jobs Act (the Tax Act) enacted in December 2017 to be reclassified to retained earnings. As of January 1, 2019, we recorded a cumulative effect adjustment to our opening consolidated balance sheet to reclassify an aggregate income tax benefit of \$89 million, primarily related to our pension plans, from accumulated other comprehensive loss to retained earnings.

Effective January 1, 2019, we early adopted ASU 2016-13, “Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments,” using the modified retrospective transition method. This ASU amends the impairment model to utilize an expected loss methodology in place of the incurred loss methodology for financial instruments, including trade receivables, and off-balance sheet credit exposures. The amendment requires entities to consider a broader range of information to estimate expected credit losses, which may result in earlier recognition of losses. We recorded a noncash cumulative effect adjustment to retained earnings of \$9 million, net of \$3 million of income taxes, on our opening consolidated balance sheet as of January 1, 2019. See Note 4—Credit Losses, for more information on our presentation of credit losses.

Effective January 1, 2019, we adopted ASU No. 2016-02, “Leases (Topic 842),” using the modified retrospective transition method. The new standard establishes a right-of-use (ROU) model that requires a lessee to record a ROU asset and a lease liability on the consolidated balance sheet for all leases with terms longer than 12 months. Leases will continue to be classified as either finance or operating, with classification affecting the pattern of expense recognition in the consolidated income statement.

We elected the package of practical expedients that allowed us to carry forward our determination of whether an arrangement contained a lease and lease classification, as well as our accounting for initial direct costs for existing contracts. We recorded a noncash cumulative effect adjustment, reflecting an aggregate operating lease ROU asset and corresponding lease liability of \$1,415 million and immaterial adjustments to retained earnings and noncontrolling interests, on our opening consolidated balance sheet as of January 1, 2019. See Note 18—Leases, for the new lease disclosures required by this ASU.

Note 3—Sales and Other Operating Revenues

Disaggregated Revenues

The following tables present our disaggregated sales and other operating revenues:

| | Millions of Dollars | | |
|---|---------------------|---------|---------|
| | 2019 | 2018 | 2017* |
| Product Line and Services | | | |
| Refined petroleum products | \$ 87,902 | 87,967 | 85,405 |
| Crude oil resales | 14,125 | 16,419 | 11,808 |
| NGL | 4,814 | 6,161 | 4,670 |
| Services and other** | 452 | 914 | 471 |
| Consolidated sales and other operating revenues | \$ 107,293 | 111,461 | 102,354 |
| Geographic Location*** | | | |
| United States | \$ 83,512 | 86,401 | 75,684 |
| United Kingdom | 9,863 | 11,054 | 10,626 |
| Germany | 4,053 | 4,352 | 6,692 |
| Other foreign countries | 9,865 | 9,654 | 9,352 |
| Consolidated sales and other operating revenues | \$ 107,293 | 111,461 | 102,354 |

* Sales and other operating revenues for the year ended December 31, 2017, are presented in accordance with accounting standards in effect prior to our adoption of ASU No. 2014-09 on January 1, 2018.

** Includes derivatives-related activities. See Note 15—Derivatives and Financial Instruments, for additional information.

*** Sales and other operating revenues are attributable to countries based on the location of the operations generating the revenues.

Contract-Related Assets and Liabilities

At December 31, 2019 and 2018, receivables from contracts with customers were \$6,902 million and \$4,993 million, respectively. Significant noncustomer balances, such as buy/sell receivables and excise tax receivables, were excluded from these amounts.

Our contract-related assets also include payments we make to our marketing customers related to incentive programs. An incentive payment is initially recognized as an asset and subsequently amortized as a reduction to revenue over the contract term, which generally ranges from 5 to 15 years. At December 31, 2019 and 2018, our asset balances related to such payments were \$336 million and \$248 million, respectively.

Our contract liabilities represent advances from our customers prior to product or service delivery. At December 31, 2019 and 2018, contract liabilities were not material.

Remaining Performance Obligations

Most of our contracts with customers are spot contracts or term contracts with only variable consideration. We do not disclose remaining performance obligations for these contracts as the expected duration is one year or less or because the variable consideration has been allocated entirely to an unsatisfied performance obligation. We also have certain contracts in our Midstream segment that include minimum volume commitments with fixed pricing, which mostly expire by 2021. At December 31, 2019, the remaining performance obligations related to these minimum volume commitment contracts were not material.

Note 4—Credit Losses

We are exposed to credit losses primarily through our sales of refined petroleum products, crude oil and NGL. We assess each counterparty's ability to pay for the products we sell by conducting a credit review. The credit review considers our expected billing exposure and timing for payment and the counterparty's established credit rating or our assessment of the counterparty's creditworthiness based on our analysis of their financial statements when a credit rating is not available. We also consider contract terms and conditions, country and political risk, and business strategy in our evaluation. A credit limit is established for each counterparty based on the outcome of this review. We may require collateralized asset support or a prepayment to mitigate credit risk.

We monitor our ongoing credit exposure through active review of counterparty balances against contract terms and due dates. Our activities include timely account reconciliations, dispute resolution and payment confirmations. We may employ collection agencies and legal counsel to pursue recovery of defaulted receivables.

At December 31, 2019, we reported \$8,510 million of accounts and notes receivable, net of allowances of \$41 million. Changes in the allowance were not material for the year ended December 31, 2019. Based on an aging analysis at December 31, 2019, 99% of our accounts receivable were outstanding less than 60 days.

We are also exposed to credit losses from off-balance sheet exposures, such as guarantees of joint venture debt and standby letters of credit. See Note 13—Guarantees, and Note 14—Contingencies and Commitments, for more information on these off-balance sheet exposures.

Note 5—Inventories

Inventories at December 31 consisted of the following:

| | Millions of Dollars | |
|----------------------------------|---------------------|--------------|
| | 2019 | 2018 |
| Crude oil and petroleum products | \$ 3,452 | 3,238 |
| Materials and supplies | 324 | 305 |
| | \$ 3,776 | 3,543 |

Inventories valued on the LIFO basis totaled \$3,331 million and \$3,123 million at December 31, 2019 and 2018, respectively. The estimated excess of current replacement cost over LIFO cost of inventories amounted to approximately \$4.3 billion and \$2.9 billion at December 31, 2019 and 2018, respectively.

LIFO inventory liquidations did not have a material impact on net income for the years ended December 31, 2019, 2018 and 2017.

Note 6—Business Combinations

Merey Sweeny LLC, successor to Merey Sweeny, L.P. (both referred to herein as Merey Sweeny), owns a delayed coker and related facilities at the Sweeny Refinery. In February 2017, we began accounting for Merey Sweeny as a consolidated subsidiary because the exercise of a call right triggered by certain defaults by the co-venturer, Petróleos de Venezuela S.A. (PDVSA), with respect to supply of crude oil to the Sweeny Refinery ceased to be subject to legal challenge. The purchase price for PDVSA's 50% ownership interest was determined by a contractual formula. As the distributions PDVSA received from Merey Sweeny exceeded the amounts it contributed to Merey Sweeny, the contractual formula required no cash consideration for the acquisition.

Based on a third-party appraisal of the fair value of Merey Sweeny's net assets, utilizing discounted cash flows and replacement costs, the acquisition of PDVSA's 50% interest resulted in the recognition of a pre-tax gain of \$423 million in the first quarter of 2017. This gain was included in the "Other income" line item on our consolidated statement of income. The fair value of our original equity interest in Merey Sweeny immediately prior to the deemed acquisition was \$145 million. As a result of the transaction, we recorded \$318 million of restricted cash, \$250 million of PP&E and \$238 million of debt, as well as a net \$93 million for the elimination of our equity investment in Merey Sweeny and net intercompany payables. The restrictions on cash were fully removed in May 2017. Our acquisition accounting was finalized in the first quarter of 2017.

The results of Merey Sweeny were included in our Refining segment until October 2017, when we contributed our 100% interest in Merey Sweeny to Phillips 66 Partners LP (Phillips 66 Partners), which is included in our Midstream segment.

Note 7—Investments, Loans and Long-Term Receivables

Components of investments and long-term receivables at December 31 were:

| | Millions of Dollars | |
|---------------------------------|---------------------|-------------|
| | 2019 | 2018 |
| Equity investments | \$ 14,284 | 14,218 |
| Other investments | 130 | 106 |
| Loans and long-term receivables | 157 | 97 |
| | \$ 14,571 | 14,421 |

Equity Investments

Significant affiliated companies accounted for under the equity method, including nonconsolidated VIEs, at December 31, 2019 and 2018, included:

- Chevron Phillips Chemical Company LLC (CPChem)—50 percent-owned joint venture that manufactures and markets petrochemicals and plastics. We have multiple supply and purchase agreements in place with CPChem, ranging in initial terms from one to 99 years, with extension options. These agreements cover sales and purchases of refined petroleum products, solvents, and petrochemical and NGL feedstocks, as well as fuel oils and gases. All products are purchased and sold under specified pricing formulas based on various published pricing indices. At December 31, 2019 and 2018, the book value of our investment in CPChem was \$6,229 million and \$6,233 million, respectively.

- **WRB Refining LP (WRB)**—50 percent-owned joint venture that owns the Wood River and Borger refineries located in Roxana, Illinois, and Borger, Texas, respectively, for which we are the operator and managing partner. We have a basis difference for our investment in WRB because the carrying value of our investment is lower than our share of WRB's recorded net assets. This basis difference was primarily the result of our contribution of these refineries to WRB. On the contribution closing date, a basis difference was created because the fair value of the contributed assets recorded by WRB exceeded our historical book value. The contribution-related basis difference is primarily being amortized and recognized as a benefit to equity earnings over a period of 26 years, which was the estimated remaining useful life of the refineries' PP&E at the contribution closing date. At December 31, 2019, the aggregate remaining basis difference for this investment was \$2,428 million. Equity earnings for the years ended December 31, 2019, 2018 and 2017, were increased by \$182 million, \$177 million and \$186 million, respectively, due to the amortization of our aggregate basis difference. At December 31, 2019 and 2018, the book value of our investment in WRB was \$2,183 million and \$2,108 million, respectively.
- **DCP Midstream, LLC (DCP Midstream)**—50 percent-owned joint venture that owns and operates NGL and gas pipelines, gas plants, gathering systems, storage facilities and fractionation plants, through its subsidiary DCP Midstream, LP (DCP Partners). DCP Midstream markets a portion of its NGL to us and our equity affiliates.

At September 30, 2019, we estimated the fair value of our investment in DCP Midstream was below our book value, and we concluded the decline in fair value was not temporary due to the duration and magnitude of the decline. At that time, the fair value of our investment in DCP Midstream depended on the market value of DCP Midstream's general partner interest in DCP Partners and the market value of DCP Partners' common units. Accordingly, we recorded an \$853 million impairment in the third quarter of 2019. The impairment is included in the "Impairments" line item on our consolidated statement of income. See Note 16—Fair Value Measurements, for additional information on the techniques used to determine the fair value of our investment in DCP Midstream. The impairment resulted in a basis difference for our investment in DCP Midstream because the carrying value of our investment is lower than our share of DCP Midstream's recorded net assets. The basis difference is being amortized and recognized as a benefit to equity earnings over a period of 22 years, which was the estimated remaining useful life of DCP Midstream's PP&E at September 30, 2019. Equity earnings for the year ended December 31, 2019, were increased by \$10 million due to the amortization of the basis difference in the fourth quarter of 2019. At December 31, 2019, the aggregate remaining basis difference for this investment was \$877 million.

On November 6, 2019, DCP Partners completed a transaction to eliminate all general partner economic interests in DCP Partners and incentive distribution rights (IDRs) in exchange for 65 million newly issued DCP Partners common units. With completion of the transaction, DCP Midstream held a noneconomic general partner interest and approximately 118 million common units, representing approximately 57% of DCP Partners' outstanding common units.

At December 31, 2019 and 2018, the book value of our investment in DCP Midstream was \$1,374 million and \$2,240 million, respectively.

- **Gray Oak Pipeline, LLC**—Phillips 66 Partners' consolidated subsidiary, Gray Oak Holdings LLC (Holdings LLC), owns a 65% interest in a joint venture formed to develop and construct the Gray Oak Pipeline system that will transport crude oil from the Permian and Eagle Ford to Texas Gulf Coast destinations that include Corpus Christi, the Sweeny area, including our Sweeny Refinery, as well as access to the Houston market. The pipeline system is expected to reach full service in the second quarter of 2020. In February 2019, Holdings LLC transferred a 10% ownership interest in Gray Oak Pipeline, LLC to a third party that exercised a purchase option, for proceeds of \$81 million. This transfer was accounted for as a sale and resulted in a decrease in Holdings LLC's ownership interest in Gray Oak Pipeline, LLC from 75% to 65% and the recognition of an immaterial gain. The proceeds received from this sale are presented as an investing cash inflow in the "Proceeds from asset dispositions" line item on our consolidated statement of cash flows. At December 31, 2019, Phillips 66 Partners' effective ownership interest in the Gray Oak Pipeline was 42.25%. See Note 27—Phillips 66 Partners LP, for additional information regarding Phillips 66 Partners' ownership in Holdings LLC and Gray Oak Pipeline, LLC.

Phillips 66 Partners accounts for the investment in Gray Oak Pipeline, LLC under the equity method because it does not have sufficient voting rights over key governance provisions to assert control over Gray Oak Pipeline, LLC. Gray Oak Pipeline, LLC is considered a VIE because it does not have sufficient equity at risk to fully fund the construction of all assets required for principal operations. Phillips 66 Partners has determined it is not the primary beneficiary because it and its co-venturers jointly direct the activities of Gray Oak Pipeline, LLC that most significantly impact Gray Oak Pipeline, LLC's economic performance.

In June 2019, Gray Oak Pipeline, LLC entered into a third-party term loan facility with an initial borrowing capacity of \$1,230 million, which was increased to \$1,317 million in July 2019, and \$1,379 million in January 2020, inclusive of accrued interest. Borrowings under the facility are due on June 3, 2022. Phillips 66 Partners and its co-venturers provided a guarantee through an equity contribution agreement requiring proportionate equity contributions to Gray Oak Pipeline, LLC up to the total outstanding loan amount. Under the agreement, Phillips 66 Partners' maximum potential amount of future obligations is \$583 million, plus any additional accrued interest and associated fees, which would be required if the term loan facility is fully utilized and Gray Oak Pipeline, LLC defaults on certain of its obligations thereunder. At December 31, 2019, Gray Oak Pipeline, LLC had outstanding borrowings of \$1,170 million, and Phillips 66 Partners' 42.25% proportionate exposure under the equity contribution agreement was \$494 million. The net proceeds from the term loan were used by Gray Oak Pipeline, LLC for construction of the Gray Oak Pipeline and repayment of amounts borrowed under a related party loan agreement that Phillips 66 Partners and its co-venturers executed in March 2019 and terminated upon the repayment by Gray Oak Pipeline, LLC in June 2019. The total related party loan to and repayment from Gray Oak Pipeline, LLC was \$95 million. These cash flows are included in the "Advances/loans—related parties" and "Collection of advances/loans—related parties" line items on our consolidated statement of cash flows.

At December 31, 2019, Phillips 66 Partners' maximum exposure to loss was \$1,253 million, which represented the book value of the investment in Gray Oak Pipeline, LLC of \$759 million and the term loan guarantee of \$494 million. At December 31, 2018, the book value of Phillips 66 Partners' investment in Gray Oak Pipeline, LLC was \$288 million.

- DCP Sand Hills Pipeline, LLC (Sand Hills)—Phillips 66 Partners' 33 percent-owned joint venture that owns an NGL pipeline system that extends from the Permian Basin and Eagle Ford to facilities on the Texas Gulf Coast and to the Mont Belvieu, Texas market hub. The Sand Hills Pipeline system is operated by DCP Partners. At December 31, 2019 and 2018, the book value of Phillips 66 Partners' investment in Sand Hills was \$595 million and \$601 million, respectively.
- Dakota Access, LLC (Dakota Access) and Energy Transfer Crude Oil Company, LLC (ETCO)—Two Phillips 66 Partners 25 percent-owned joint ventures. Dakota Access owns a pipeline system that transports crude oil from the Bakken/Three Forks production area in North Dakota to Patoka, Illinois, and ETCO owns a connecting crude oil pipeline system from Patoka, Illinois, to Nederland, Texas. These two pipeline systems collectively form the Bakken Pipeline system, which is operated by a co-venturer. The Bakken Pipeline system went into service in June 2017.

In March 2019, a wholly owned subsidiary of Dakota Access closed on an offering of \$2,500 million aggregate principal amount of unsecured senior notes. The net proceeds from the issuance of these notes were used to repay amounts outstanding under existing credit facilities of Dakota Access and ETCO. Dakota Access and ETCO have guaranteed repayment of the notes. In addition, Phillips 66 Partners and its co-venturers in Dakota Access provided a Contingent Equity Contribution Undertaking (CECU) in conjunction with the notes offering. Under the CECU, if Dakota Access receives an unfavorable court ruling related to certain disputed construction permits and Dakota Access determines that an equity contribution trigger event has occurred, the venturers may be severally required to make proportionate equity contributions to Dakota Access and ETCO up to an aggregate maximum of approximately \$2,525 million. Phillips 66 Partners' share of the maximum potential equity contributions under the CECU is approximately \$631 million. At December 31, 2019 and 2018, the aggregate book value of Phillips 66 Partners' investments in Dakota Access and ETCO was \$592 million and \$608 million, respectively.

- **Rockies Express Pipeline LLC (REX)**—25 percent-owned joint venture that owns a natural gas pipeline system that extends from Wyoming and Colorado to Ohio with a bidirectional section that extends from Ohio to Illinois. The REX Pipeline system is operated by our co-venturer. In July 2018, we contributed \$138 million to REX to cover our 25% share of a \$550 million debt repayment. Our capital contribution was included in the “Capital expenditures and investments” line item on our consolidated statement of cash flows.

We have a basis difference for our investment in REX because the carrying value of our investment is lower than our share of REX’s recorded net assets. This basis difference was created by historical impairment charges we recorded for this investment and is being amortized and recognized as a benefit to equity earnings over a period of 25 years, which was the estimated remaining useful life of REX’s PP&E when the impairment charges were recorded. At December 31, 2019, the remaining basis difference for this investment was \$338 million. Equity earnings for each of the years ended December 31, 2019, 2018 and 2017, were increased by \$19 million due to the amortization of our basis difference. At December 31, 2019 and 2018, the book value of our investment in REX was \$590 million and \$600 million, respectively.

- **Bayou Bridge Pipeline, LLC (Bayou Bridge)**—Phillips 66 Partners’ 40 percent-owned joint venture that owns a pipeline that transports crude oil from Nederland, Texas, to St. James, Louisiana. A segment of the pipeline from Lake Charles to St. James, Louisiana, was completed on April 1, 2019. The Bayou Bridge Pipeline is operated by our co-venturer. At December 31, 2019 and 2018, the book value of Phillips 66 Partners’ investment in Bayou Bridge was \$294 million and \$277 million, respectively.
- **CF United LLC (United)**—In the fourth quarter of 2019, we acquired a 50% voting interest and a 48% economic interest in United, a retail marketing joint venture with operations primarily on the U.S. West Coast. United is considered a VIE, because our co-venturer has an option to sell its interest to us based on a fixed multiple. The put option is viewed as a variable interest as the purchase price on the exercise date may not represent the then-current fair value of United. We have determined that we are not the primary beneficiary because we and our co-venturer jointly direct the activities of United that most significantly impact economic performance. At December 31, 2019, our maximum exposure was comprised of our \$265 million investment in United and any potential loss resulting from the put option.
- **DCP Southern Hills Pipeline, LLC (Southern Hills)**—Phillips 66 Partners’ 33 percent-owned joint venture that owns an NGL pipeline system that extends from the Midcontinent region to the Mont Belvieu, Texas market hub. The Southern Hills Pipeline system is operated by DCP Partners. At December 31, 2019 and 2018, the book value of Phillips 66 Partners’ investment in Southern Hills was \$215 million and \$206 million, respectively.
- **OnCue Holdings, LLC (OnCue)**—50 percent-owned joint venture that owns and operates retail convenience stores. We fully guaranteed various debt agreements of OnCue, and our co-venturer did not participate in the guarantees. This entity is considered a VIE because our debt guarantees resulted in OnCue not being exposed to all potential losses. We have determined we are not the primary beneficiary because we do not have the power to direct the activities that most significantly impact economic performance. At December 31, 2019, our maximum exposure to loss was \$144 million, which represented the book value of our investment in OnCue of \$77 million and guaranteed debt obligations of \$67 million. At December 31, 2018, the book value of our investment in OnCue was \$69 million.
- **Liberty Pipeline LLC (Liberty)**—We hold a 50% interest in a joint venture formed to develop and construct the Liberty Pipeline system which, upon completion, will transport crude oil from the Rockies and Bakken production areas to Cushing, Oklahoma. Liberty is supported by long-term shipper commitments, and service is expected in the first half of 2021. Liberty is considered a VIE because it does not have sufficient equity at risk to fully fund the construction of all assets required for principal operations. We have determined we are not the primary beneficiary because we and our co-venturer jointly direct the activities of Liberty that most significantly impact economic performance. At December 31, 2019, our maximum exposure to loss was \$184 million, which represented the book value of our investment in Liberty of \$33 million and a vendor guarantee of \$151 million.

- Red Oak Pipeline LLC (Red Oak)—We hold a 50% interest in a joint venture formed to develop and construct the Red Oak Pipeline system which, upon completion, will transport crude oil from Cushing, Oklahoma, and the Permian to multiple destinations along the Texas Gulf Coast, including Corpus Christi, Ingleside, Houston, and Beaumont, Texas. Red Oak is supported by long-term shipper commitments, and initial service is expected in the first half of 2021. Red Oak is considered a VIE because it does not have sufficient equity at risk to fully fund the construction of all assets required for principal operations. We have determined we are not the primary beneficiary because we and our co-venturer jointly direct the activities of Red Oak that most significantly impact economic performance. At December 31, 2019, our maximum exposure to loss was \$23 million, which represented the book value of our investment in Red Oak of \$20 million and a member loan of \$3 million.

Total distributions received from affiliates were \$2,055 million, \$2,942 million, and \$1,270 million for the years ended December 31, 2019, 2018 and 2017, respectively. In addition, at December 31, 2019, retained earnings included approximately \$2,360 million related to the undistributed earnings of affiliated companies.

In 2017, we received payment of the \$250 million outstanding sponsor loans to the Dakota Access and ETCO joint ventures. We also received payment of the \$75 million partner loan we made to WRB in 2016. These cash inflows, totaling \$325 million, are included in the “Collection of advances/loans—related parties” line item on our consolidated statement of cash flows.

Summarized 100% financial information for all affiliated companies accounted for under the equity method, on a combined basis, was:

| | Millions of Dollars | | |
|----------------------------|---------------------|--------|--------|
| | 2019 | 2018 | 2017 |
| Revenues | \$ 38,156 | 43,627 | 35,523 |
| Income before income taxes | 4,976 | 6,066 | 3,956 |
| Net income | 4,787 | 5,926 | 3,764 |
| Current assets | 6,654 | 6,791 | 7,325 |
| Noncurrent assets | 56,163 | 52,649 | 49,950 |
| Current liabilities | 6,094 | 8,047 | 5,248 |
| Noncurrent liabilities | 15,740 | 10,695 | 13,743 |
| Noncontrolling interests | 2,145 | 2,550 | 2,549 |

Note 8—Properties, Plants and Equipment

Our investment in PP&E is recorded at cost. Investments in refining and processing facilities are generally depreciated on a straight-line basis over a 25-year life, pipeline assets over a 45-year life and terminal assets over a 33-year life. The company's investment in PP&E, with the associated accumulated depreciation and amortization (Accum. D&A), at December 31 was:

| | Millions of Dollars | | | | | |
|---------------------------|---------------------|---------------|-------------|---------------|---------------|-------------|
| | 2019 | | | 2018 | | |
| | Gross PP&E | Accum. D&A | Net PP&E | Gross PP&E | Accum. D&A | Net PP&E |
| Midstream | \$ 11,221 | 2,391 | 8,830 | 9,663 | 2,100 | 7,563 |
| Chemicals | — | — | — | — | — | — |
| Refining | 23,692 | 10,336 | 13,356 | 22,640 | 9,531 | 13,109 |
| Marketing and Specialties | 1,847 | 959 | 888 | 1,671 | 926 | 745 |
| Corporate and Other | 1,311 | 599 | 712 | 1,223 | 622 | 601 |
| | \$ 38,071 | 14,285 | 23,786 | 35,197 | 13,179 | 22,018 |

Note 9—Goodwill and Intangibles

Goodwill

The carrying amount of goodwill by segment at December 31 was:

| | Millions of Dollars | | | |
|------------------------------|---------------------|----------|---------------------------|-------|
| | Midstream | Refining | Marketing and Specialties | Total |
| Balance at January 1, 2018 | \$ 626 | 1,805 | 839 | 3,270 |
| Adjustments | — | — | — | — |
| Balance at December 31, 2018 | 626 | 1,805 | 839 | 3,270 |
| Adjustments | — | — | — | — |
| Balance at December 31, 2019 | \$ 626 | 1,805 | 839 | 3,270 |

Intangible Assets

The gross carrying value of indefinite-lived intangible assets at December 31 consisted of the following:

| | Millions of Dollars | |
|------------------------------------|---------------------|------|
| | 2019 | 2018 |
| Trade names and trademarks | \$ 503 | 503 |
| Refinery air and operating permits | 249 | 250 |
| | \$ 752 | 753 |

The net book value of our amortized intangible assets was \$117 million and \$116 million at December 31, 2019 and 2018, respectively. Acquisitions of amortized intangible assets were not material in 2019 and 2018. For the years ended December 31, 2019, 2018 and 2017, amortization expense was \$17 million, \$14 million and \$21 million, respectively, and is expected to be less than \$20 million per year in future years.

Note 10—Asset Retirement Obligations and Accrued Environmental Costs

Asset retirement obligations and accrued environmental costs at December 31 were:

| | Millions of Dollars | |
|---|---------------------|------|
| | 2019 | 2018 |
| Asset retirement obligations | \$ 280 | 261 |
| Accrued environmental costs | 441 | 447 |
| Total asset retirement obligations and accrued environmental costs | 721 | 708 |
| Asset retirement obligations and accrued environmental costs due within one year* | (83) | (84) |
| Long-term asset retirement obligations and accrued environmental costs | \$ 638 | 624 |

* Classified as a current liability on the consolidated balance sheet, under the caption "Other accruals."

Asset Retirement Obligations

We have asset retirement obligations that we are required to perform under law or contract once an asset is permanently taken out of service. Most of these obligations are not expected to be paid until many years in the future and are expected to be funded from general company resources at the time of removal. Our largest individual obligations involve asbestos abatement at refineries.

During the years ended December 31, 2019 and 2018, our overall asset retirement obligation changed as follows:

| | Millions of Dollars | |
|--|---------------------|------|
| | 2019 | 2018 |
| Balance at January 1 | \$ 261 | 268 |
| Accretion of discount | 10 | 10 |
| Changes in estimates of existing obligations | 31 | 3 |
| Spending on existing obligations | (22) | (15) |
| Foreign currency translation | — | (5) |
| Balance at December 31 | \$ 280 | 261 |

Accrued Environmental Costs

For the year ended December 31, 2019, the \$6 million decrease in total accrued environmental costs was due to payments and settlements during the year, which exceeded new accruals, accrual adjustments and accretion.

Of our total accrued environmental costs at December 31, 2019, \$240 million was primarily related to cleanup at domestic refineries and underground storage tanks at U.S. service stations; \$147 million was associated with nonoperator sites; and \$54 million was related to sites at which we have been named a potentially responsible party under federal or state laws. A large portion of our expected environmental expenditures have been discounted as these obligations were acquired in various business combinations. Expected expenditures for acquired environmental obligations were discounted using a weighted-average discount rate of approximately 5%. At December 31, 2019, the accrued balance for acquired environmental liabilities was \$246 million. The expected future undiscounted payments related to the portion of the accrued environmental costs that have been discounted are: \$26 million in 2020, \$24 million in 2021, \$23 million in 2022, \$19 million in 2023, \$16 million in 2024, and \$206 million in the aggregate for all years after 2024.

Note 11—Earnings Per Share

The numerator of basic earnings per share (EPS) is net income attributable to Phillips 66, reduced by noncancelable dividends paid on unvested share-based employee awards during the vesting period (participating securities). The denominator of basic EPS is the sum of the daily weighted-average number of common shares outstanding during the periods presented and fully vested stock and unit awards that have not yet been issued as common stock. The numerator of diluted EPS is also based on net income attributable to Phillips 66, which is reduced only by dividend equivalents paid on participating securities for which the dividends are more dilutive than the participation of the awards in the earnings of the periods presented. To the extent unvested stock, unit or option awards and vested unexercised stock options are dilutive, they are included with the weighted-average common shares outstanding in the denominator. Treasury stock is excluded from the denominator in both basic and diluted EPS.

| | 2019 | | 2018 | | 2017 | |
|---|-----------------|----------------|----------------|----------------|----------------|----------------|
| | Basic | Diluted | Basic | Diluted | Basic | Diluted |
| Amounts Attributed to Phillips 66 Common Stockholders (<i>millions</i>): | | | | | | |
| Net income attributable to Phillips 66 | \$ 3,076 | 3,076 | 5,595 | 5,595 | 5,106 | 5,106 |
| Income allocated to participating securities | (6) | (2) | (6) | — | (6) | — |
| Net income available to common stockholders | \$ 3,070 | 3,074 | 5,589 | 5,595 | 5,100 | 5,106 |
| Weighted-average common shares outstanding (<i>thousands</i>): | | | | | | |
| | 448,787 | 451,364 | 467,483 | 470,708 | 511,268 | 515,090 |
| Effect of share-based compensation | 2,577 | 2,524 | 3,225 | 3,339 | 3,822 | 3,418 |
| Weighted-average common shares outstanding—EPS | 451,364 | 453,888 | 470,708 | 474,047 | 515,090 | 518,508 |
| Earnings Per Share of Common Stock (<i>dollars</i>) | \$ 6.80 | 6.77 | 11.87 | 11.80 | 9.90 | 9.85 |

Note 12—Debt

Short-term and long-term debt at December 31 was:

| | Millions of Dollars | |
|---|---------------------|--------|
| | 2019 | 2018 |
| <i>Phillips 66</i> | | |
| 4.300% Senior Notes due April 2022 | \$ 2,000 | 2,000 |
| 3.900% Senior Notes due March 2028 | 800 | 800 |
| 4.650% Senior Notes due November 2034 | 1,000 | 1,000 |
| 5.875% Senior Notes due May 2042 | 1,500 | 1,500 |
| 4.875% Senior Notes due November 2044 | 1,700 | 1,700 |
| Floating-rate notes due April 2020 at 2.751% and 3.186% at year-end 2019 and 2018, respectively | 300 | 300 |
| Term loan due April 2020 at 2.699% and 3.422% at year-end 2019 and 2018, respectively | 200 | 200 |
| Floating-rate Senior Notes due February 2021 at 2.517% and 3.289% at year-end 2019 and 2018, respectively | 500 | 500 |
| Floating-rate Advance Term Loan due December 2034 at 2.392%—related party | 25 | — |
| Other | 1 | 1 |
| <i>Phillips 66 Partners</i> | | |
| 2.646% Senior Notes due February 2020 | — | 300 |
| 2.450% Senior Notes due December 2024 | 300 | — |
| 3.605% Senior Notes due February 2025 | 500 | 500 |
| 3.550% Senior Notes due October 2026 | 500 | 500 |
| 3.750% Senior Notes due March 2028 | 500 | 500 |
| 3.150% Senior Notes due December 2029 | 600 | — |
| 4.680% Senior Notes due February 2045 | 450 | 450 |
| 4.900% Senior Notes due October 2046 | 625 | 625 |
| Tax-exempt bonds due April 2020 and April 2021 at 1.850% and 1.885% at year-end 2019 and 2018, respectively | 75 | 75 |
| Revolving credit facility due January 2019 and October 2021 at weighted-average rate of 3.669% at year-end 2018 | — | 125 |
| Debt at face value | 11,576 | 11,076 |
| Finance leases | 277 | 184 |
| Software obligations | 10 | — |
| Net unamortized discounts and debt issuance costs | (100) | (100) |
| Total debt | 11,763 | 11,160 |
| Short-term debt | (547) | (67) |
| Long-term debt | \$ 11,216 | 11,093 |

Maturities of borrowings outstanding at December 31, 2019, inclusive of net unamortized discounts and debt issuance costs, for each of the years from 2020 through 2024 are \$547 million, \$568 million, \$2,012 million, \$17 million and \$312 million, respectively.

During the year ended December 31, 2019, our debt at face value increased \$500 million due to:

- Phillips 66 Partners' issuance of \$900 million of Senior Notes due December 2024 and December 2029.
- Phillips 66 Partners' repayment of the \$300 million outstanding principal balance of its 2.646% Senior Notes due February 2020.
- Phillips 66 Partners' repayment of the \$125 million outstanding under its revolving credit facility.
- Borrowing of \$25 million under our floating-rate Advance Term Loan due December 2034.

2019 Debt Issuances and Repayments

On October 15, 2019, Phillips 66 Partners repaid the aggregate \$300 million outstanding principal balance of its 2.646% Senior Notes due February 2020.

On September 13, 2019, Phillips 66 Partners repaid the aggregate \$400 million outstanding principal balance of the senior unsecured term loan facility that was drawn during the first half of 2019.

On September 6, 2019, Phillips 66 Partners closed on a public offering of \$900 million aggregate principal amount of unsecured notes consisting of:

- \$300 million aggregate principal amount of 2.450% Senior Notes due December 15, 2024.
- \$600 million aggregate principal amount of 3.150% Senior Notes due December 15, 2029.

Interest on each series of senior notes is payable semiannually in arrears on June 15 and December 15 of each year, commencing on June 15, 2020. Net proceeds from the Senior Notes offering were used for the September 13, 2019 and October 15, 2019 debt repayments noted above and general business purposes.

On March 22, 2019, Phillips 66 Partners entered into a senior unsecured term loan facility with a borrowing capacity of \$400 million due March 20, 2020. Phillips 66 Partners borrowed an aggregate amount of \$400 million under the facility during the first half of 2019. Net proceeds from the term loan facility were used for the repayment of the outstanding balance under the Phillips 66 Partners' revolving credit facility and general business purposes.

2018 Debt Issuances and Repayments

In December 2018, Phillips 66 repaid the \$300 million floating-rate notes due April 2019.

In June 2018, Phillips 66 repaid \$250 million of the \$450 million outstanding under its three-year term loan facility due April 2020.

On March 1, 2018, Phillips 66 closed on a public offering of \$1,500 million aggregate principal amount of unsecured notes consisting of:

- \$500 million of floating-rate Senior Notes due February 2021. Interest on these notes is equal to the three-month London Interbank Offered Rate (LIBOR) plus 0.60% per annum and is payable quarterly in arrears on February 26, May 26, August 26 and November 26, beginning on May 29, 2018.
- \$800 million of 3.900% Senior Notes due March 2028. Interest on these notes is payable semiannually on March 15 and September 15 of each year, beginning on September 15, 2018.
- An additional \$200 million of our 4.875% Senior Notes due November 2044. Interest on these notes is payable semiannually on May 15 and November 15 of each year, beginning on May 15, 2018.

These notes are guaranteed by Phillips 66 Company, a wholly owned subsidiary. Phillips 66 used the net proceeds from the issuance of these notes and cash on hand to repay commercial paper borrowings during the three months ended March 31, 2018, and for general corporate purposes. The commercial paper borrowings during the three months ended March 31, 2018, were primarily used to repurchase shares of our common stock. See Note 17—Equity, for additional information.

Credit Facilities and Commercial Paper

Phillips 66 has a revolving credit facility that may be used for direct bank borrowings, as support for issuances of letters of credit, or as support for our commercial paper program. On July 30, 2019, this revolving credit agreement was amended and restated to extend the scheduled maturity from October 3, 2021, to July 30, 2024. No other material amendments were made to the agreement, and the overall capacity remains at \$5 billion with an option to increase the overall capacity to \$6 billion, subject to certain conditions. The facility is with a broad syndicate of financial institutions and contains covenants that are usual and customary for an agreement of this type for comparable commercial borrowers, including a maximum consolidated net debt-to-capitalization ratio of 65%. The agreement has customary events of default, such as nonpayment of principal when due; nonpayment of interest, fees or other amounts; violation of covenants; cross-payment default and cross-acceleration (in each case, to indebtedness in excess of a threshold amount); and a change of control. Borrowings under the facility will incur interest at the LIBOR plus a margin based on the credit rating of our senior unsecured long-term debt as determined from time to time by Standard & Poor's Financial Services LLC and Moody's Investors Service, Inc. The facility also provides for customary fees, including administrative agent fees and commitment fees. At December 31, 2019 and 2018, no amount had been drawn under this revolving credit agreement.

Phillips 66 has a \$5 billion commercial paper program for short-term working capital needs that is supported by our revolving credit facility. Commercial paper maturities are generally limited to 90 days. At December 31, 2019 and 2018, no borrowings were outstanding under the commercial paper program. At February 21, 2020, there was approximately \$650 million in borrowings outstanding under the program.

Phillips 66 Partners has a revolving credit facility with a broad syndicate of financial institutions. The revolving credit facility contains covenants that are usual and customary for an agreement of this type for comparable commercial borrowers. At Phillips 66 Partners' option, outstanding borrowings under this facility bear interest at either i) the Eurodollar rate plus a margin based on its credit rating; or ii) the base rate (as described in the facility agreement) plus a margin based on its credit rating. Eurodollar rate borrowings are due on the facility's termination date, while base rate borrowings are due the earlier of the facility's termination date or the fourteenth business day after such borrowings were made. On July 30, 2019, Phillips 66 Partners amended and restated its revolving credit agreement. The agreement extended the scheduled maturity from October 3, 2021, to July 30, 2024. No other material amendments were made to the agreement, and the overall capacity remains at \$750 million with an option to increase the overall capacity to \$1 billion, subject to certain conditions. At December 31, 2019, Phillips 66 Partners had no borrowings outstanding under this facility; however, \$1 million in letters of credit had been issued that were supported by this facility. There was \$125 million outstanding under this facility at December 31, 2018.

We had approximately \$5.7 billion and \$5.6 billion of total committed capacity available under our revolving credit facilities at December 31, 2019 and 2018, respectively.

Note 13—Guarantees

At December 31, 2019, we were liable for certain contingent obligations under various contractual arrangements as described below. We recognize a liability for the fair value of our obligation as a guarantor for newly issued or modified guarantees. Unless the carrying amount of the liability is noted below, we have not recognized a liability either because the guarantees were issued prior to December 31, 2002, or because the fair value of the obligation is immaterial. In addition, unless otherwise stated, we are not currently performing with any significance under the guarantees and expect future performance to be either immaterial or have only a remote chance of occurrence.

Lease Residual Value Guarantees

Under the operating lease agreement on our headquarters facility in Houston, Texas, we have a residual value guarantee with a maximum future exposure of \$554 million at December 31, 2019. The operating lease term ends in June 2021 and provides us the option, at the end of the lease term, to request to renew the lease, purchase the facility or assist the lessor in marketing it for resale. We also have residual value guarantees associated with railcar and airplane leases with maximum potential future payments totaling \$372 million. These leases have remaining terms of up to four years. For the years ended December 31, 2019, 2018 and 2017, we recognized incremental operating lease rental expense of \$1 million, \$20 million and \$45 million, respectively, for residual value deficiencies for certain aircraft and railcar leases based on third-party appraisals of expected fair value at the end of the lease terms. The railcar leases were amended in November 2018 and October 2017 resulting in residual value deficiency settlement payments of \$40 million and \$53 million, respectively. At December 31, 2019 and 2018, we did not have any liabilities recorded for residual value deficiencies under our railcar leases.

Contingent Equity Contribution Undertaking

In March 2019, Phillips 66 Partners and its co-venturers in Dakota Access provided a Contingent Equity Contribution Undertaking in conjunction with an unsecured senior notes offering. See Note 7—Investments, Loans and Long-Term Receivables, for additional information on Dakota Access.

Guarantees of Joint Venture Obligations

In June 2019, Phillips 66 Partners issued a guarantee through an equity contribution agreement for 42.25% of Gray Oak Pipeline, LLC's third-party term loan facility. See Note 7—Investments, Loans and Long-Term Receivables, for additional information on Gray Oak Pipeline, LLC.

In addition, at December 31, 2019, we had other guarantees outstanding for our portion of certain joint venture debt obligations and purchase obligations that have remaining terms of up to six years. The maximum potential amount of future payments to third parties under these guarantees was approximately \$263 million. Payment would be required if a joint venture defaults on its obligations.

Indemnifications

Over the years, we have entered into various agreements to sell ownership interests in certain corporations, joint ventures and assets that gave rise to indemnification. Agreements associated with these sales include indemnifications for taxes, litigation, environmental liabilities, permits and licenses and employee claims, as well as real estate indemnity against tenant defaults. The provisions of these indemnifications vary greatly. The majority of these indemnifications are related to environmental issues, which generally have indefinite terms and potentially unlimited exposure. At December 31, 2019 and 2018, the carrying amount of recorded indemnifications was \$153 million and \$171 million, respectively.

We amortize the indemnification liability over the relevant time period, if one exists, based on the facts and circumstances surrounding each type of indemnity. In cases where the indemnification term is indefinite, we will reverse the liability when we have information to support the reversal. Although it is reasonably possible future payments may exceed amounts recorded, due to the nature of the indemnifications, it is not possible to make a reasonable estimate of the maximum potential amount of future payments. At December 31, 2019 and 2018, environmental accruals for known contamination of \$105 million and \$101 million, respectively, were included in the carrying amount of the recorded indemnifications noted above. These environmental accruals were primarily included in the “Asset retirement obligations and accrued environmental costs” line item on our consolidated balance sheet. For additional information about environmental liabilities, see Note 14—Contingencies and Commitments.

Indemnification and Release Agreement

In 2012, in connection with our separation from ConocoPhillips (the Separation), we entered into the Indemnification and Release Agreement. This agreement governs the treatment between ConocoPhillips and us of matters relating to indemnification, insurance, litigation responsibility and management, and litigation document sharing and cooperation arising in connection with the Separation. Generally, the agreement provides for cross-indemnities principally designed to place financial responsibility for the obligations and liabilities of our business with us and financial responsibility for the obligations and liabilities of ConocoPhillips' business with ConocoPhillips. The agreement also establishes procedures for handling claims subject to indemnification and related matters.

Note 14—Contingencies and Commitments

A number of lawsuits involving a variety of claims that arose in the ordinary course of business have been filed against us or are subject to indemnifications provided by us. We also may be required to remove or mitigate the effects on the environment of the placement, storage, disposal or release of certain chemical, mineral and petroleum substances at various active and inactive sites. We regularly assess the need for financial recognition or disclosure of these contingencies. In the case of all known contingencies (other than those related to income taxes), we accrue a liability when the loss is probable and the amount is reasonably estimable. If a range of amounts can be reasonably estimated and no amount within the range is a better estimate than any other amount, then the minimum of the range is accrued. We do not reduce these liabilities for potential insurance or third-party recoveries. If applicable, we accrue receivables for probable insurance or other third-party recoveries. In the case of income tax-related contingencies, we use a cumulative probability-weighted loss accrual in cases where sustaining a tax position is less than certain. See Note 21—Income Taxes, for additional information about income tax-related contingencies.

Based on currently available information, we believe it is remote that future costs related to known contingent liability exposures will exceed current accruals by an amount that would have a material adverse impact on our consolidated financial statements. As we learn new facts concerning contingencies, we reassess our position both with respect to accrued liabilities and other potential exposures. Estimates particularly sensitive to future changes include contingent liabilities recorded for environmental remediation, tax and legal matters. Estimated future environmental remediation costs are subject to change due to such factors as the uncertain magnitude of cleanup costs, the unknown time and extent of such remedial actions that may be required, and the determination of our liability in proportion to that of other potentially responsible parties. Estimated future costs related to tax and legal matters are subject to change as events evolve and as additional information becomes available during the administrative and litigation processes.

Environmental

We are subject to international, federal, state and local environmental laws and regulations. When we prepare our consolidated financial statements, we record accruals for environmental liabilities based on management's best estimates, using information available at the time. We measure estimates and base contingent liabilities on currently available facts, existing technology and presently enacted laws and regulations, taking into account stakeholder and business considerations. When measuring contingent environmental liabilities, we also consider our prior experience in remediation of contaminated sites, other companies' cleanup experience, and data released by the U.S. Environmental Protection Agency (EPA) or other organizations. We consider unasserted claims in our determination of environmental liabilities, and we accrue them in the period they are both probable and reasonably estimable.

Although liability for environmental remediation costs is generally joint and several for federal sites and frequently so for state sites, we are usually only one of many companies alleged to have liability at a particular site. Due to such joint and several liabilities, we could be responsible for all cleanup costs related to any site at which we have been designated as a potentially responsible party. We have been successful to date in sharing cleanup costs with other financially sound companies. Many of the sites at which we are potentially responsible are still under investigation by the EPA or the state agencies concerned. Prior to actual cleanup, those potentially responsible normally assess the site conditions, apportion responsibility and determine the appropriate remediation. In some instances, we may have no liability or may attain a settlement of liability. Where it appears that other potentially responsible parties may be financially unable to bear their proportional share, we consider this inability in estimating our potential liability, and we adjust our accruals accordingly. As a result of various acquisitions in the past, we assumed certain environmental obligations. Some of these environmental obligations are mitigated by indemnifications made by others for our benefit, although some of the indemnifications are subject to dollar and time limits.

We are currently participating in environmental assessments and cleanups at numerous federal Superfund and comparable state sites. After an assessment of environmental exposures for cleanup and other costs, we make accruals on an undiscounted basis (except those pertaining to sites acquired in a business combination, which we record on a discounted basis) for planned investigation and remediation activities for sites where it is probable future costs will be incurred and these costs can be reasonably estimated. We have not reduced these accruals for possible insurance recoveries. In the future, we may be involved in additional environmental assessments, cleanups and proceedings. See Note 10—Asset Retirement Obligations and Accrued Environmental Costs, for a summary of our accrued environmental liabilities.

Legal Proceedings

Our legal organization applies its knowledge, experience and professional judgment to the specific characteristics of our cases, employing a litigation management process to manage and monitor the legal proceedings against us. Our process facilitates the early evaluation and quantification of potential exposures in individual cases and enables the tracking of those cases that have been scheduled for trial and/or mediation. Based on professional judgment and experience in using these litigation management tools and available information about current developments in all our cases, our legal organization regularly assesses the adequacy of current accruals and determines if adjustment of existing accruals, or establishment of new accruals, is required.

Other Contingencies

We have contingent liabilities resulting from throughput agreements with pipeline and processing companies not associated with financing arrangements. Under these agreements, we may be required to provide any such company with additional funds through advances and penalties for fees related to throughput capacity not utilized.

At December 31, 2019, we had performance obligations secured by letters of credit and bank guarantees of \$1,111 million related to various purchase and other commitments incident to the ordinary conduct of business.

Long-Term Throughput Agreements and Take-or-Pay Agreements

We have certain throughput agreements and take-or-pay agreements in support of third-party financing arrangements. The agreements typically provide for crude oil transportation to be used in the ordinary course of our business. At December 31, 2019, the estimated aggregate future payments under these agreements were \$321 million per year for each year from 2020 through 2024 and \$1,983 million in aggregate for all years after 2024. For the years ended December 31, 2019, 2018 and 2017, total payments under these agreements were \$321 million, \$323 million and \$323 million, respectively.

Note 15—Derivatives and Financial Instruments

Derivative Instruments

We use financial and commodity-based derivative contracts to manage exposures to fluctuations in commodity prices, interest rates and foreign currency exchange rates, or to capture market opportunities. Because we do not apply hedge accounting for commodity derivative contracts, all realized and unrealized gains and losses from commodity derivative contracts are recognized in our consolidated statement of income. Gains and losses from derivative contracts held for trading not directly related to our physical business are reported net in the “Other income” line item on our consolidated statement of income. Cash flows from all our derivative activity for the periods presented appear in the operating section on our consolidated statement of cash flows.

Purchase and sales contracts with firm minimum notional volumes for commodities that are readily convertible to cash are recorded on our consolidated balance sheet as derivatives unless the contracts are eligible for, and we elect, the normal purchases and normal sales exception, whereby the contracts are recorded on an accrual basis. We generally apply the normal purchases and normal sales exception to eligible crude oil, refined petroleum product, NGL, natural gas and power commodity contracts to purchase or sell quantities we expect to use or sell in the normal course of business. All other derivative instruments are recorded at fair value on our consolidated balance sheet. For further information on the fair value of derivatives, see Note 16—Fair Value Measurements.

Commodity Derivative Contracts—We sell into or receive supply from the worldwide crude oil, refined petroleum product, NGL, natural gas and electric power markets, exposing our revenues, purchases, cost of operating activities and cash flows to fluctuations in the prices for these commodities. Generally, our policy is to remain exposed to the market prices of commodities; however, we use futures, forwards, swaps and options in various markets to balance physical systems, meet customer needs, manage price exposures on specific transactions, and do a limited amount of trading not directly related to our physical business, all of which may reduce our exposure to fluctuations in market prices. We also use the market knowledge gained from these activities to capture market opportunities such as moving physical commodities to more profitable locations, storing commodities to capture seasonal or time premiums, and blending commodities to capture quality upgrades.

The following table indicates the consolidated balance sheet line items that include the fair values of commodity derivative assets and liabilities. The balances in the following table are presented on a gross basis, before the effects of counterparty and collateral netting. However, we have elected to present our commodity derivative assets and liabilities with the same counterparty on a net basis on our consolidated balance sheet when the legal right of offset exists.

| | Millions of Dollars | | | | | | | | |
|---|-----------------------|----------------|------------------------------|---|-----------------------|----------------|------------------------------|-----------|---|
| | December 31, 2019 | | | | December 31, 2018 | | | | Net Carrying Value Presented on the Balance Sheet |
| | Commodity Derivatives | | Effect of Collateral Netting | Net Carrying Value Presented on the Balance Sheet | Commodity Derivatives | | Effect of Collateral Netting | | |
| | Assets | Liabilities | | | Assets | Liabilities | | | |
| | | | | | | | | | |
| Assets | | | | | | | | | |
| Prepaid expenses and other current assets | \$ 23 | — | — | 23 | 1,257 | (1,070) | (89) | 98 | |
| Other assets | 3 | — | — | 3 | 2 | — | — | 2 | |
| Liabilities | | | | | | | | | |
| Other accruals | 1,188 | (1,281) | 80 | (13) | — | (23) | — | (23) | |
| Other liabilities and deferred credits | — | (1) | — | (1) | 5 | (7) | — | (2) | |
| Total | \$ 1,214 | (1,282) | 80 | 12 | 1,264 | (1,100) | (89) | 75 | |

At December 31, 2019 and 2018, there was no material cash collateral received or paid that was not offset on our consolidated balance sheet.

The realized and unrealized gains (losses) incurred from commodity derivatives, and the line items where they appear on our consolidated statement of income, were:

| | Millions of Dollars | | |
|--|---------------------|------|-------|
| | 2019 | 2018 | 2017 |
| Sales and other operating revenues | \$ (150) | 192 | (247) |
| Other income | 33 | (15) | 27 |
| Purchased crude oil and products | (161) | (64) | (18) |
| Net gain (loss) from commodity derivative activity | \$ (278) | 113 | (238) |

The following table summarizes our material net exposures resulting from outstanding commodity derivative contracts. These financial and physical derivative contracts are primarily used to manage price exposure on our underlying operations. The underlying exposures may be from nonderivative positions such as inventory volumes. Financial derivative contracts may also offset physical derivative contracts, such as forward purchase and sales contracts. The percentage of our derivative contract volumes expiring within the next 12 months was at least 98% at December 31, 2019 and 2018.

| Commodity | Open Position Long / (Short) | |
|--|---------------------------------|------|
| | 2019 | 2018 |
| Crude oil, refined petroleum products and NGL (<i>millions of barrels</i>) | (16) | (17) |

Interest Rate Derivative Contracts—In 2016, we entered into interest rate swaps to hedge the variability of lease payments on our headquarters facility. These monthly lease payments vary based on monthly changes in the one-month LIBOR and changes, if any, in our credit rating over the five-year term of the lease. The pay-fixed, receive-floating interest rate swaps have an aggregate notional value of \$650 million and end in April 2021. We have designated these swaps as cash flow hedges.

The aggregate net fair value of these swaps, which is included in the “Prepaid expenses and other current assets” and “Other assets” line items on our consolidated balance sheet, totaled \$1 million and \$15 million at December 31, 2019 and 2018, respectively.

We report the mark-to-market gains or losses on our interest rate swaps designated as highly effective cash flow hedges as a component of other comprehensive income (loss), and reclassify such gains and losses into earnings in the same period during which the hedged transaction affects earnings. Net realized gains and losses from settlements of the swaps were immaterial for the years ended December 31, 2019 and 2018.

We currently estimate that pre-tax gains of \$1 million will be reclassified from accumulated other comprehensive loss into general and administrative expenses during the next 12 months as the hedged transactions settle; however, the actual amounts that will be reclassified will vary based on changes in interest rates.

Credit Risk from Derivative Instruments

Financial instruments potentially exposed to concentrations of credit risk consist primarily of trade receivables and derivative contracts.

Our trade receivables result primarily from the sale of products from, or related to, our refinery operations and reflect a broad national and international customer base, which limits our exposure to concentrations of credit risk. The majority of these receivables have payment terms of 30 days or less. We continually monitor this exposure and the creditworthiness of the counterparties and recognize bad debt expense based on a probability assessment of credit loss. Generally, we do not require collateral to limit the exposure to loss; however, we will sometimes use letters of credit, prepayments or master netting arrangements to mitigate credit risk with counterparties that both buy from and sell to us, as these agreements permit the amounts owed by us to others to be offset against amounts owed to us.

The credit risk from our derivative contracts, such as forwards and swaps, derives from the counterparty to the transaction. Individual counterparty exposure is managed within predetermined credit limits and includes the use of cash-call margins when appropriate, thereby reducing the risk of significant nonperformance. We also use futures, swaps and option contracts that have a negligible credit risk because these trades are cleared with an exchange clearinghouse and subject to mandatory margin requirements, typically on a daily basis, until settled.

Certain of our derivative instruments contain provisions that require us to post collateral if the derivative exposure exceeds a threshold amount. We have contracts with fixed threshold amounts and other contracts with variable threshold amounts that are contingent on our credit rating. The variable threshold amounts typically decline for lower credit ratings, while both the variable and fixed threshold amounts typically revert to zero if our credit ratings fall below investment grade. Cash is the primary collateral in all contracts; however, many contracts also permit us to post letters of credit as collateral.

The aggregate fair values of all derivative instruments with such credit-risk-related contingent features that were in a liability position were immaterial at December 31, 2019 and 2018.

Note 16—Fair Value Measurements

Recurring Fair Value Measurements

We carry certain assets and liabilities at fair value, which we measure at the reporting date using the price that would be received to sell an asset or paid to transfer a liability (i.e., an exit price), and disclose the quality of these fair values based on the valuation inputs used in these measurements under the following hierarchy:

- Level 1: Fair value measured with unadjusted quoted prices from an active market for identical assets or liabilities.
- Level 2: Fair value measured either with: (1) adjusted quoted prices from an active market for similar assets or liabilities; or (2) other valuation inputs that are directly or indirectly observable.
- Level 3: Fair value measured with unobservable inputs that are significant to the measurement.

We classify the fair value of an asset or liability based on the significance of its observable or unobservable inputs to the measurement. However, the fair value of an asset or liability initially reported as Level 3 will be subsequently reported as Level 2 if the unobservable inputs become inconsequential to its measurement or corroborating market data becomes available. Conversely, an asset or liability initially reported as Level 2 will be subsequently reported as Level 3 if corroborating market data becomes unavailable.

We used the following methods and assumptions to estimate the fair value of financial instruments:

- *Cash and cash equivalents*—The carrying amount reported on our consolidated balance sheet approximates fair value.
- *Accounts and notes receivable*—The carrying amount reported on our consolidated balance sheet approximates fair value.
- *Derivative instruments*—We fair value our exchange-traded contracts based on quoted market prices obtained from the New York Mercantile Exchange, the Intercontinental Exchange or other exchanges, and classify them as Level 1 in the fair value hierarchy. When exchange-cleared contracts lack sufficient liquidity, or are valued using either adjusted exchange-provided prices or nonexchange quotes, we classify those contracts as Level 2.

Physical commodity forward purchase and sales contracts and over-the-counter (OTC) financial swaps are generally valued using forward quotes provided by brokers and price index developers, such as Platts and Oil Price Information Service. We corroborate these quotes with market data and classify the resulting fair values as Level 2. When forward market prices are not available, we estimate fair value using the forward price of a similar commodity, adjusted for the difference in quality or location. In certain less liquid markets or for longer-term contracts, forward prices are not as readily available. In these circumstances, physical commodity purchase and sales contracts and OTC swaps are valued using internally developed methodologies that consider historical relationships among various commodities that result in management's best estimate of fair value. We classify these contracts as Level 3. Physical and OTC commodity options are valued using industry-standard models that consider various assumptions, including quoted forward prices for commodities, time value, volatility factors and contractual prices for the underlying instruments, as well as other relevant economic measures. The degree to which these inputs are observable in the forward markets determines whether the options are classified as Level 2 or 3. We use a midmarket pricing convention (the midpoint between bid and ask prices). When appropriate, valuations are adjusted to reflect credit considerations, generally based on available market evidence.

We determine the fair value of our interest rate swaps based on observed market valuations for interest rate swaps that have notional amounts, terms and pay and reset frequencies similar to ours.

- *Rabbi trust assets*—These deferred compensation investments are measured at fair value using unadjusted quoted prices available from national securities exchanges and are therefore categorized as Level 1 in the fair value hierarchy.
- *Debt*—The carrying amount of our floating-rate debt approximates fair value. The fair value of our fixed-rate debt is estimated based on observable market prices.

The following tables display the fair value hierarchy for our financial assets and liabilities either accounted for or disclosed at fair value on a recurring basis. These values are determined by treating each contract as the fundamental unit of account; therefore, derivative assets and liabilities with the same counterparty are shown on a gross basis in the hierarchy sections of these tables, before the effects of counterparty and collateral netting. The following tables also reflect the effect of netting derivative assets and liabilities with the same counterparty for which we have the legal right of offset and collateral netting.

The carrying values and fair values by hierarchy of our financial assets and liabilities, either carried or disclosed at fair value, including any effects of counterparty and collateral netting, were:

| Millions of Dollars | | | | | | | |
|---|----------------------|---------|---------|--|--------------------------------|------------------------------|---|
| December 31, 2019 | | | | | | | |
| | Fair Value Hierarchy | | | Total Fair Value of Gross Assets & Liabilities | Effect of Counterparty Netting | Effect of Collateral Netting | Net Carrying Value Presented on the Balance Sheet |
| | Level 1 | Level 2 | Level 3 | | | | |
| Commodity Derivative Assets | | | | | | | |
| Exchange-cleared instruments | \$ 820 | 368 | — | 1,188 | (1,188) | — | — |
| Physical forward contracts | — | 26 | — | 26 | — | — | 26 |
| Interest rate derivatives | — | 1 | — | 1 | — | — | 1 |
| Rabbi trust assets | 127 | — | — | 127 | N/A | N/A | 127 |
| | \$ 947 | 395 | — | 1,342 | (1,188) | — | 154 |
| Commodity Derivative Liabilities | | | | | | | |
| Exchange-cleared instruments | \$ 884 | 385 | — | 1,269 | (1,188) | (80) | — |
| OTC instruments | — | 1 | — | 1 | — | — | 1 |
| Physical forward contracts | — | 12 | — | 12 | — | — | 12 |
| Floating-rate debt | — | 1,100 | — | 1,100 | N/A | N/A | 1,100 |
| Fixed-rate debt, excluding finance leases | — | 11,813 | — | 11,813 | N/A | N/A | (1,438) |
| | \$ 884 | 13,311 | — | 14,195 | (1,188) | (80) | (1,438) |
| | | | | | | | 11,489 |

| Millions of Dollars | | | | | | | |
|---|----------------------|---------|---------|--|--------------------------------|------------------------------|---|
| December 31, 2018 | | | | | | | |
| | Fair Value Hierarchy | | | Total Fair Value of Gross Assets & Liabilities | Effect of Counterparty Netting | Effect of Collateral Netting | Net Carrying Value Presented on the Balance Sheet |
| | Level 1 | Level 2 | Level 3 | | | | |
| Commodity Derivative Assets | | | | | | | |
| Exchange-cleared instruments | \$ 674 | 547 | — | 1,221 | (1,075) | (89) | — |
| Physical forward contracts | — | 39 | 4 | 43 | — | — | 43 |
| Interest rate derivatives | — | 15 | — | 15 | — | — | 15 |
| Rabbi trust assets | 104 | — | — | 104 | N/A | N/A | 104 |
| | \$ 778 | 601 | 4 | 1,383 | (1,075) | (89) | 219 |
| Commodity Derivative Liabilities | | | | | | | |
| Exchange-cleared instruments | \$ 605 | 472 | — | 1,077 | (1,075) | — | 2 |
| Physical forward contracts | — | 20 | — | 20 | — | — | 20 |
| OTC instruments | — | 3 | — | 3 | — | — | 3 |
| Floating-rate debt | — | 1,200 | — | 1,200 | N/A | N/A | 1,200 |
| Fixed-rate debt, excluding finance leases | — | 9,727 | — | 9,727 | N/A | N/A | 49 |
| | \$ 605 | 11,422 | — | 12,027 | (1,075) | — | 49 |
| | | | | | | | 11,001 |

The rabbi trust assets are recorded in the “Investments and long-term receivables” line item, and floating-rate and fixed-rate debt are recorded in the “Short-term debt” and “Long-term debt” line items on our consolidated balance sheet. See Note 15—Derivatives and Financial Instruments, for information regarding where the assets and liabilities related to our commodity and interest rate derivatives are recorded on our consolidated balance sheet.

Nonrecurring Fair Value Measurements

The nonrecurring fair value measurement used to record an impairment of our DCP Midstream investment in 2019 consisted of two valuations:

- The fair value of our share of DCP Midstream’s limited partner interest in DCP Partners was estimated based on an average market price of DCP Partners’ common units for a 20-day trading period encompassing September 30, 2019.
- The fair value of our share of DCP Midstream’s general partner interest in DCP Partners was estimated using two primary inputs: 1) estimated future cash distributions from DCP Partners attributable to the IDRs, and 2) a multiple of those cash flows based on internal estimates and observation of IDR conversion transactions by other master limited partnerships.

Taken together, we concluded the two valuations above resulted in an overall Level 3 nonrecurring fair value measurement. See Note 7—Investments, Loans and Long-Term Receivables, for additional information on the impairment.

For the year ended December 31, 2018, there were no material nonrecurring fair value measurements of assets subsequent to their initial recognition.

Note 17—Equity

Preferred Stock

We have 500 million shares of preferred stock authorized, with a par value of \$0.01 per share, none of which have been issued.

Treasury Stock

Since July 2012, our Board of Directors has, at various times, authorized repurchases of our outstanding common stock under our share repurchase programs. The shares are repurchased from time to time in the open market at the company's discretion, subject to market conditions and other factors, and in accordance with applicable regulatory requirements. We are not obligated to acquire any particular amount of common stock and may commence, suspend or discontinue purchases at any time or from time to time without prior notice.

On October 4, 2019, our Board of Directors approved a new share repurchase program that authorizes us to repurchase up to \$3 billion of our common stock, bringing the total amount of share repurchases authorized by our Board of Directors since July 2012 to an aggregate of \$15 billion. Since the inception of our share repurchase programs in 2012 through December 31, 2019, we have repurchased a total of 153,968,191 shares at an aggregate cost of \$12 billion.

In February 2018, we entered into a Stock Purchase and Sale Agreement (Purchase Agreement) with Berkshire Hathaway Inc. and National Indemnity Company, a wholly owned subsidiary of Berkshire Hathaway, to repurchase 35,000,000 shares of Phillips 66 common stock for an aggregate purchase price of \$3,280 million. Pursuant to the Purchase Agreement, the purchase price per share of \$93.725 was based on the volume-weighted-average price of our common stock on the New York Stock Exchange on February 13, 2018. The transaction closed in February 2018. We funded the repurchase with cash of \$1,880 million and borrowings of \$1,400 million under our commercial paper program. These borrowings were subsequently refinanced through a public offering of senior notes. This specific share repurchase transaction was separately authorized by our Board of Directors and therefore did not impact previously announced authorizations under our share repurchase programs.

In 2014, we completed the exchange of our flow improver business for shares of Phillips 66 common stock owned by the other party to the transaction. We received 17,422,615 shares of our common stock with a fair value at the time of the exchange of \$1,350 million. This specific share repurchase transaction was also separately authorized by our Board of Directors and therefore did not impact previously announced authorizations under our share repurchase programs.

Common Stock Dividends

On February 5, 2020, our Board of Directors declared a quarterly cash dividend of \$0.90 per common share, payable March 2, 2020, to holders of record at the close of business on February 18, 2020.

Noncontrolling Interests

Our noncontrolling interests primarily represent issuances of common and preferred units to the public by Phillips 66 Partners. See Note 27—Phillips 66 Partners LP, for information on Phillips 66 Partners.

Note 18—Leases

We lease marine vessels, tugboats, barges, pipelines, storage tanks, railcars, service station sites, office buildings, corporate aircraft, land and other facilities and equipment. In determining whether an agreement contains a lease, we consider our ability to control the asset and whether third-party participation or vendor substitution rights limit our control. Certain leases include escalation clauses for adjusting rental payments to reflect changes in price indices, as well as renewal options and/or options to purchase the leased property. Renewal options have been included only when reasonably certain of exercise. There are no significant restrictions imposed on us in our lease agreements with regards to dividend payments, asset dispositions or borrowing ability. Certain leases have residual value guarantees, which may require additional payments at the end of the lease term if future fair values decline below contractual lease balances.

In our implementation of ASU No. 2016-02, we elected to discount lease obligations using our incremental borrowing rate. Furthermore, we elected to separate costs for lease and service components for contracts involving the following asset types: marine vessels, tugboats, barges and consignment service stations. For these contracts, we allocate the consideration payable between the lease and service components using the relative standalone prices of each component. For contracts involving all other asset types, we elected the practical expedient to account for the lease and service components on a combined basis. Our right of way agreements in effect prior to January 1, 2019, were not accounted for as leases as they were not initially determined to be leases at their commencement dates. However, modifications to these agreements or new agreements will be assessed and accounted for accordingly under ASU No. 2016-02. For short-term leases, which are leases that, at the commencement date, have a lease term of 12 months or less and do not include an option to purchase the underlying asset that is reasonably certain to exercise, we elected to not recognize the ROU asset and corresponding lease liability on our consolidated balance sheet.

The following table indicates the consolidated balance sheet line items that include the ROU assets and lease liabilities for our finance and operating leases:

| | Millions of Dollars | |
|--|---------------------|------------------|
| | December 31, 2019 | |
| | Finance Leases | Operating Leases |
| Right-of-Use Assets | | |
| Net properties, plants and equipment | \$ 284 | — |
| Other assets | — | 1,312 |
| Total right-of-use assets | \$ 284 | 1,312 |
| Lease Liabilities | | |
| Short-term debt | \$ 18 | — |
| Other accruals | — | 455 |
| Long-term debt | 259 | — |
| Other liabilities and deferred credits | — | 806 |
| Total lease liabilities | \$ 277 | 1,261 |

Future minimum lease payments at December 31, 2019, for finance and operating lease liabilities were:

| | Millions of Dollars | |
|---|---------------------|------------------|
| | Finance Leases | Operating Leases |
| 2020 | \$ 26 | 488 |
| 2021 | 25 | 260 |
| 2022 | 23 | 167 |
| 2023 | 23 | 111 |
| 2024 | 23 | 84 |
| Remaining years | 243 | 299 |
| Future minimum lease payments | 363 | 1,409 |
| Amount representing interest or discounts | (86) | (148) |
| Total lease liabilities | \$ 277 | 1,261 |

Our finance lease liabilities relate primarily to consignment agreements with United and an oil terminal in the United Kingdom. The lease liability for the oil terminal finance lease is subject to foreign currency translation adjustments each reporting period.

Components of net lease cost for the year ended December 31, 2019, were:

| | Millions of Dollars | |
|-------------------------------------|---------------------|------|
| Finance lease cost | | |
| Amortization of right-of-use assets | \$ | 20 |
| Interest on lease liabilities | | 6 |
| Total finance lease cost | | 26 |
| Operating lease cost | | 531 |
| Short-term lease cost | | 118 |
| Variable lease cost | | 12 |
| Sublease income | | (16) |
| Total net lease cost | \$ | 671 |

Cash paid for amounts included in the measurement of our lease liabilities for the year ended December 31, 2019, was:

| | Millions of Dollars | |
|--|---------------------|-----|
| Operating cash outflows—finance leases | \$ | 6 |
| Operating cash outflows—operating leases | | 553 |
| Financing cash outflows—finance leases | | 21 |

During the year ended December 31, 2019, we recorded additional noncash ROU assets and corresponding operating lease liabilities totaling \$342 million related to new and modified lease agreements.

At December 31, 2019, the weighted-average remaining lease terms and discount rates for our lease liabilities were:

| | |
|--|------|
| Weighted-average remaining lease term—finance leases (years) | 11.1 |
| Weighted-average remaining lease term—operating leases (years) | 5.6 |
| Weighted-average discount rate—finance leases | 3.1% |
| Weighted-average discount rate—operating leases | 3.8% |

Note 19—Pension and Postretirement Plans

The following table provides a reconciliation of the projected benefit obligations and plan assets for our pension plans and accumulated benefit obligations for our other postretirement benefit plans:

| | Millions of Dollars | | | | | |
|--|---------------------|--------------|--------------|--------------|----------------|--------------|
| | Pension Benefits | | | | Other Benefits | |
| | 2019 | | 2018 | | 2019 | 2018 |
| | U.S. | Int'l. | U.S. | Int'l. | | |
| Change in Benefit Obligations | | | | | | |
| Benefit obligations at January 1 | \$ 2,730 | 1,007 | 3,043 | 1,209 | 220 | 232 |
| Service cost | 127 | 23 | 136 | 29 | 5 | 6 |
| Interest cost | 109 | 26 | 104 | 28 | 9 | 7 |
| Plan participant contributions | — | 2 | — | 2 | 5 | 4 |
| Plan amendments | — | — | — | — | (2) | — |
| Net actuarial loss (gain) | 380 | 186 | (167) | (165) | 6 | (9) |
| Benefits paid | (198) | (31) | (386) | (27) | (17) | (20) |
| Curtailment gain | — | — | — | (5) | — | — |
| Foreign currency exchange rate change | — | 15 | — | (64) | — | — |
| Benefit obligations at December 31 | \$ 3,148 | 1,228 | 2,730 | 1,007 | 226 | 220 |
| Change in Fair Value of Plan Assets | | | | | | |
| Fair value of plan assets at January 1 | \$ 2,377 | 902 | 2,751 | 972 | — | — |
| Actual return on plan assets | 478 | 121 | (122) | (29) | — | — |
| Company contributions | 45 | 28 | 134 | 34 | 12 | 16 |
| Plan participant contributions | — | 2 | — | 2 | 5 | 4 |
| Benefits paid | (198) | (31) | (386) | (27) | (17) | (20) |
| Foreign currency exchange rate change | — | 24 | — | (50) | — | — |
| Fair value of plan assets at December 31 | \$ 2,702 | 1,046 | 2,377 | 902 | — | — |
| Funded Status at December 31 | \$ (446) | (182) | (353) | (105) | (226) | (220) |

Amounts recognized in the consolidated balance sheet for our pension and other postretirement benefit plans at December 31 include:

| | Millions of Dollars | | | | | |
|---|---------------------|--------|-------|--------|----------------|--------|
| | Pension Benefits | | | | Other Benefits | |
| | 2019 | | 2018 | | 2019 | |
| | U.S. | Int'l. | U.S. | Int'l. | U.S. | Int'l. |
| Amounts Recognized in the Consolidated Balance Sheet | | | | | | |
| Noncurrent assets | \$ — | 29 | — | 78 | — | — |
| Current liabilities | (25) | — | (25) | — | (15) | (16) |
| Noncurrent liabilities | (421) | (211) | (328) | (183) | (211) | (204) |
| Total recognized | \$ (446) | (182) | (353) | (105) | (226) | (220) |

Included in accumulated other comprehensive loss at December 31 were the following pre-tax amounts that had not been recognized in net periodic benefit cost:

| | Millions of Dollars | | | | | |
|--|---------------------|--------|------|--------|----------------|--------|
| | Pension Benefits | | | | Other Benefits | |
| | 2019 | | 2018 | | 2019 | |
| | U.S. | Int'l. | U.S. | Int'l. | U.S. | Int'l. |
| Unrecognized net actuarial loss (gain) | \$ 523 | 164 | 539 | 64 | — | (8) |
| Unrecognized prior service credit | — | (2) | — | (3) | (6) | (6) |

Other changes in plan assets and benefit obligations recognized in other comprehensive income (loss):

| | Millions of Dollars | | | | | |
|---|---------------------|--------|-------|--------|----------------|--------|
| | Pension Benefits | | | | Other Benefits | |
| | 2019 | | 2018 | | 2019 | |
| | U.S. | Int'l. | U.S. | Int'l. | U.S. | Int'l. |
| Sources of Change in Other Comprehensive Income (Loss) | | | | | | |
| Net actuarial gain (loss) arising during the period | \$ (45) | (106) | (125) | 102 | (7) | 9 |
| Curtailment gain | — | — | — | 5 | — | — |
| Amortization of net actuarial loss (gain) and settlements | 61 | 6 | 131 | 19 | (1) | — |
| Prior service credit arising during the period | — | — | — | — | 2 | — |
| Amortization of prior service credit | — | (1) | — | (1) | (2) | (1) |
| Total recognized in other comprehensive income (loss) | \$ 16 | (101) | 6 | 125 | (8) | 8 |

The accumulated benefit obligations for all U.S. and international pension plans were \$2,855 million and \$1,068 million, respectively, at December 31, 2019, and \$2,466 million and \$878 million, respectively, at December 31, 2018.

Information for U.S. and international pension plans with an accumulated benefit obligation in excess of plan assets at December 31 were:

| | Millions of Dollars | | | |
|---------------------------------|---------------------|--------|------|--------|
| | Pension Benefits | | | |
| | 2019 | | 2018 | |
| | U.S. | Int'l. | U.S. | Int'l. |
| Accumulated benefit obligations | \$ 2,855 | 396 | 123 | 345 |
| Fair value of plan assets | 2,702 | 207 | — | 182 |

Information for U.S. and international pension plans with a projected benefit obligation in excess of plan assets at December 31 were:

| | Millions of Dollars | | | |
|-------------------------------|---------------------|--------|-------|--------|
| | Pension Benefits | | | |
| | 2019 | | 2018 | |
| | U.S. | Int'l. | U.S. | Int'l. |
| Projected benefit obligations | \$ 3,148 | 419 | 2,730 | 365 |
| Fair value of plan assets | 2,702 | 207 | 2,377 | 182 |

Components of net periodic benefit cost for all defined benefit plans are presented in the table below:

| Components of Net Periodic Benefit Cost | Millions of Dollars | | | | | | | | |
|---|---------------------|--------|-------|--------|-------|--------|----------------|--------|------|
| | Pension Benefits | | | | | | Other Benefits | | |
| | 2019 | | 2018 | | 2017 | | 2019 | | 2018 |
| | U.S. | Int'l. | U.S. | Int'l. | U.S. | Int'l. | U.S. | Int'l. | 2017 |
| Service cost | \$ 127 | 23 | 136 | 29 | 132 | 32 | 5 | 6 | 6 |
| Interest cost | 109 | 26 | 104 | 28 | 108 | 27 | 9 | 7 | 8 |
| Expected return on plan assets | (143) | (44) | (169) | (46) | (146) | (40) | — | — | — |
| Amortization of prior service cost (credit) | — | (1) | — | (1) | 3 | (1) | (2) | (1) | (2) |
| Amortization of net actuarial loss (gain) | 53 | 6 | 59 | 19 | 70 | 23 | (1) | — | — |
| Settlements | 8 | — | 72 | — | 83 | — | — | — | — |
| Total net periodic benefit cost* | \$ 154 | 10 | 202 | 29 | 250 | 41 | 11 | 12 | 12 |

* Included in the "Operating expenses" and "Selling, general and administrative expenses" line items on our consolidated statement of income.

In determining net periodic benefit cost, we amortize prior service costs on a straight-line basis over the average remaining service period of employees expected to receive benefits under the plan. For net actuarial gains and losses, we amortize 10% of the unamortized balance each year. The amount subject to amortization is determined on a plan-by-plan basis.

The following weighted-average assumptions were used to determine benefit obligations and net periodic benefit costs for years ended December 31:

| | Pension Benefits | | | | Other Benefits | |
|---|------------------|-------------|------|--------|----------------|------|
| | 2019 | | 2018 | | 2019 | 2018 |
| | U.S. | Int'l. | U.S. | Int'l. | | |
| Assumptions Used to Determine Benefit Obligations: | | | | | | |
| Discount rate | 3.30% | 1.81 | 4.30 | 2.59 | 3.05 | 4.15 |
| Rate of compensation increase | 4.00 | 3.34 | 4.00 | 3.34 | — | — |
| Interest crediting rate on cash balance plan | 2.70 | — | 3.25 | — | — | — |
| Assumptions Used to Determine Net Periodic Benefit Cost: | | | | | | |
| Discount rate | 4.30% | 2.59 | 3.60 | 2.36 | 4.15 | 3.35 |
| Expected return on plan assets | 6.50 | 4.93 | 6.50 | 4.78 | — | — |
| Rate of compensation increase | 4.00 | 3.34 | 4.00 | 3.74 | — | — |
| Interest crediting rate on cash balance plan | 3.25 | — | 3.00 | — | — | — |

For both U.S. and international pension plans, the overall expected long-term rate of return is developed from the expected future return of each asset class, weighted by the expected allocation of pension assets to that asset class. We rely on a variety of independent market forecasts in developing the expected rate of return for each class of assets.

For the year ended December 31, 2019, actuarial losses resulted in increases in our U.S. and international pension benefit obligations of \$380 million and \$186 million, respectively. The primary drivers for the actuarial losses were decreases in the discount rates and changes to the census data demographics. For the year ended December 31, 2018, actuarial gains resulted in decreases in our U.S. and international pension benefit obligations of \$167 million and \$165 million, respectively. The primary drivers for the actuarial gains were increases in the discount rates and changes to the census data demographics.

For the year ended December 31, 2019, the weighted-average actual return on plan assets for our U.S. pension plans was 20%, which resulted in a \$478 million increase in plan assets. For the year ended December 31, 2018, the weighted-average actual return on plan assets for our U.S. pension plans was negative 4%, which resulted in a \$122 million reduction in plan assets. The primary driver of the return on plan assets in 2019 and 2018 was fluctuations in the equity and fixed income markets.

Our other postretirement benefit plans for health insurance are contributory. Effective December 31, 2012, we terminated the subsidy for retiree medical plans. Since January 1, 2013, eligible employees have been able to utilize notional amounts credited to an account during their period of service with the company to pay all, or a portion, of their cost to participate in postretirement health insurance through the company. In general, employees hired after December 31, 2012, will not receive credits to an account, but will have unsubsidized access to health insurance through the plan. The cost of health insurance will be adjusted annually by the company's actuary to reflect actual experience and expected health care cost trends. The measurement of the accumulated benefit obligation assumes a health care cost trend rate of 6.75% in 2020 that declines to 5.00% by 2027.

Plan Assets

The investment strategy for managing pension plan assets is to seek a reasonable rate of return relative to an appropriate level of risk and provide adequate liquidity for benefit payments and portfolio management. We follow a policy of diversifying pension plan assets across asset classes, investment managers, and individual holdings. As a result, our plan assets have no significant concentrations of credit risk. Asset classes that are considered appropriate include equities, fixed income, cash, real estate, infrastructure and insurance contracts. Plan fiduciaries may consider and add other asset classes to the investment program from time to time. The target allocations for plan assets are approximately 43% equity securities, 41% debt securities, 8% real estate investments and 8% in all other types of investments as of December 31, 2019. Generally, the investments in the plans are publicly traded, therefore minimizing the liquidity risk in the portfolio.

The following is a description of the valuation methodologies used for the pension plan assets.

- Fair values of equity securities and government debt securities are based on quoted market prices.
- Fair values of corporate debt securities are estimated using recently executed transactions and market price quotations. If there have been no market transactions in a particular fixed income security, its fair value is calculated by pricing models that benchmark the security against other securities with actual market prices.
- Cash and cash equivalents are valued at cost, which approximates fair value.
- Fair values of insurance contracts are valued at the present value of the future benefit payments owed by the insurance company to the plans' participants.
- Fair values of investments in common/collective trusts and real estate funds are valued at the net asset value (NAV) as a practical expedient. The NAV is based on the underlying net assets owned by the fund and the relative interest of each participating investor in the fair value of the underlying assets. These investments valued at NAV are not classified within the fair value hierarchy, but are presented in the fair value table to permit reconciliation of total plan assets to the amounts presented in the notes to consolidated financial statements.

The fair values of our pension plan assets at December 31, by asset class, were:

| | Millions of Dollars | | | | | | | |
|--|---------------------|------------|----------|--------------|---------------|----------|-----------|--------------|
| | U.S. | | | | International | | | |
| | Level 1 | Level 2 | Level 3 | Total | Level 1 | Level 2 | Level 3 | Total |
| 2019 | | | | | | | | |
| Equity securities | \$ 437 | — | — | 437 | — | — | — | — |
| Government debt securities | 475 | — | — | 475 | — | — | — | — |
| Corporate debt securities | — | 134 | — | 134 | — | — | — | — |
| Cash and cash equivalents | 136 | — | — | 136 | 4 | — | — | 4 |
| Insurance contracts | — | — | — | — | — | — | 14 | 14 |
| Total assets in the fair value hierarchy | 1,048 | 134 | — | 1,182 | 4 | — | 14 | 18 |
| Common/collective trusts measured at NAV | | | | 1,364 | | | | 938 |
| Real estate funds measured at NAV | | | | 156 | | | | 90 |
| Total | \$ 1,048 | 134 | — | 2,702 | 4 | — | 14 | 1,046 |

| | Millions of Dollars | | | | | | | |
|--|---------------------|------------|----------|--------------|---------------|----------|-----------|------------|
| | U.S. | | | | International | | | |
| | Level 1 | Level 2 | Level 3 | Total | Level 1 | Level 2 | Level 3 | Total |
| 2018 | | | | | | | | |
| Equity securities | \$ 421 | — | — | 421 | — | — | — | — |
| Government debt securities | 610 | — | — | 610 | — | — | — | — |
| Corporate debt securities | — | 129 | — | 129 | — | — | — | — |
| Cash and cash equivalents | 50 | — | — | 50 | 7 | — | — | 7 |
| Insurance contracts | — | — | — | — | — | — | 14 | 14 |
| Total assets in the fair value hierarchy | 1,081 | 129 | — | 1,210 | 7 | — | 14 | 21 |
| Common/collective trusts measured at NAV | | | | 1,048 | | | | 873 |
| Real estate funds measured at NAV | | | | 119 | | | | 8 |
| Total | \$ 1,081 | 129 | — | 2,377 | 7 | — | 14 | 902 |

Our funding policy for U.S. plans is to contribute at least the minimum required by the Employee Retirement Income Security Act of 1974 and the Internal Revenue Code of 1986, as amended. Contributions to international plans are subject to local laws and tax regulations. Actual contribution amounts are dependent upon plan asset returns, changes in pension obligations, regulatory environments, and other economic factors. In 2020, we expect to contribute approximately \$50 million to our U.S. pension plans and other postretirement benefit plans and \$25 million to our international pension plans.

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid to plan participants in the years indicated:

| | Millions of Dollars | | |
|-----------|---------------------|--------|----------------|
| | Pension Benefits | | Other Benefits |
| | U.S. | Int'l. | |
| 2020 | \$ 538 | 21 | 26 |
| 2021 | 309 | 23 | 27 |
| 2022 | 320 | 25 | 27 |
| 2023 | 284 | 27 | 26 |
| 2024 | 289 | 29 | 24 |
| 2025-2029 | 1,198 | 176 | 96 |

Defined Contribution Plans

Most U.S. employees are eligible to participate in the Phillips 66 Savings Plan (Savings Plan). Employees can contribute up to 75% of their eligible pay, subject to certain statutory limits, in the Savings Plan to a choice of investment funds. Phillips 66 provides a company match of participant contributions up to 6% of eligible pay. Prior to January 1, 2019, the match was up to 5% of eligible pay. In addition, eligible participants receive an additional discretionary Success Share contribution from the company. The target for the Success Share contribution is 2% of eligible pay, but the Success Share contribution can range from 0% to 6% based on management discretion.

For the years ended December 31, 2019, 2018 and 2017, we recorded expense of \$192 million, \$178 million and \$101 million, respectively, related to our contributions to the Savings Plan.

Note 20—Share-Based Compensation Plans

In accordance with the Employee Matters Agreement related to the Separation, compensation awards based on ConocoPhillips stock and granted before April 30, 2012 (the Separation Date) were converted to compensation awards based on both ConocoPhillips and Phillips 66 stock if, on the Separation Date, the awards were: (1) options outstanding and exercisable; or (2) restricted stock or restricted stock units (RSUs) awarded for completed performance periods under the ConocoPhillips Performance Share Program. Phillips 66 restricted stock, RSUs and options issued in this conversion became subject to the “Omnibus Stock and Performance Incentive Plan of Phillips 66” (the 2012 Plan) on the Separation Date, whether held by grantees working for Phillips 66 or grantees that remained employees of ConocoPhillips. Some of these awards based on Phillips 66 stock and held by employees of ConocoPhillips are outstanding and appear in the activity tables for the Stock Option and the Performance Share Programs presented later in this footnote.

In May 2013, shareholders approved the 2013 Omnibus Stock and Performance Incentive Plan of Phillips 66 (the P66 Omnibus Plan). Subsequent to this approval, all new share-based awards are granted under the P66 Omnibus Plan, which authorizes the Human Resources and Compensation Committee (HRCC) of our Board of Directors to grant stock options, stock appreciation rights, stock awards (including restricted stock and RSU awards), cash awards, and performance awards to our employees, nonemployee directors and other plan participants. The number of new shares that may be issued under the P66 Omnibus Plan to settle share-based awards may not exceed 45 million.

We recognize share-based compensation expense over the shorter of: (1) the service period (i.e., the stated period of time required to earn the award); or (2) the period beginning at the start of the service period and ending when an employee first becomes eligible for retirement, but not less than six months as this is the minimum period of time required for an award not to be subject to forfeiture. Our equity-classified programs generally provide accelerated vesting (i.e., a waiver of the remaining period of service required to earn an award) for awards held by employees at the time they become eligible for retirement (at age 55 with 5 years of service). We have elected to recognize expense on a straight-line basis over the service period for the entire award, irrespective of whether the award was granted with ratable or cliff vesting, and have elected to recognize forfeitures of awards when they occur.

Total share-based compensation expense recognized in income and the associated income tax benefit for the years ended December 31 were:

| | Millions of Dollars | | |
|----------------------------------|---------------------|------|------|
| | 2019 | 2018 | 2017 |
| Share-based compensation expense | \$ 169 | 100 | 142 |
| Income tax benefit | (53) | (45) | (74) |

Stock Options

Stock options granted under the provisions of the P66 Omnibus Plan and earlier plans permit purchases of our common stock at exercise prices equivalent to the average of the high and low market price of our stock on the date the options were granted. The options have terms of 10 years and vest ratably, with one-third of the options becoming exercisable on each anniversary date for the three years following the date of grant. Options awarded to employees eligible for retirement are not subject to forfeiture six months after the grant date.

The following table summarizes our stock option activity from January 1, 2019, to December 31, 2019:

| | Options | Weighted-Average Exercise Price | Weighted-Average Grant-Date Fair Value | Aggregate Intrinsic Value | Millions of Dollars |
|---|------------------|---------------------------------|--|---------------------------|---------------------|
| Outstanding at January 1, 2019 | 4,752,808 | \$ 63.11 | | | |
| Granted | 830,900 | 94.97 | \$ 17.58 | | |
| Forfeited | (553) | 94.85 | | | |
| Exercised | (803,751) | 39.90 | | \$ 51 | |
| Outstanding at December 31, 2019 | 4,779,404 | \$ 72.55 | | | |
| Vested at December 31, 2019 | 3,603,296 | \$ 65.69 | | \$ 162 | |
| Exercisable at December 31, 2019 | 3,267,111 | \$ 63.57 | | \$ 154 | |

The weighted-average remaining contractual terms of vested options and exercisable options at December 31, 2019, were 4.83 years and 4.49 years, respectively. During 2019, we received \$32 million in cash and realized an income tax benefit of \$6 million from the exercise of options. At December 31, 2019, the remaining unrecognized compensation expense from unvested options was \$6 million, which will be recognized over a weighted-average period of 21 months, the longest period being 25 months. The calculations of realized income tax benefits and weighted-average periods include awards based on both Phillips 66 and ConocoPhillips stock held by Phillips 66 employees.

During 2018 and 2017, we granted options with a weighted-average grant-date fair value of \$20.69 and \$16.95, respectively. During 2018 and 2017, employees exercised options with an aggregate intrinsic value of \$37 million and \$62 million, respectively.

The following table provides the significant assumptions used to calculate the grant-date fair values of options granted over the years shown below, as calculated using the Black-Scholes-Merton option-pricing model:

| | 2019 | 2018 | 2017 |
|-------------------------|--------|-------|-------|
| Risk-free interest rate | 2.68% | 2.81 | 2.28 |
| Dividend yield | 3.70% | 2.80 | 2.90 |
| Volatility factor | 25.61% | 25.41 | 26.91 |
| Expected life (years) | 7.06 | 7.18 | 7.22 |

We calculate the volatility factor using historical Phillips 66 end-of-week closing stock prices since the Separation Date. We periodically calculate the average period of time elapsed between grant dates and exercise dates of past grants to estimate the expected life of new option grants.

Restricted Stock Units

Generally, RSUs are granted annually under the provisions of the P66 Omnibus Plan and cliff vest at the end of three years. The grant date fair value is equal to the average of the high and low market price of our stock on the grant date. The recipients receive a quarterly dividend equivalent cash payment until the RSU is settled by issuing one share of our common stock for each RSU at the end of the service period. RSUs granted to retirement-eligible employees are not subject to forfeiture six months after the grant date. Special RSUs are granted to attract or retain key personnel and the terms and conditions may vary by award.

The following table summarizes our RSU activity from January 1, 2019, to December 31, 2019:

| | Stock Units | Weighted-Average Grant-Date Fair Value | Total Fair Value | <u>Millions of Dollars</u> |
|---|------------------|--|------------------|----------------------------|
| Outstanding at January 1, 2019 | 2,259,829 | \$ 84.52 | | |
| Granted | 1,001,899 | 95.16 | | |
| Forfeited | (50,192) | 95.21 | | |
| Issued | (836,952) | 79.73 | \$ 80 | |
| Outstanding at December 31, 2019 | 2,374,584 | \$ 90.47 | | |
| Not Vested at December 31, 2019 | 1,619,720 | \$ 91.04 | | |

At December 31, 2019, the remaining unrecognized compensation cost from unvested RSU awards was \$64 million, which will be recognized over a weighted-average period of 22 months, the longest period being 35 months.

During 2018 and 2017, we granted RSUs with a weighted-average grant-date fair value of \$96.16 and \$78.49, respectively. During 2018 and 2017, we issued shares with an aggregate fair value of \$102 million and \$85 million, respectively, to settle RSUs.

Performance Share Units

Under the P66 Omnibus Plan, we annually grant to senior management restricted performance share units (PSUs) with three-year performance periods that vest when the HRCC approves the three-year performance results on the grant date. PSUs granted under the P66 Omnibus Plan are classified as liability awards and compensation expense is recognized beginning on the authorization date and ending on the vesting date.

PSUs granted under the P66 Omnibus Plan are settled by cash payments equal to the fair value of the awards, which is based on the market prices of our stock near the end of the performance periods. The HRCC must approve the three-year performance results prior to payout. Dividend equivalents are not paid on these awards.

PSUs granted under prior incentive compensation plans were classified as equity awards. These equity awards are settled upon an employee's retirement by issuing one share of our common stock for each PSU held. Dividend equivalents are paid on these awards.

The following table summarizes our PSU activity from January 1, 2019, to December 31, 2019:

| | Performance Share Units | Weighted-Average Grant-Date Fair Value | Total Fair Value | Millions of Dollars |
|--|-------------------------|--|------------------|---------------------|
| Outstanding at January 1, 2019 | 1,902,502 | \$ 49.52 | | |
| Granted | 287,914 | 87.42 | | |
| Forfeited | — | — | | |
| Issued | (461,942) | 59.12 | \$ 44 | |
| Cash settled | (287,914) | 87.42 | 25 | |
| Outstanding at December 31, 2019 | 1,440,560 | \$ 46.44 | | |
| Not Vested at December 31, 2019 | 73,271 | \$ 69.63 | | |

At December 31, 2019, the remaining unrecognized compensation cost from unvested PSU awards was \$0.1 million, which will be recognized over a weighted-average period of 13 months, with the longest period being 3 years. The calculations of unamortized expense and weighted-average periods include awards based on both Phillips 66 and ConocoPhillips stock held by Phillips 66 employees.

During 2018 and 2017, we granted PSUs with a weighted-average grant-date fair value of \$99.74 and \$86.88, respectively. During 2018 and 2017, we issued shares with an aggregate fair value of \$70 million and \$54 million, respectively, to settle PSUs. During 2018 and 2017, we cash settled PSUs with an aggregate fair value of \$49 million and \$56 million, respectively.

Note 21—Income Taxes

In December 2017, the U.S. government enacted comprehensive income tax legislation, referred to as the Tax Cuts and Jobs Act (the Tax Act). The material provisions of the Tax Act i) reduced the U.S. federal corporate income tax rate from 35% to 21% beginning January 1, 2018, ii) required companies to reflect on their 2017 corporate income tax return a liability for a one-time deemed repatriation tax on foreign-sourced earnings that were previously tax deferred, and iii) created a new tax regime for post-2017 foreign-sourced earnings.

To account for the reduction in the U.S. federal corporate income tax rate, we remeasured our deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future, generally 21%, which resulted in the recognition of a provisional deferred tax benefit of \$2,870 million in the year ended December 31, 2017. To account for the one-time deemed repatriation income tax, we calculated our provisional liability in accordance with the Tax Act and considered previously accrued current and deferred tax liabilities on undistributed earnings of our foreign subsidiaries and foreign joint ventures. The effects of the one-time deemed repatriation tax resulted in the recognition of a provisional income tax expense of \$149 million in the year ended December 31, 2017.

During the year ended December 31, 2018, we recorded adjustments to finalize our accounting for the income tax effects of the Tax Act, which increased our income tax expense by \$36 million. The adjustments were primarily due to the revision of our estimated deferred income tax balances in conjunction with the filing of our 2017 income tax return and the issuance of additional guidance by the U.S. Internal Revenue Service related to the calculation of the one-time deemed repatriation tax.

During the year ended December 31, 2019, we recorded adjustments to the one-time deemed repatriation tax, which decreased our income tax expense by \$42 million. The adjustments were due to the issuance of additional guidance by the U.S. Internal Revenue Service.

Components of income tax expense (benefit) were:

| | Millions of Dollars | | |
|-------------------------------------|---------------------|-------|---------|
| | 2019 | 2018 | 2017 |
| Income Tax Expense (Benefit) | | | |
| Federal | | | |
| Current | \$ 354 | 739 | 9 |
| Deferred | 177 | 257 | (1,960) |
| Foreign | | | |
| Current | 204 | 326 | 126 |
| Deferred | (50) | 53 | 3 |
| State and local | | | |
| Current | 61 | 255 | 61 |
| Deferred | 55 | (58) | 68 |
| | \$ 801 | 1,572 | (1,693) |

Deferred income taxes reflect the net tax effect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for tax purposes. Major components of deferred tax liabilities and assets at December 31 were:

| | Millions of Dollars | |
|--|---------------------|-------|
| | 2019 | 2018 |
| Deferred Tax Liabilities | | |
| Properties, plants and equipment, and intangibles | \$ 3,297 | 3,074 |
| Investment in joint ventures | 2,137 | 2,041 |
| Investment in subsidiaries | 794 | 602 |
| Inventory | — | 66 |
| Other | 263 | 14 |
| Total deferred tax liabilities | 6,491 | 5,797 |
| Deferred Tax Assets | | |
| Benefit plan accruals | 460 | 395 |
| Asset retirement obligations and accrued environmental costs | 115 | 109 |
| Loss and credit carryforwards | 54 | 59 |
| Other financial accruals and deferrals | 70 | 16 |
| Inventory | 28 | — |
| Other | 281 | — |
| Total deferred tax assets | 1,008 | 579 |
| Less: valuation allowance | 22 | 8 |
| Net deferred tax assets | 986 | 571 |
| Net deferred tax liabilities | \$ 5,505 | 5,226 |

At December 31, 2019, the loss and credit carryforward deferred tax assets were primarily related to a German interest deduction carryforward of \$33 million, a foreign tax credit carryforward in the United States of \$15 million, and capital loss and net operating loss carryforwards in the United Kingdom of \$5 million. Foreign tax credit carryforwards, which have a full valuation allowance against them, expire in 2029. The other loss and credit carryforwards, all of which relate to foreign operations, have indefinite lives.

Valuation allowances have been established to reduce deferred tax assets to an amount that will, more likely than not, be realized. During the year ended December 31, 2019, our total valuation allowance balance increased by \$14 million. Based on our historical taxable income, expectations for the future and available tax planning strategies, management expects the remaining net deferred tax assets will be realized as offsets to reversing deferred tax liabilities and the tax consequences of future taxable income.

At December 31, 2017, all undistributed earnings of our foreign subsidiaries and foreign joint ventures were included in our computation of the one-time deemed repatriation tax associated with the enactment of the Tax Act. Earnings of our foreign subsidiaries and foreign joint ventures after December 31, 2017, are generally not subject to incremental income taxes in the United States or withholding taxes in foreign countries upon repatriation. As such, we only assert that the earnings of one of our foreign subsidiaries are permanently reinvested. At December 31, 2019 and 2018, the unrecorded deferred tax liability related to the undistributed earnings of this foreign subsidiary was not material.

As a result of the Separation and pursuant to the Tax Sharing Agreement with ConocoPhillips, the unrecognized income tax benefits related to our operations for the periods for which ConocoPhillips was the taxpayer remain the responsibility of ConocoPhillips, and we have indemnified ConocoPhillips for such amounts. We file tax returns in the U.S. federal jurisdiction and in many foreign and state jurisdictions. Unrecognized tax benefits reflect the difference between positions taken on income tax returns and the amounts recognized in the financial statements. The following table is a reconciliation of the changes in our unrecognized income tax benefits balance:

| | Millions of Dollars | | |
|---|---------------------|------|------|
| | 2019 | 2018 | 2017 |
| Balance at January 1 | \$ 23 | 34 | 70 |
| Additions for tax positions of current year | 2 | — | — |
| Additions for tax positions of prior years | 29 | 1 | 1 |
| Reductions for tax positions of prior years | (14) | (2) | (5) |
| Settlements | — | (10) | (32) |
| Balance at December 31 | \$ 40 | 23 | 34 |

Included in the balance of unrecognized income tax benefits at December 31, 2019, 2018 and 2017 were \$15 million, \$1 million and \$5 million, respectively, which, if recognized, would affect our effective income tax rate. With respect to various unrecognized income tax benefits and the related accrued liabilities, we do not expect any to be recognized or paid within the next twelve months.

At December 31, 2019, 2018 and 2017, accrued liabilities for interest and penalties, net of accrued income taxes, totaled \$10 million, \$5 million and \$8 million, respectively. As a result of these accruals, net income decreased by \$3 million for the year ended December 31, 2019, and increased by \$1 million for the year ended December 31, 2017.

Audits in significant jurisdictions are generally complete as follows: United Kingdom (2017), Germany (2014) and United States (2013). Certain issues remain in dispute for audited years, and unrecognized income tax benefits for years still subject to or currently undergoing an audit are subject to change. As a consequence, the balance in unrecognized income tax benefits can be expected to fluctuate from period to period. Although it is reasonably possible such changes could be significant when compared with our total unrecognized income tax benefits, the amount of change is not estimable.

The amounts of U.S. and foreign income before income taxes, with a reconciliation of income tax at the federal statutory rate to the recorded income tax expense (benefit), were:

| | Millions of Dollars | | | Percentage of Income Before Income Taxes | | |
|---|---------------------|-------|---------|---|-------|--------|
| | 2019 | 2018 | 2017 | 2019 | 2018 | 2017 |
| Income before income taxes | | | | | | |
| United States | \$ 3,267 | 5,716 | 2,799 | 78.2% | 76.8 | 78.7 |
| Foreign | 911 | 1,729 | 756 | 21.8 | 23.2 | 21.3 |
| | \$ 4,178 | 7,445 | 3,555 | 100.0% | 100.0 | 100.0 |
| Federal statutory income tax | | | | | | |
| | \$ 877 | 1,563 | 1,244 | 21.0% | 21.0 | 35.0 |
| State income tax, net of federal benefit | | | | | | |
| | 92 | 155 | 79 | 2.2 | 2.1 | 2.2 |
| Tax Cuts and Jobs Act | | | | | | |
| | (42) | 36 | (2,721) | (1.0) | 0.5 | (76.5) |
| Foreign rate differential | | | | | | |
| | (31) | (3) | (137) | (0.7) | — | (3.9) |
| Noncontrolling interests | | | | | | |
| | (61) | (58) | (46) | (1.5) | (0.8) | (1.3) |
| Change in valuation allowance | | | | | | |
| | 14 | (20) | (4) | 0.3 | (0.3) | (0.1) |
| Other* | | | | | | |
| | (48) | (101) | (108) | (1.1) | (1.4) | (3.0) |
| | \$ 801 | 1,572 | (1,693) | 19.2% | 21.1 | (47.6) |

* Other includes individually immaterial items but is primarily attributable to foreign operations.

Income tax expense of \$123 million, \$13 million and \$81 million for the years ended December 31, 2019, 2018 and 2017, respectively, is reflected in the “Capital in Excess of Par” column on our consolidated statement of changes in equity.

Note 22—Accumulated Other Comprehensive Loss

Changes in the balances of each component of accumulated other comprehensive loss were as follows:

| | Millions of Dollars | | | |
|---|-----------------------|------------------------------|------------|--------------------------------------|
| | Defined Benefit Plans | Foreign Currency Translation | Hedging | Accumulated Other Comprehensive Loss |
| December 31, 2016 | \$ (713) | (285) | 3 | (995) |
| Other comprehensive income before reclassifications | 3 | 259 | 4 | 266 |
| Amounts reclassified from accumulated other comprehensive loss* | | | | |
| Defined benefit plans** | | | | |
| Amortization of net actuarial loss, prior service cost (credit) and settlements | 112 | — | — | 112 |
| Net current period other comprehensive income | 115 | 259 | 4 | 378 |
| December 31, 2017 | (598) | (26) | 7 | (617) |
| Other comprehensive income (loss) before reclassifications | 14 | (192) | 4 | (174) |
| Amounts reclassified from accumulated other comprehensive loss | | | | |
| Defined benefit plans** | | | | |
| Amortization of net actuarial loss, prior service credit and settlements | 112 | — | — | 112 |
| Foreign currency translation | — | (10) | — | (10) |
| Hedging | — | — | (3) | (3) |
| Net current period other comprehensive income (loss) | 126 | (202) | 1 | (75) |
| December 31, 2018 | (472) | (228) | 8 | (692) |
| Other comprehensive income (loss) before reclassifications | (140) | 95 | (5) | (50) |
| Amounts reclassified from accumulated other comprehensive loss | | | | |
| Defined benefit plans** | | | | |
| Amortization of net actuarial loss, prior service credit and settlements | 49 | — | — | 49 |
| Foreign currency translation | — | — | — | — |
| Hedging | — | — | (6) | (6) |
| Net current period other comprehensive income (loss) | (91) | 95 | (11) | (7) |
| Income taxes reclassified to retained earnings*** | (93) | 2 | 2 | (89) |
| December 31, 2019 | \$ (656) | (131) | (1) | (788) |

* There were no significant reclassifications related to foreign currency translation or hedging in the year ended December 31, 2017.

** Included in the computation of net periodic benefit cost. See Note 19—Pension and Postretirement Plans, for additional information.

*** As of January 1, 2019, stranded income taxes related to the enactment of the Tax Act in December 2017 were reclassified to retained earnings upon adoption of ASU No. 2018-02. See Note 2—Changes in Accounting Principles, for additional information on our adoption of this ASU.

Note 23—Cash Flow Information

Supplemental Cash Flow Information

| | Millions of Dollars | | |
|---------------------------------|---------------------|------|-------|
| | 2019 | 2018 | 2017 |
| Cash Payments (Receipts) | | | |
| Interest | \$ 426 | 465 | 421 |
| Income taxes* | 955 | 984 | (257) |

* 2017 reflected a net cash refund position; cash payments for income taxes were \$102 million in 2017.

Restricted Cash

At December 31, 2019, 2018 and 2017, the company did not have any restricted cash. The restrictions on the cash acquired in February 2017, as a result of the consolidation of Merey Sweeny, were fully removed in May 2017 when Merey Sweeny's outstanding debt that contained lender restrictions on the use of cash was paid in full. See Note 6—Business Combinations, for additional information regarding our consolidation of Merey Sweeny.

Note 24—Other Financial Information

| | Millions of Dollars | | |
|----------------------------------|---------------------|------|------|
| | 2019 | 2018 | 2017 |
| Interest and Debt Expense | | | |
| Incurred | | | |
| Debt | \$ 504 | 493 | 432 |
| Other | 31 | 28 | 21 |
| | 535 | 521 | 453 |
| Capitalized | (77) | (17) | (15) |
| Expensed | \$ 458 | 504 | 438 |

Other Income

| | | | |
|------------------------------------|--------|----|-----|
| Interest income | \$ 43 | 45 | 31 |
| Gain on consolidation of business* | — | — | 423 |
| Other, net** | 76 | 16 | 67 |
| | \$ 119 | 61 | 521 |

* See Note 6—Business Combinations, for more information regarding the gain recognized in 2017.

** Includes derivatives-related activities. See Note 15—Derivatives and Financial Instruments, for additional information.

| | | | |
|--|-------|----|----|
| Research and Development Expenses | \$ 54 | 55 | 60 |
|--|-------|----|----|

| | | | |
|-----------------------------|-------|----|----|
| Advertising Expenses | \$ 63 | 68 | 76 |
|-----------------------------|-------|----|----|

Foreign Currency Transaction (Gains) Losses

| | | | |
|---------------------------|------|------|-----|
| Midstream | \$ — | — | — |
| Chemicals | — | — | — |
| Refining | — | (24) | (2) |
| Marketing and Specialties | — | 1 | 1 |
| Corporate and Other | 5 | (8) | 1 |
| | \$ 5 | (31) | — |

Note 25—Related Party Transactions

Significant transactions with related parties were:

| | Millions of Dollars | | |
|---|---------------------|--------|--------|
| | 2019 | 2018 | 2017 |
| Operating revenues and other income (a) | \$ 2,977 | 3,514 | 2,596 |
| Purchases (b) | 11,726 | 12,755 | 10,468 |
| Operating expenses and selling, general and administrative expenses (c) | 96 | 59 | 79 |

- (a) We sold NGL, other petrochemical feedstocks and solvents to CPChem, NGL and certain feedstocks to DCP Midstream, gas oil and hydrogen feedstocks to Excel Paralubes (Excel), refined petroleum products to OnCue and United. We also sold certain feedstocks and intermediate products to WRB and acted as agent for WRB in supplying crude oil and other feedstocks for a fee. In addition, we charged several of our affiliates, including CPChem, for the use of common facilities, such as steam generators, waste and water treaters and warehouse facilities.
- (b) We purchased crude oil, refined petroleum products and NGL from WRB and also acted as agent for WRB in distributing solvents. We also purchased natural gas and NGL from DCP Midstream and CPChem, as well as other feedstocks from various affiliates, for use in our refinery and fractionation processes. In addition, we purchased base oils and fuel products from Excel for use in our specialty and refining businesses. We paid NGL fractionation fees to CPChem. We also paid fees to various pipeline affiliates for transporting crude oil, refined petroleum products and NGL.
- (c) We paid consignment fees to United, and utility and processing fees to various affiliates.

As discussed more fully in Note 6—Business Combinations, in February 2017, we began accounting for Merey Sweeny as a consolidated subsidiary. Accordingly, the table above only includes processing fees paid to Merey Sweeny through the consolidation date.

Note 26—Segment Disclosures and Related Information

Our operating segments are:

- 1) **Midstream**—Provides crude oil and refined petroleum product transportation, terminaling and processing services, as well as natural gas and NGL transportation, storage, fractionation, processing and marketing services, mainly in the United States. The Midstream segment includes our master limited partnership (MLP), Phillips 66 Partners, as well as our 50% equity investment in DCP Midstream.
- 2) **Chemicals**—Consists of our 50% equity investment in CPChem, which manufactures and markets petrochemicals and plastics on a worldwide basis.
- 3) **Refining**—Refines crude oil and other feedstocks into petroleum products, such as gasoline, distillates and aviation fuels, at 13 refineries in the United States and Europe.
- 4) **Marketing and Specialties**—Purchases for resale and markets refined petroleum products, mainly in the United States and Europe. In addition, this segment includes the manufacturing and marketing of specialty products.

Corporate and Other includes general corporate overhead, interest expense, our investment in new technologies and various other corporate activities. Corporate assets include all cash, cash equivalents and income tax-related assets.

Intersegment sales are at prices that we believe approximate market.

Analysis of Results by Operating Segment

| | Millions of Dollars | | |
|---|---------------------|----------|----------|
| | 2019 | 2018 | 2017* |
| Sales and Other Operating Revenues** | | | |
| Midstream | | | |
| Total sales | \$ 7,103 | 8,293 | 6,620 |
| Intersegment eliminations | (2,122) | (2,176) | (1,842) |
| Total Midstream | 4,981 | 6,117 | 4,778 |
| Chemicals | 3 | 5 | 5 |
| Refining | | | |
| Total sales | 76,792 | 83,140 | 65,494 |
| Intersegment eliminations | (45,871) | (49,343) | (40,284) |
| Total Refining | 30,921 | 33,797 | 25,210 |
| Marketing and Specialties | | | |
| Total sales | 73,616 | 73,414 | 73,565 |
| Intersegment eliminations | (2,256) | (1,899) | (1,233) |
| Total Marketing and Specialties | 71,360 | 71,515 | 72,332 |
| Corporate and Other | 28 | 27 | 29 |
| Consolidated sales and other operating revenues | \$ 107,293 | 111,461 | 102,354 |

* Sales and other operating revenues for the year ended December 31, 2017, are presented in accordance with accounting standards in effect prior to our adoption of ASU No. 2014-09 on January 1, 2018. See Note 1—Summary of Significant Accounting Policies, for further discussion regarding our adoption of ASU No. 2014-09.

** See Note 3—Sales and Other Operating Revenues, for further details on our disaggregated sales and other operating revenues.

Equity in Earnings of Affiliates

| | | | |
|---|-----------------|-------|-------|
| Midstream | \$ 754 | 676 | 454 |
| Chemicals | 870 | 1,025 | 713 |
| Refining | 318 | 796 | 322 |
| Marketing and Specialties | 185 | 164 | 243 |
| Corporate and Other | — | 15 | — |
| Consolidated equity in earnings of affiliates | \$ 2,127 | 2,676 | 1,732 |

Depreciation, Amortization and Impairments

| | | | |
|---|-----------------|-------|-------|
| Midstream | \$ 1,162 | 326 | 299 |
| Chemicals | — | — | — |
| Refining | 857 | 841 | 838 |
| Marketing and Specialties | 103 | 114 | 116 |
| Corporate and Other | 80 | 83 | 89 |
| Consolidated depreciation, amortization and impairments | \$ 2,202 | 1,364 | 1,342 |

| | Millions of Dollars | | |
|--|---------------------|--------|--------|
| | 2019 | 2018 | 2017 |
| Interest Income and Expense | | | |
| Interest income | | | |
| Midstream | \$ — | — | 1 |
| Chemicals | — | — | — |
| Refining | — | — | — |
| Marketing and Specialties | — | — | — |
| Corporate and Other | 43 | 45 | 30 |
| Consolidated interest income | \$ 43 | 45 | 31 |
| Interest and debt expense | | | |
| Corporate and Other | \$ 458 | 504 | 438 |
| Income (Loss) Before Income Taxes | | | |
| Midstream | \$ 684 | 1,181 | 638 |
| Chemicals | 879 | 1,025 | 716 |
| Refining | 1,986 | 4,535 | 2,076 |
| Marketing and Specialties | 1,433 | 1,557 | 1,020 |
| Corporate and Other | (804) | (853) | (895) |
| Consolidated income before income taxes | \$ 4,178 | 7,445 | 3,555 |
| Investments In and Advances To Affiliates | | | |
| Midstream | \$ 5,131 | 5,423 | 4,734 |
| Chemicals | 6,229 | 6,233 | 6,222 |
| Refining | 2,290 | 2,226 | 2,398 |
| Marketing and Specialties | 650 | 349 | 390 |
| Corporate and Other | — | — | — |
| Consolidated investments in and advances to affiliates | \$ 14,300 | 14,231 | 13,744 |
| Total Assets* | | | |
| Midstream | \$ 15,716 | 14,329 | 13,231 |
| Chemicals | 6,249 | 6,235 | 6,226 |
| Refining | 25,150 | 23,230 | 23,780 |
| Marketing and Specialties | 8,659 | 6,572 | 7,052 |
| Corporate and Other | 2,946 | 3,936 | 4,082 |
| Consolidated total assets | \$ 58,720 | 54,302 | 54,371 |

* 2017 segment information has been recast to include all income tax-related assets in Corporate and Other.

| | Millions of Dollars | | |
|---|---------------------|-------|-------|
| | 2019 | 2018 | 2017 |
| Capital Expenditures and Investments | | | |
| Midstream | \$ 2,292 | 1,548 | 771 |
| Chemicals | — | — | — |
| Refining | 1,001 | 826 | 853 |
| Marketing and Specialties | 374 | 125 | 108 |
| Corporate and Other | 206 | 140 | 100 |
| Consolidated capital expenditures and investments | \$ 3,873 | 2,639 | 1,832 |

Geographic Information

Long-lived assets, defined as net PP&E plus investments and long-term receivables, by geographic location at December 31 were:

| | Millions of Dollars | | |
|-------------------------|---------------------|--------|--------|
| | 2019 | 2018 | 2017 |
| United States | \$ 36,407 | 34,587 | 33,457 |
| United Kingdom | 1,256 | 1,191 | 1,254 |
| Germany | 601 | 570 | 593 |
| Other foreign countries | 93 | 91 | 97 |
| Worldwide consolidated | \$ 38,357 | 36,439 | 35,401 |

Note 27—Phillips 66 Partners LP

Phillips 66 Partners, headquartered in Houston, Texas, is a publicly traded MLP formed in 2013 to own, operate, develop and acquire primarily fee-based midstream assets. Phillips 66 Partners' operations currently consist of crude oil, refined petroleum product and NGL transportation, fractionation, processing, terminaling and storage assets.

On August 1, 2019, Phillips 66 Partners completed a restructuring transaction to eliminate the IDRs held by us and convert our 2% economic general partner interest into a noneconomic general partner interest in exchange for 101 million Phillips 66 Partners common units. As a result of the restructuring transaction, the balance of "Noncontrolling interests" in our consolidated balance sheet decreased \$373 million, with a \$275 million increase to "Capital in excess of par," a \$91 million increase in "Deferred income taxes" and \$7 million of transaction costs. No distributions were made for the general partner interest after August 1, 2019.

At December 31, 2019, we owned 170 million Phillips 66 Partners common units, representing a 74% limited partner interest in Phillips 66 Partners, while the public owned a 26% limited partner interest and 13.8 million perpetual convertible preferred units. Holders of the preferred units are entitled to receive cumulative quarterly distributions equal to \$0.678375 per unit. Beginning in October 2020, holders will be entitled to receive quarterly distributions equal to the greater of \$0.678375 per unit or the per-unit distribution paid to common unitholders.

We consolidate Phillips 66 Partners because we determined it is a VIE of which we are the primary beneficiary. As general partner of Phillips 66 Partners, we have the ability to control its financial interests, as well as the ability to direct the activities that most significantly impact its economic performance. As a result of this consolidation, the public common and perpetual convertible preferred unitholders' ownership interests in Phillips 66 Partners are reflected as noncontrolling interests of \$2,228 million and \$2,469 million on our consolidated balance sheet at December 31, 2019 and 2018, respectively. Generally, drop down transactions with Phillips 66 Partners will eliminate in consolidation, except for third-party debt and third-party equity offerings made by Phillips 66 Partners to finance such transactions.

The most significant assets of Phillips 66 Partners that are available to settle only its obligations, along with its most significant liabilities for which its creditors do not have recourse to Phillips 66's general credit, were:

| | Millions of Dollars | |
|--------------------------------------|---------------------|---------------------|
| | December 31 2019 | December 31 2018 |
| Cash and cash equivalents | \$ 286 | 1 |
| Equity investments* | 2,961 | 2,448 |
| Net properties, plants and equipment | 3,349 | 3,052 |
| Short-term debt | 25 | 50 |
| Long-term debt | 3,491 | 2,998 |

* Included in "Investments and long-term receivables" line item on the Phillips 66 consolidated balance sheet.

Phillips 66 Partners has authorized an aggregate of \$750 million under three \$250 million continuous offerings of common units, or at-the-market (ATM) programs. The first two programs concluded in June 2018 and December 2019, respectively, leaving \$250 million available under the third program. For the years ended December 31, 2019, 2018 and 2017, on a settlement-date basis, Phillips 66 Partners generated net proceeds of \$173 million, \$128 million and \$173 million, respectively, from common units issued under the ATM programs. Since inception in June 2016 and through December 31, 2019, the ATM programs have generated net proceeds of \$492 million.

Phillips 66 Partners' investment in the Gray Oak Pipeline development is held through Holdings LLC. In December 2018, a third party exercised its option to acquire a 35% interest in Holdings LLC. Because Holdings LLC's sole asset was its ownership interest in Gray Oak Pipeline, LLC, which is considered a financial asset, and because certain restrictions were placed on the third party's ability to transfer or sell its interest in Holdings LLC during the construction of the Gray Oak Pipeline, the legal sale of the 35% interest did not qualify as a sale under GAAP. As such, the contributions the third party is making to Holdings LLC to cover its share of previously incurred and future construction costs plus a premium to Phillips 66 Partners will be reflected as a long-term obligation in the "Other liabilities and deferred credits" line item on our consolidated balance sheet and financing cash inflows in the "Other" line item on our consolidated statement of cash flows. After construction of the Gray Oak Pipeline is fully completed, these restrictions expire, and the sale will be recognized under GAAP. Phillips 66 Partners will continue to control and consolidate Holdings LLC after sale recognition, and therefore the third party's 35% interest will be recharacterized from a long-term obligation to a noncontrolling interest in our consolidated balance sheet at that time. Also at that time, the premium paid will be recharacterized from a long-term obligation to a gain in our consolidated statement of income. For the year ended December 31, 2019, the third party contributed an aggregate of \$342 million to Holdings LLC, and Holdings LLC used these contributions to fund its portion of Gray Oak Pipeline, LLC's cash calls. See Note 7—Investments, Loans and Long-Term Receivables, for further discussion regarding Phillip 66 Partners' investment in Gray Oak Pipeline, LLC.

Note 28—Condensed Consolidating Financial Information

Phillips 66 has senior notes outstanding, the payment obligations of which are fully and unconditionally guaranteed by Phillips 66 Company, a 100 percent-owned subsidiary. The following condensed consolidating financial information presents the results of operations, financial position and cash flows for:

- Phillips 66 and Phillips 66 Company (in each case, reflecting investments in subsidiaries utilizing the equity method of accounting).
- All other nonguarantor subsidiaries.
- The consolidating adjustments necessary to present Phillips 66's results on a consolidated basis.

This condensed consolidating financial information should be read in conjunction with the accompanying consolidated financial statements and notes.

| Statement of Income | Millions of Dollars | | | | |
|---|------------------------------|---------------------|------------------------|---------------------------|--------------------|
| | Year Ended December 31, 2019 | | | | |
| | Phillips 66 | Phillips 66 Company | All Other Subsidiaries | Consolidating Adjustments | Total Consolidated |
| Revenues and Other Income | | | | | |
| Sales and other operating revenues | \$ — | 82,857 | 24,436 | — | 107,293 |
| Equity in earnings of affiliates | 3,342 | 2,163 | 738 | (4,116) | 2,127 |
| Net gain on dispositions | — | — | 20 | — | 20 |
| Other income | — | 76 | 43 | — | 119 |
| Intercompany revenues | — | 3,804 | 14,370 | (18,174) | — |
| Total Revenues and Other Income | 3,342 | 88,900 | 39,607 | (22,290) | 109,559 |
| Costs and Expenses | | | | | |
| Purchased crude oil and products | — | 78,244 | 35,067 | (17,782) | 95,529 |
| Operating expenses | — | 4,005 | 1,141 | (72) | 5,074 |
| Selling, general and administrative expenses | 6 | 1,299 | 386 | (10) | 1,681 |
| Depreciation and amortization | — | 918 | 423 | — | 1,341 |
| Impairments | — | 3 | 858 | — | 861 |
| Taxes other than income taxes | — | 293 | 116 | — | 409 |
| Accretion on discounted liabilities | — | 18 | 5 | — | 23 |
| Interest and debt expense | 347 | 145 | 276 | (310) | 458 |
| Foreign currency transaction losses | — | — | 5 | — | 5 |
| Total Costs and Expenses | 353 | 84,925 | 38,277 | (18,174) | 105,381 |
| Income before income taxes | 2,989 | 3,975 | 1,330 | (4,116) | 4,178 |
| Income tax expense (benefit) | (87) | 633 | 255 | — | 801 |
| Net Income | 3,076 | 3,342 | 1,075 | (4,116) | 3,377 |
| Less: net income attributable to noncontrolling interests | — | — | 301 | — | 301 |
| Net Income Attributable to Phillips 66 | \$ 3,076 | 3,342 | 774 | (4,116) | 3,076 |
| Comprehensive Income | \$ 3,069 | 3,335 | 1,098 | (4,132) | 3,370 |

| Statement of Income | Millions of Dollars | | | | |
|---|------------------------------|---------------------|------------------------|---------------------------|--------------------|
| | Year Ended December 31, 2018 | | | | |
| | Phillips 66 | Phillips 66 Company | All Other Subsidiaries | Consolidating Adjustments | Total Consolidated |
| Revenues and Other Income | | | | | |
| Sales and other operating revenues | \$ — | 85,486 | 25,975 | — | 111,461 |
| Equity in earnings of affiliates | 5,918 | 4,030 | 747 | (8,019) | 2,676 |
| Net gain on dispositions | — | 8 | 11 | — | 19 |
| Other income | — | 33 | 28 | — | 61 |
| Intercompany revenues | — | 3,493 | 14,085 | (17,578) | — |
| Total Revenues and Other Income | 5,918 | 93,050 | 40,846 | (25,597) | 114,217 |
| Costs and Expenses | | | | | |
| Purchased crude oil and products | — | 79,559 | 35,563 | (17,192) | 97,930 |
| Operating expenses | — | 3,769 | 1,193 | (82) | 4,880 |
| Selling, general and administrative expenses | 7 | 1,297 | 383 | (10) | 1,677 |
| Depreciation and amortization | — | 926 | 430 | — | 1,356 |
| Impairments | — | 3 | 5 | — | 8 |
| Taxes other than income taxes | — | 321 | 104 | — | 425 |
| Accretion on discounted liabilities | — | 18 | 5 | — | 23 |
| Interest and debt expense | 402 | 146 | 250 | (294) | 504 |
| Foreign currency transaction gains | — | — | (31) | — | (31) |
| Total Costs and Expenses | 409 | 86,039 | 37,902 | (17,578) | 106,772 |
| Income before income taxes | 5,509 | 7,011 | 2,944 | (8,019) | 7,445 |
| Income tax expense (benefit) | (86) | 1,093 | 565 | — | 1,572 |
| Net Income | 5,595 | 5,918 | 2,379 | (8,019) | 5,873 |
| Less: net income attributable to noncontrolling interests | — | — | 278 | — | 278 |
| Net Income Attributable to Phillips 66 | \$ 5,595 | 5,918 | 2,101 | (8,019) | 5,595 |
| Comprehensive Income | \$ 5,520 | 5,843 | 2,291 | (7,856) | 5,798 |

| Statement of Income | Millions of Dollars | | | | |
|---|------------------------------|---------------------|------------------------|---------------------------|--------------------|
| | Year Ended December 31, 2017 | | | | |
| | Phillips 66 | Phillips 66 Company | All Other Subsidiaries | Consolidating Adjustments | Total Consolidated |
| Revenues and Other Income | | | | | |
| Sales and other operating revenues | \$ — | 74,640 | 27,714 | — | 102,354 |
| Equity in earnings of affiliates | 5,336 | 3,256 | 559 | (7,419) | 1,732 |
| Net gain on dispositions | — | 1 | 14 | — | 15 |
| Other income | 3 | 471 | 47 | — | 521 |
| Intercompany revenues | — | 1,610 | 13,457 | (15,067) | — |
| Total Revenues and Other Income | 5,339 | 79,978 | 41,791 | (22,486) | 104,622 |
| Costs and Expenses | | | | | |
| Purchased crude oil and products | — | 63,812 | 30,379 | (14,782) | 79,409 |
| Operating expenses | — | 3,672 | 1,085 | (58) | 4,699 |
| Selling, general and administrative expenses | 7 | 1,300 | 399 | (11) | 1,695 |
| Depreciation and amortization | — | 892 | 426 | — | 1,318 |
| Impairments | — | 20 | 4 | — | 24 |
| Taxes other than income taxes | — | 5,784 | 7,678 | — | 13,462 |
| Accretion on discounted liabilities | — | 17 | 5 | — | 22 |
| Interest and debt expense | 348 | 70 | 236 | (216) | 438 |
| Total Costs and Expenses | 355 | 75,567 | 40,212 | (15,067) | 101,067 |
| Income before income taxes | 4,984 | 4,411 | 1,579 | (7,419) | 3,555 |
| Income tax benefit | (122) | (925) | (646) | — | (1,693) |
| Net Income | 5,106 | 5,336 | 2,225 | (7,419) | 5,248 |
| Less: net income attributable to noncontrolling interests | — | — | 142 | — | 142 |
| Net Income Attributable to Phillips 66 | \$ 5,106 | 5,336 | 2,083 | (7,419) | 5,106 |
| Comprehensive Income | \$ 5,484 | 5,714 | 2,498 | (8,070) | 5,626 |

| Balance Sheet | Millions of Dollars | | | | |
|--|---------------------------------------|---------------------------|------------------------------|-----------------------|---------------|
| | Year Ended December 31, 2019 | | | | |
| | Phillips 66 Phillips 66 Company | All Other Subsidiaries | Consolidating Adjustments | Total Consolidated | |
| Assets | | | | | |
| Cash and cash equivalents | \$ — | 136 | 1,478 | — | 1,614 |
| Accounts and notes receivable | 86 | 6,334 | 4,148 | (2,058) | 8,510 |
| Inventories | — | 2,594 | 1,182 | — | 3,776 |
| Prepaid expenses and other current assets | 2 | 362 | 131 | — | 495 |
| Total Current Assets | 88 | 9,426 | 6,939 | (2,058) | 14,395 |
| Investments and long-term receivables | 33,082 | 25,039 | 10,989 | (54,539) | 14,571 |
| Net properties, plants and equipment | — | 13,676 | 10,110 | — | 23,786 |
| Goodwill | — | 2,853 | 417 | — | 3,270 |
| Intangibles | — | 732 | 137 | — | 869 |
| Other assets | 14 | 4,290 | 714 | (3,189) | 1,829 |
| Total Assets | \$ 33,184 | 56,016 | 29,306 | (59,786) | 58,720 |
| Liabilities and Equity | | | | | |
| Accounts payable | \$ — | 7,024 | 3,609 | (2,058) | 8,575 |
| Short-term debt | 500 | 16 | 31 | — | 547 |
| Accrued income and other taxes | — | 386 | 593 | — | 979 |
| Employee benefit obligations | — | 648 | 62 | — | 710 |
| Other accruals | 65 | 850 | 249 | (329) | 835 |
| Total Current Liabilities | 565 | 8,924 | 4,544 | (2,387) | 11,646 |
| Long-term debt | 7,434 | 155 | 3,627 | — | 11,216 |
| Asset retirement obligations and accrued environmental costs | — | 460 | 178 | — | 638 |
| Deferred income taxes | — | 3,727 | 1,828 | (2) | 5,553 |
| Employee benefit obligations | — | 825 | 219 | — | 1,044 |
| Other liabilities and deferred credits | 245 | 8,975 | 5,465 | (13,231) | 1,454 |
| Total Liabilities | 8,244 | 23,066 | 15,861 | (15,620) | 31,551 |
| Common stock | 3,634 | 25,838 | 9,516 | (35,354) | 3,634 |
| Retained earnings | 22,094 | 7,900 | 1,940 | (9,870) | 22,064 |
| Accumulated other comprehensive loss | (788) | (788) | (270) | 1,058 | (788) |
| Noncontrolling interests | — | — | 2,259 | — | 2,259 |
| Total Liabilities and Equity | \$ 33,184 | 56,016 | 29,306 | (59,786) | 58,720 |

| Balance Sheet | Millions of Dollars | | | | |
|--|------------------------------|---------------------|------------------------|---------------------------|--------------------|
| | Year Ended December 31, 2018 | | | | |
| | Phillips 66 | Phillips 66 Company | All Other Subsidiaries | Consolidating Adjustments | Total Consolidated |
| Assets | | | | | |
| Cash and cash equivalents | \$ — | 1,648 | 1,371 | — | 3,019 |
| Accounts and notes receivable | 9 | 4,255 | 3,202 | (1,293) | 6,173 |
| Inventories | — | 2,489 | 1,054 | — | 3,543 |
| Prepaid expenses and other current assets | 2 | 373 | 99 | — | 474 |
| Total Current Assets | 11 | 8,765 | 5,726 | (1,293) | 13,209 |
| Investments and long-term receivables | 32,712 | 22,799 | 9,829 | (50,919) | 14,421 |
| Net properties, plants and equipment | — | 13,218 | 8,800 | — | 22,018 |
| Goodwill | — | 2,853 | 417 | — | 3,270 |
| Intangibles | — | 726 | 143 | — | 869 |
| Other assets | 9 | 335 | 173 | (2) | 515 |
| Total Assets | \$ 32,732 | 48,696 | 25,088 | (52,214) | 54,302 |
| Liabilities and Equity | | | | | |
| Accounts payable | \$ — | 5,415 | 2,464 | (1,293) | 6,586 |
| Short-term debt | — | 11 | 56 | — | 67 |
| Accrued income and other taxes | — | 458 | 658 | — | 1,116 |
| Employee benefit obligations | — | 663 | 61 | — | 724 |
| Other accruals | 66 | 227 | 149 | — | 442 |
| Total Current Liabilities | 66 | 6,774 | 3,388 | (1,293) | 8,935 |
| Long-term debt | 7,928 | 54 | 3,111 | — | 11,093 |
| Asset retirement obligations and accrued environmental costs | — | 458 | 166 | — | 624 |
| Deferred income taxes | 1 | 3,541 | 1,735 | (2) | 5,275 |
| Employee benefit obligations | — | 676 | 191 | — | 867 |
| Other liabilities and deferred credits | 55 | 4,611 | 4,287 | (8,598) | 355 |
| Total Liabilities | 8,050 | 16,114 | 12,878 | (9,893) | 27,149 |
| Common stock | 4,856 | 24,960 | 8,754 | (33,714) | 4,856 |
| Retained earnings | 20,518 | 8,314 | 1,249 | (9,592) | 20,489 |
| Accumulated other comprehensive loss | (692) | (692) | (293) | 985 | (692) |
| Noncontrolling interests | — | — | 2,500 | — | 2,500 |
| Total Liabilities and Equity | \$ 32,732 | 48,696 | 25,088 | (52,214) | 54,302 |

| Statement of Cash Flows | Millions of Dollars | | | | |
|---|------------------------------|---------------------------|------------------------------|---------|--------------|
| | Year Ended December 31, 2019 | | | | |
| | Phillips 66 Company | All Other Subsidiaries | Consolidating Adjustments | Total | Consolidated |
| Cash Flows From Operating Activities | | | | | |
| Net Cash Provided by Operating Activities | \$ 3,541 | 2,923 | 2,298 | (3,954) | 4,808 |
| Cash Flows From Investing Activities | | | | | |
| Capital expenditures and investments* | — | (1,493) | (2,640) | 260 | (3,873) |
| Proceeds from asset dispositions** | — | 354 | 153 | (350) | 157 |
| Intercompany lending activities | (297) | 567 | (270) | — | — |
| Advances/loans—related parties | — | — | (98) | — | (98) |
| Collection of advances/loans—related parties | — | — | 95 | — | 95 |
| Other | — | (8) | 39 | — | 31 |
| Net Cash Used in Investing Activities | (297) | (580) | (2,721) | (90) | (3,688) |
| Cash Flows From Financing Activities | | | | | |
| Issuance of debt | — | — | 1,783 | — | 1,783 |
| Repayment of debt | — | (15) | (1,292) | — | (1,307) |
| Issuance of common stock | 32 | — | — | — | 32 |
| Repurchase of common stock | (1,650) | — | — | — | (1,650) |
| Dividends paid on common stock | (1,570) | (3,836) | (118) | 3,954 | (1,570) |
| Distributions to noncontrolling interests | — | — | (241) | — | (241) |
| Net proceeds from issuance of Phillips 66 Partners LP common units | — | — | 173 | — | 173 |
| Other* | (56) | (4) | 239 | 90 | 269 |
| Net Cash Provided by (Used in) Financing Activities | (3,244) | (3,855) | 544 | 4,044 | (2,511) |
| Effect of Exchange Rate Changes on Cash and Cash Equivalents | — | — | (14) | — | (14) |
| Net Change in Cash and Cash Equivalents | — | (1,512) | 107 | — | (1,405) |
| Cash and cash equivalents at beginning of period | — | 1,648 | 1,371 | — | 3,019 |
| Cash and Cash Equivalents at End of Period | \$ — | 136 | 1,478 | — | 1,614 |

* Includes intercompany capital contributions.

** Includes return of investments in equity affiliates.

| Statement of Cash Flows | Millions of Dollars | | | | |
|---|------------------------------|---------------------------|------------------------------|---------|---------|
| | Year Ended December 31, 2018 | | | | |
| | Phillips 66 Company | All Other Subsidiaries | Consolidating Adjustments | Total | |
| Cash Flows From Operating Activities | | | | | |
| Net Cash Provided by Operating Activities | \$ 2,955 | 6,962 | 2,642 | (4,986) | 7,573 |
| Cash Flows From Investing Activities | | | | | |
| Capital expenditures and investments | — | (998) | (1,641) | — | (2,639) |
| Proceeds from asset dispositions* | — | 462 | 50 | (455) | 57 |
| Intercompany lending activities | 2,214 | (3,031) | 817 | — | — |
| Advances/loans—related parties | — | — | (1) | — | (1) |
| Other | — | 27 | 85 | — | 112 |
| Net Cash Provided by (Used in) Investing Activities | 2,214 | (3,540) | (690) | (455) | (2,471) |
| Cash Flows From Financing Activities | | | | | |
| Issuance of debt | 1,509 | — | 675 | — | 2,184 |
| Repayment of debt | (550) | (11) | (583) | — | (1,144) |
| Issuance of common stock | 39 | — | — | — | 39 |
| Repurchase of common stock | (4,645) | — | — | — | (4,645) |
| Dividends paid on common stock | (1,436) | (3,174) | (1,812) | 4,986 | (1,436) |
| Distributions to noncontrolling interests | — | — | (207) | — | (207) |
| Net proceeds from issuance of Phillips 66 Partners LP common units | — | — | 128 | — | 128 |
| Other | (86) | — | (455) | 455 | (86) |
| Net Cash Used in Financing Activities | (5,169) | (3,185) | (2,254) | 5,441 | (5,167) |
| Effect of Exchange Rate Changes on Cash and Cash Equivalents | — | — | (35) | — | (35) |
| Net Change in Cash and Cash Equivalents | — | 237 | (337) | — | (100) |
| Cash and cash equivalents at beginning of period | — | 1,411 | 1,708 | — | 3,119 |
| Cash and Cash Equivalents at End of Period | \$ — | 1,648 | 1,371 | — | 3,019 |

* Includes return of investments in equity affiliates.

| Statement of Cash Flows | Millions of Dollars | | | | |
|--|------------------------------|---------------------|------------------------|---------------------------|--------------------|
| | Year Ended December 31, 2017 | | | | |
| | Phillips 66 | Phillips 66 Company | All Other Subsidiaries | Consolidating Adjustments | Total Consolidated |
| Cash Flows From Operating Activities | | | | | |
| Net Cash Provided by Operating Activities | \$ 2,619 | 2,702 | 1,747 | (3,420) | 3,648 |
| Cash Flows From Investing Activities | | | | | |
| Capital expenditures and investments* | — | (1,133) | (839) | 140 | (1,832) |
| Proceeds from asset dispositions** | — | 265 | 84 | (263) | 86 |
| Intercompany lending activities | 401 | 1,453 | (1,854) | — | — |
| Advances/loans—related parties | — | (10) | — | — | (10) |
| Collection of advances/loans—related parties | — | 75 | 251 | — | 326 |
| Restricted cash from consolidation of business | — | — | 318 | — | 318 |
| Other | — | (26) | (8) | — | (34) |
| Net Cash Provided by (Used in) Investing Activities | 401 | 624 | (2,048) | (123) | (1,146) |
| Cash Flows From Financing Activities | | | | | |
| Issuance of debt | 1,500 | — | 2,008 | — | 3,508 |
| Repayment of debt | (1,500) | (17) | (2,161) | — | (3,678) |
| Issuance of common stock | 35 | — | — | — | 35 |
| Repurchase of common stock | (1,590) | — | — | — | (1,590) |
| Dividends paid on common stock | (1,395) | (2,752) | (668) | 3,420 | (1,395) |
| Distributions to noncontrolling interests | — | — | (120) | — | (120) |
| Net proceeds from issuance of Phillips 66 Partners LP common and preferred units | — | — | 1,205 | — | 1,205 |
| Other* | (70) | — | (129) | 123 | (76) |
| Net Cash Provided by (Used in) Financing Activities | (3,020) | (2,769) | 135 | 3,543 | (2,111) |
| Effect of Exchange Rate Changes on Cash, Cash Equivalents and Restricted Cash | — | — | 17 | — | 17 |
| Net Change in Cash, Cash Equivalents and Restricted Cash | — | 557 | (149) | — | 408 |
| Cash, cash equivalents and restricted cash at beginning of period | — | 854 | 1,857 | — | 2,711 |
| Cash, Cash Equivalents and Restricted Cash at End of Period | \$ — | 1,411 | 1,708 | — | 3,119 |

* Includes intercompany capital contributions.

** Includes return of investments in equity affiliates.

Selected Quarterly Financial Data (Unaudited)

| | Millions of Dollars | | | | Per Share of Common Stock | |
|-------------|---|-------------------------------|---------------|--|---|---------|
| | Sales and Other Operating Revenues | Income Before Income Taxes | Net Income | Net Income Attributable to Phillips 66 | Net Income Attributable to Phillips 66 | |
| | | | | | Basic | Diluted |
| 2019 | | | | | | |
| First | \$ 23,103 | 340 | 270 | 204 | 0.44 | 0.44 |
| Second | 27,847 | 1,829 | 1,504 | 1,424 | 3.13 | 3.12 |
| Third | 27,218 | 943 | 793 | 712 | 1.58 | 1.58 |
| Fourth | 29,125 | 1,066 | 810 | 736 | 1.65 | 1.64 |
| 2018 | | | | | | |
| First | \$ 23,595 | 717 | 585 | 524 | 1.07 | 1.07 |
| Second | 28,980 | 1,835 | 1,404 | 1,339 | 2.86 | 2.84 |
| Third | 29,788 | 1,975 | 1,568 | 1,492 | 3.20 | 3.18 |
| Fourth | 29,098 | 2,918 | 2,316 | 2,240 | 4.85 | 4.82 |

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

None.

Item 9A. CONTROLS AND PROCEDURES

We maintain disclosure controls and procedures designed to ensure that information required to be disclosed in reports we file or submit under the Securities Exchange Act of 1934, as amended (the Act), is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to management, including our principal executive and principal financial officers, as appropriate, to allow timely decisions regarding required disclosure. As of December 31, 2019, with the participation of management, our Chairman and Chief Executive Officer and our Executive Vice President, Finance and Chief Financial Officer carried out an evaluation, pursuant to Rule 13a-15(b) of the Act, of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) of the Act). Based upon that evaluation, our Chairman and Chief Executive Officer and our Executive Vice President, Finance and Chief Financial Officer concluded that our disclosure controls and procedures were operating effectively as of December 31, 2019.

Effective October 1, 2019, we began a phased, multiyear implementation of an updated enterprise resource planning (ERP) system. As a result, changes were made to our business processes and information systems. To maintain adequate controls over these updated business processes and information systems, we evaluated and updated applicable internal controls over financial reporting accordingly. There have been no other changes in our internal control over financial reporting, as defined in Rule 13a-15(f) of the Act, in the quarterly period ended December 31, 2019, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Annual Report on Internal Control Over Financial Reporting

This report is included in Item 8 and is incorporated herein by reference.

Report of Independent Registered Public Accounting Firm on Internal Control Over Financial Reporting

This report is included in Item 8 and is incorporated herein by reference.

Item 9B. OTHER INFORMATION

None.

PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information regarding our executive officers appears in Part I of this report.

The remaining information required by Item 10 of Part III is incorporated herein by reference from our Proxy Statement for the Annual Meeting of Stockholders to be held on May 6, 2020, which will be filed within 120 days after December 31, 2019 (2020 Definitive Proxy Statement).*

Item 11. EXECUTIVE COMPENSATION

The information required by Item 11 of Part III is incorporated herein by reference from our 2020 Definitive Proxy Statement.*

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

The information required by Item 12 of Part III is incorporated herein by reference from our 2020 Definitive Proxy Statement.*

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

The information required by Item 13 of Part III is incorporated herein by reference from our 2020 Definitive Proxy Statement.*

Item 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by Item 14 of Part III is incorporated herein by reference from our 2020 Definitive Proxy Statement.*

** Except for information or data specifically incorporated herein by reference under Items 10 through 14, other information and data appearing in our 2020 Definitive Proxy Statement are not deemed to be a part of this Annual Report on Form 10-K or deemed to be filed with the Commission as a part of this report.*

PART IV

Item 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

- (a)
 - 1. Financial Statements and Supplementary Data
The financial statements and supplementary information listed in the Index to Financial Statements, which appears on page 73, are filed as part of this Annual Report on Form 10-K.
 - 2. Financial Statement Schedules
All financial statement schedules are omitted because they are not required, not significant, not applicable, or the information is shown in the financial statements or notes thereto.
 - 3. Exhibits
The exhibits listed in the Index to Exhibits, which appears on pages 150 to 153, are filed as part of this Annual Report on Form 10-K.
- (c) Pursuant to Rule 3-09 of Regulation S-X, the financial statements of Chevron Phillips Chemical Company LLC as of December 31, 2019 and 2018, and for each of the three years ended December 31, 2019, are included as an exhibit to this Annual Report on Form 10-K.

Item 16. FORM 10-K SUMMARY

None.

PHILLIPS 66

INDEX TO EXHIBITS

| Exhibit Number | Exhibit Description | Incorporated by Reference | | | |
|----------------|---|---------------------------|----------------|-------------|--------------|
| | | Form | Exhibit Number | Filing Date | SEC File No. |
| 2.1 | Separation and Distribution Agreement between ConocoPhillips and Phillips 66, dated April 26, 2012. | 8-K | 2.1 | 05/01/2012 | 001-35349 |
| 3.1 | Amended and Restated Certificate of Incorporation of Phillips 66. | 8-K | 3.1 | 05/01/2012 | 001-35349 |
| 3.2 | Amended and Restated By-Laws of Phillips 66. | 8-K | 3.1 | 02/09/2017 | 001-35349 |
| 4.1* | Description of Phillips 66's Securities. As permitted by Item 601(b)(4)(iii)(A) of Regulation S-K, the company has not filed with this Annual Report on Form 10-K certain instruments defining the rights of holders of long-term debt of the company and its subsidiaries because the total amount of securities authorized thereunder does not exceed 10% of the total assets of the company and its subsidiaries on a consolidated basis. The company agrees to furnish a copy of such agreements to the Commission upon request. | | | | |
| 10.1 | Amended and Restated Credit Agreement dated as of July 30, 2019, among Phillips 66, Phillips 66 Company, the lenders party thereto, and JPMorgan Chase Bank, N.A., as administrative agent. | 8-K | 10.1 | 08/01/2019 | 001-35349 |
| 10.2 | Third Amended and Restated Limited Liability Company Agreement of Chevron Phillips Chemical Company LLC, effective as of May 1, 2012. | 10-Q | 10.14 | 08/03/2012 | 001-35349 |
| 10.3 | First Amendment to Third Amended and Restated Limited Liability Company Agreement of Chevron Phillips Chemical Company LLC, effective as of December 31, 2017. | 10-K | 10.6 | 02/23/2018 | 001-35349 |
| 10.4 | Second Amendment to Third Amended and Restated Limited Liability Company Agreement of Chevron Phillips Chemical Company LLC, effective as of June 1, 2018. | 10-Q | 10.1 | 07/27/2018 | 001-35349 |
| 10.5 | Second Amended and Restated Limited Liability Company Agreement of Duke Energy Field Services, LLC, dated July 5, 2005, by and between ConocoPhillips Gas Company and Duke Energy Enterprises Corporation. | 10 | 10.12 | 03/01/2012 | 001-35349 |
| 10.6 | First Amendment to Second Amended and Restated Limited Liability Company Agreement of Duke Energy Field Services, LLC, dated August 11, 2006, by and between ConocoPhillips Gas Company and Duke Energy Enterprises Corporation. | 10 | 10.13 | 03/01/2012 | 001-35349 |

| Exhibit Number | Exhibit Description | Incorporated by Reference | | | |
|----------------|---|---------------------------|----------------|-------------|--------------|
| | | Form | Exhibit Number | Filing Date | SEC File No. |
| 10.7 | Second Amendment to Second Amended and Restated Limited Liability Company Agreement of DCP Midstream, LLC (formerly Duke Energy Field Services, LLC), dated February 1, 2007, by and between ConocoPhillips Gas Company, Spectra Energy DEFS Holding, LLC, and Spectra Energy DEFS Holding Corp. | 10 | 10.14 | 03/01/2012 | 001-35349 |
| 10.8 | Third Amendment to Second Amended and Restated Limited Liability Company Agreement of DCP Midstream, LLC (formerly Duke Energy Field Services, LLC), dated April 30, 2009, by and between ConocoPhillips Gas Company, Spectra Energy DEFS Holding, LLC, and Spectra Energy DEFS Holding Corp. | 10 | 10.15 | 03/01/2012 | 001-35349 |
| 10.9 | Fourth Amendment to Second Amended and Restated Limited Liability Company Agreement of DCP Midstream, LLC (formerly Duke Energy Field Services, LLC), dated November 9, 2010, by and between ConocoPhillips Gas Company, Spectra Energy DEFS Holding, LLC, and Spectra Energy DEFS Holding Corp. | 10 | 10.16 | 03/01/2012 | 001-35349 |
| 10.10 | Fifth Amendment to July 5, 2005 Second Amended and Restated Limited Liability Company Agreement of DCP Midstream, LLC (formerly Duke Energy Field Services, LLC) dated September 9, 2014, by and between Phillips Gas Company (formerly ConocoPhillips Gas Company), Spectra Energy DEFS Holding, LLC, and Spectra Energy DEFS Holding II, LLC. | 10-Q | 10.1 | 10/30/2014 | 001-35349 |
| 10.11 | Indemnification and Release Agreement between ConocoPhillips and Phillips 66, dated April 26, 2012. | 8-K | 10.1 | 05/01/2012 | 001-35349 |
| 10.12 | Intellectual Property Assignment and License Agreement between ConocoPhillips and Phillips 66, dated April 26, 2012. | 8-K | 10.2 | 05/01/2012 | 001-35349 |
| 10.13 | Tax Sharing Agreement between ConocoPhillips and Phillips 66, dated April 26, 2012. | 8-K | 10.3 | 05/01/2012 | 001-35349 |
| 10.14 | Employee Matters Agreement between ConocoPhillips and Phillips 66, dated April 26, 2012. | 8-K | 10.4 | 05/01/2012 | 001-35349 |
| 10.15 | Amendment to the Employee Matters Agreement by and between ConocoPhillips and Phillips 66, dated April 26, 2012. | 10-Q | 10.1 | 05/02/2013 | 001-35349 |
| 10.16 | Transition Services Agreement between ConocoPhillips and Phillips 66, dated April 26, 2012. | 8-K | 10.5 | 05/01/2012 | 001-35349 |
| 10.17 | 2013 Omnibus Stock and Performance Incentive Plan of Phillips 66.** | DEF14A | App. A | 03/27/2013 | 001-35349 |
| 10.18 | Phillips 66 Key Employee Supplemental Retirement Plan.** | 10-Q | 10.15 | 08/03/2012 | 001-35349 |
| 10.19 | First Amendment to the Phillips 66 Key Employee Supplemental Retirement Plan.** | 10-K | 10.18 | 02/22/2013 | 001-35349 |

| Exhibit Number | Exhibit Description | Incorporated by Reference | | | |
|----------------|---|---------------------------|----------------|-------------|--------------|
| | | Form | Exhibit Number | Filing Date | SEC File No. |
| 10.20 | Phillips 66 Amended and Restated Executive Severance Plan.** | 10-Q | 10.1 | 07/29/2016 | 001-35349 |
| 10.21 | Phillips 66 Deferred Compensation Plan for Non-Employee Directors.** | 10-Q | 10.17 | 08/03/2012 | 001-35349 |
| 10.22 | Phillips 66 Key Employee Deferred Compensation Plan-Title I.** | 10-Q | 10.18 | 08/03/2012 | 001-35349 |
| 10.23 | Phillips 66 Key Employee Deferred Compensation Plan-Title II.** | 10-Q | 10.19 | 08/03/2012 | 001-35349 |
| 10.24 | First Amendment to the Phillips 66 Key Employee Deferred Compensation Plan Title II.** | 10-K | 10.24 | 02/22/2013 | 001-35349 |
| 10.25 | Phillips 66 Defined Contribution Make-Up Plan Title I.** | 10-Q | 10.20 | 08/03/2012 | 001-35349 |
| 10.26 | Phillips 66 Defined Contribution Make-Up Plan Title II.** | 10-K | 10.26 | 02/22/2013 | 001-35349 |
| 10.27 | First Amendment to the Phillips 66 Defined Contribution Make-Up Plan Title II. ** | 10-Q | 10.1 | 04/30/2019 | 001-35349 |
| 10.28 | Phillips 66 Key Employee Change in Control Severance Plan.** | 10-K | 10.27 | 02/22/2013 | 001-35349 |
| 10.29 | First Amendment to Phillips 66 Key Employee Change in Control Severance Plan, Effective October 2, 2015.** | 8-K | 10.1 | 11/08/2013 | 001-35349 |
| 10.30 | Annex to the Phillips 66 Nonqualified Deferred Compensation Arrangements.** | 10-Q | 10.23 | 08/03/2012 | 001-35349 |
| 10.31* | Form of Stock Option Award Agreement under the 2013 Omnibus Stock and Performance Incentive Plan of Phillips 66.** | | | | |
| 10.32* | Form of Restricted Stock or Restricted Stock Unit Award Agreement under the 2013 Omnibus Stock and Performance Incentive Plan of Phillips 66.** | | | | |
| 10.33* | Form of Performance Share Unit Award Agreement under the 2013 Omnibus Stock and Performance Incentive Plan of Phillips 66.** | | | | |
| 21* | List of Subsidiaries of Phillips 66. | | | | |
| 23.1* | Consent of Ernst & Young LLP, independent registered public accounting firm. | | | | |
| 23.2* | Consent of Ernst & Young LLP, independent auditors for Chevron Phillips Chemical Company LLC. | | | | |
| 31.1* | Certification of Chief Executive Officer pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934. | | | | |
| 31.2* | Certification of Chief Financial Officer pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934. | | | | |
| 32* | Certifications pursuant to 18 U.S.C. Section 1350. | | | | |

| Exhibit Number | Exhibit Description | Incorporated by Reference | | | |
|---------------------------|--|----------------------------------|---------------------------|------------------------|-------------------------|
| | | Form | Exhibit Number | Filing Date | SEC File No. |
| 99.1* | The financial statements of Chevron Phillips Chemical Company LLC, pursuant to Rule 3-09 of Regulation S-X. | | | | |
| 101.INS* | Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document. | | | | |
| 101.SCH* | Inline XBRL Schema Document. | | | | |
| 101.CAL* | Inline XBRL Calculation Linkbase Document. | | | | |
| 101.LAB* | Inline XBRL Labels Linkbase Document. | | | | |
| 101.PRE* | Inline XBRL Presentation Linkbase Document. | | | | |
| 101.DEF* | Inline XBRL Definition Linkbase Document. | | | | |
| 104* | Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101). | | | | |

* Filed herewith.

** Management contracts and compensatory plans or arrangements.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

PHILLIPS 66

Date: February 21, 2020

/s/ Greg C. Garland

Greg C. Garland
Chairman of the Board of Directors
and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below, as of February 21, 2020, by the following persons on behalf of the registrant and in the capacities indicated.

Signature

Title

/s/ Greg C. Garland

Greg C. Garland

Chairman of the Board of Directors
and Chief Executive Officer
(Principal executive officer)

/s/ Kevin J. Mitchell

Kevin J. Mitchell

Executive Vice President, Finance
and Chief Financial Officer
(Principal financial officer)

/s/ Chukwuemeka A. Oyolu

Chukwuemeka A. Oyolu

Vice President and Controller
(Principal accounting officer)

| | |
|----------------------------------|----------|
| <u>/s/ Gary K. Adams</u> | Director |
| <i>Gary K. Adams</i> | |
| <u>/s/ J. Brian Ferguson</u> | Director |
| <i>J. Brian Ferguson</i> | |
| <u>/s/ Charles M. Holley</u> | Director |
| <i>Charles M. Holley</i> | |
| <u>/s/ John E. Lowe</u> | Director |
| <i>John E. Lowe</i> | |
| <u>/s/ Harold W. McGraw III</u> | Director |
| <i>Harold W. McGraw III</i> | |
| <u>/s/ Denise L. Ramos</u> | Director |
| <i>Denise L. Ramos</i> | |
| <u>/s/ Glenn F. Tilton</u> | Director |
| <i>Glenn F. Tilton</i> | |
| <u>/s/ Victoria J. Tschinkel</u> | Director |
| <i>Victoria J. Tschinkel</i> | |
| <u>/s/ Marna C. Whittington</u> | Director |
| <i>Marna C. Whittington</i> | |

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Shareholder Information

ANNUAL MEETING

Phillips 66's annual meeting of shareholders will be held:

Wednesday, May 6, 2020
9 a.m. Central Daylight Time

Notice of the meeting and proxy materials will be provided to all shareholders.

DIRECT STOCK PURCHASE AND DIVIDEND REINVESTMENT PLAN

Phillips 66's Investor Services Program is a direct stock purchase and dividend reinvestment plan that offers shareholders a convenient way to buy additional shares and reinvest their common stock dividends. Purchases of company stock through direct cash payment are commission-free.

Please call Computershare to request an enrollment package:

Toll-free number: 866-437-0009
Or enroll online at
www.computershare.com/investor

Registered shareholders can access important investor communications online and sign up to receive future shareholder materials electronically by going to www.computershare.com/investor and following the enrollment instructions.

PRINCIPAL AND REGISTERED OFFICES

Phillips 66
P.O. Box 421959
Houston, TX 77242-1959

251 Little Falls Drive
Wilmington, DE 19808

STOCK TRANSFER AGENT AND REGISTRAR

Computershare
462 South 4th Street, Suite 1600
Louisville, KY 40202
www.computershare.com/investor

INFORMATION REQUESTS

For information about dividends and certificates or to request a change of address form, shareholders may contact:

Computershare
P.O. BOX 505000
Louisville, KY 40233
Toll-free number: 866-437-0009
Outside the U.S.: 201-680-6578
TDD for hearing impaired:
800-231-5469

TDD outside the U.S.: 201-680-6610

www.computershare.com/investor

Personnel in the following offices also can answer investors' questions about the company:

INSTITUTIONAL INVESTORS
800-624-6440
investorrelations@p66.com

INDIVIDUAL INVESTORS
866-437-0009
web.queries@computershare.com

COMPLIANCE AND ETHICS

For guidance, to express concerns or to ask questions about compliance and ethics issues, contact the Phillips 66 Global Ethics Office:

Toll-free number available 24/7:
855-318-5390

Email: ethics@p66.com

Website:
www.phillips66.ethicspoint.com

Address: Attn: Global Ethics Office
Phillips 66
2331 CityWest Blvd.
Houston, TX 77042

COPIES OF FORM 10-K AND PROXY STATEMENT

Copies of the Annual Report on Form 10-K and the Proxy Statement, as filed with the U.S. Securities and Exchange Commission, are available free by making a request on the company's website, calling 918-977-2245 or writing:

Phillips 66
2019 Form 10-K
411 S. Keeler
Bartlesville, OK 74003

Additional copies of this Annual Report may be obtained by calling 918-977-2245 or writing:

Phillips 66
2019 Annual Report
411 S. Keeler
Bartlesville, OK 74003

INTERNET

www.phillips66.com

The website includes resources of interest to investors, including news releases and presentations to securities analysts; copies of Phillips 66's Annual Report and Proxy Statement; reports to the U.S. Securities and Exchange Commission; and data on Phillips 66's health, safety and environmental performance. Other websites with information on topics included in this Annual Report:

www.cpchem.com
www.dcpmidstream.com
www.phillips66partners.com

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DISCLOSURE STATEMENTS

Certain disclosures in this Annual Report may be considered "forward-looking" statements. These are made pursuant to "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. The "Cautionary Statement" in Management's Discussion and Analysis should be read in conjunction with such statements. "Phillips 66," "the company," "we," "us" and "our" are used interchangeably in this report to refer to the businesses of Phillips 66 and its consolidated subsidiaries.

PHOTOGRAPHY

Andrew Camacho, Ken Childress, Garth Hannum, Jamie Kripke, and Hall Puckett.

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PHILLIPS66.COM