

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, 2017

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 001-35054

Marathon Petroleum Corporation

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

27-1284632

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

539 South Main Street, Findlay, OH 45840-3229

(Address of principal executive offices)

(419) 422-2121

(Registrant's telephone number, including area code)

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

Title of Each Class

Name of Each Exchange on Which Registered

Common Stock, par value \$.01

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 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 and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

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

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

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 as of June 30, 2017 was approximately \$26.4 billion. This amount is based on the closing price of the registrant's Common Stock on the New York Stock Exchange on June 30, 2017. Shares of Common Stock held by executive officers and directors of the registrant are not included in the computation. The registrant, solely for the purpose of this required presentation, has deemed its directors and executive officers to be affiliates.

There were 476,059,729 shares of Marathon Petroleum Corporation Common Stock outstanding as of February 16, 2018.

Documents Incorporated By Reference

Portions of the registrant's proxy statement relating to its 2018 Annual Meeting of Shareholders, to be filed with the Securities and Exchange Commission pursuant to Regulation 14A under the Securities Exchange Act of 1934, are incorporated by reference to the extent set forth in Part III, Items 10-14 of this Report.

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MARATHON PETROLEUM CORPORATION

Unless otherwise stated or the context otherwise indicates, all references in this Annual Report on Form 10-K to “MPC,” “us,” “our,” “we” or “the Company” mean Marathon Petroleum Corporation and its consolidated subsidiaries.

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GLOSSARY OF TERMS

Throughout this report, the following company or industry specific terms and abbreviations are used:

ASC	Accounting Standards Codification
ASR	Accelerated share repurchase
ATB	Articulated tug barges
barrel	One stock tank barrel, or 42 United States gallons liquid volume, used in reference to crude oil or other liquid hydrocarbons.
bcf/d	One billion cubic feet per day
DEI	Designated Environmental Incidents
EBITDA (a non-GAAP financial measure)	Earnings Before Interest, Tax, Depreciation and Amortization
EIA	United States Energy Information Administration
EPA	United States Environmental Protection Agency
FASB	Financial Accounting Standards Board
FCC	Fluid Catalytic Cracking
FERC	Federal Energy Regulatory Commission
GAAP	Accounting principles generally accepted in the United States
IDR	Incentive Distribution Right
LCM	Lower of cost or market
LIBO Rate	London Interbank Offered Rate
LIFO	Last in, first out
LLS	Louisiana Light Sweet crude oil, an oil index benchmark price
mbpd	Thousand barrels per day
mbpcd	Thousand barrels per calendar day
Mcf	One thousand cubic feet of natural gas
mmbpcd	Million barrels per calendar day
MMcf/d	One million cubic feet of natural gas per day
MMBtu	One million British thermal units per day
NYMEX	New York Mercantile Exchange
NYSE	New York Stock Exchange
NGL	Natural gas liquids, such as ethane, propane, butanes and natural gasoline
PADD	Petroleum Administration for Defense District
OPEC	Organization of Petroleum Exporting Countries
OSHA	United States Occupational Safety and Health Administration
OTC	Over-the-Counter
ppb	Parts per billion
ppm	Parts per million
RFS2	Revised Renewable Fuel Standard program, as required by the Energy Independence and Security Act of 2007
RIN	Renewable Identification Number
ROUX	Residual Oil Upgrader Expansion
SEC	United States Securities and Exchange Commission
STAR	South Texas Asset Repositioning
TCJA	Tax Cuts and Jobs Act
ULSD	Ultra-low sulfur diesel
USGC	U.S. Gulf Coast
UST	Underground storage tank
VIE	Variable interest entity
VPP	Voluntary Protection Program
WTI	West Texas Intermediate crude oil, an oil index benchmark price

Disclosures Regarding Forward-Looking Statements

This Annual Report on Form 10-K, particularly Item 1. Business, Item 1A. Risk Factors, Item 3. Legal Proceedings, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations and Item 7A. Quantitative and Qualitative Disclosures about Market Risk, includes forward-looking statements. You can identify our forward-looking statements by words such as “anticipate,” “believe,” “could,” “design,” “estimate,” “expect,” “forecast,” “goal,” “guidance,” “imply,” “intend,” “may,” “objective,” “opportunity,” “outlook,” “plan,” “position,” “potential,” “predict,” “project,” “prospective,” “pursue,” “seek,” “should,” “strategy,” “target,” “will,” “would” or other similar expressions that convey the uncertainty of future events or outcomes. In accordance with “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995, these statements are accompanied by cautionary language identifying important factors, though not necessarily all such factors, that could cause future outcomes to differ materially from those set forth in the forward-looking statements.

Forward-looking statements include, but are not limited to, statements that relate to, or statements that are subject to risks, contingencies or uncertainties that relate to:

- future levels of revenues, refining and marketing margins, operating costs, retail gasoline and distillate margins, merchandise margins, income from operations, net income or earnings per share;
- anticipated volumes of feedstock, throughput, sales or shipments of refined products;
- anticipated levels of regional, national and worldwide prices of crude oil, natural gas, NGLs and refined products;
- anticipated levels of crude oil and refined product inventories;
- future levels of capital, environmental or maintenance expenditures, general and administrative and other expenses;
- the success or timing of completion of ongoing or anticipated capital or maintenance projects;
- business strategies, growth opportunities and expected investments
- our share repurchase authorizations, including the timing and amounts of any common stock repurchases;
- the adequacy of our capital resources and liquidity, including but not limited to, availability of sufficient cash flow to execute our business plan;
- the effect of restructuring or reorganization of business components;
- the potential effects of judicial or other proceedings on our business, financial condition, results of operations and cash flows; and
- the anticipated effects of actions of third parties such as competitors, activist investors or federal, foreign, state or local regulatory authorities or plaintiffs in litigation.

We have based our forward-looking statements on our current expectations, estimates and projections about our industry and our company. We caution that these statements are not guarantees of future performance, and you should not rely unduly on them, as they involve risks, uncertainties and assumptions that we cannot predict. In addition, we have based many of these forward-looking statements on assumptions about future events that may prove to be inaccurate. While our management considers these assumptions to be reasonable, they are inherently subject to significant business, economic, competitive, regulatory and other risks, contingencies and uncertainties, most of which are difficult to predict and many of which are beyond our control. Accordingly, our actual results may differ materially from the future performance that we have expressed or forecast in our forward-looking statements. Differences between actual results and any future performance suggested in our forward-looking statements could result from a variety of factors, including the following:

- volatility or degradation in general economic, market, industry or business conditions;
- availability and pricing of domestic and foreign supplies of natural gas, NGLs and crude oil and other feedstocks;
- the ability of the members of the OPEC to agree on and to influence crude oil price and production controls;
- availability and pricing of domestic and foreign supplies of refined products such as gasoline, diesel fuel, jet fuel, home heating oil and petrochemicals;
- foreign imports and exports of crude oil, refined products, natural gas and NGLs;
- refining industry overcapacity or under capacity;
- changes in producer customers’ drilling plans or in volumes of throughput of crude oil, natural gas, NGLs, refined products or other hydrocarbon-based products;
- changes in the cost or availability of third-party vessels, pipelines, railcars and other means of transportation for crude oil, natural gas, NGLs, feedstocks and refined products;
- changes to our capital budget, expected construction costs and timing of projects;

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- the price, availability and acceptance of alternative fuels and alternative-fuel vehicles and laws mandating such fuels or vehicles;
- fluctuations in consumer demand for refined products, natural gas and NGLs, including seasonal fluctuations;
- political and economic conditions in nations that consume refined products, natural gas and NGLs, including the United States, and in crude oil producing regions, including the Middle East, Africa, Canada and South America;
- actions taken by our competitors, including pricing adjustments, expansion of retail activities, the expansion and retirement of refining capacity and the expansion and retirement of pipeline capacity, processing, fractionation and treating facilities in response to market conditions;
- completion of pipeline projects within the United States;
- changes in fuel and utility costs for our facilities;
- failure to realize the benefits projected for capital projects, or cost overruns associated with such projects;
- modifications to MPLX LP earnings and distribution growth objectives;
- the ability to successfully implement growth opportunities, including strategic initiatives and actions;
- risks and uncertainties associated with intangible assets, including any future goodwill or intangible assets impairment charges;
- the ability to realize the strategic benefits of joint venture opportunities;
- accidents or other unscheduled shutdowns affecting our refineries, machinery, pipelines, processing, fractionation and treating facilities or equipment, or those of our suppliers or customers;
- unusual weather conditions and natural disasters, which can unforeseeably affect the price or availability of crude oil and other feedstocks and refined products;
- acts of war, terrorism or civil unrest that could impair our ability to produce refined products, receive feedstocks or to gather, process, fractionate or transport crude oil, natural gas, NGLs or refined products;
- state and federal environmental, economic, health and safety, energy and other policies and regulations, including the cost of compliance with the renewable fuel standard program;
- adverse changes in laws including with respect to tax and regulatory matters;
- rulings, judgments or settlements and related expenses in litigation or other legal, tax or regulatory matters, including unexpected environmental remediation costs, in excess of any reserves or insurance coverage;
- political pressure and influence of environmental groups upon policies and decisions related to the production, gathering, refining, processing, fractionation, transportation and marketing of crude oil or other feedstocks, refined products, natural gas, NGLs or other hydrocarbon-based products;
- labor and material shortages;
- the maintenance of satisfactory relationships with labor unions and joint venture partners;
- the ability and willingness of parties with whom we have material relationships to perform their obligations to us;
- the market price of our common stock and its impact on our share repurchase authorizations;
- changes in the credit ratings assigned to our debt securities and trade credit, changes in the availability of unsecured credit, changes affecting the credit markets generally and our ability to manage such changes;
- capital market conditions and our ability to raise adequate capital to execute our business plan;
- the costs, disruption and diversion of management's attention associated with campaigns commenced by activist investors; and
- the other factors described in Item 1A. Risk Factors.

We undertake no obligation to update any forward-looking statements except to the extent required by applicable law.

PART I

Item 1. Business

Overview

Marathon Petroleum Corporation (“MPC”) has 130 years of experience in the energy business with roots tracing back to the formation of the Ohio Oil Company in 1887. We are one of the largest independent petroleum product refining, marketing, retail and transportation businesses in the United States and the largest east of the Mississippi. We are one of the largest natural gas processors in the United States and the largest processor and fractionator in the Marcellus and Utica shale regions.

Our operations consist of three reportable operating segments: Refining & Marketing; Speedway; and Midstream. Each of these segments is organized and managed based upon the nature of the products and services it offers.

- Refining & Marketing – refines crude oil and other feedstocks at our six refineries in the Gulf Coast and Midwest regions of the United States, purchases refined products and ethanol for resale and distributes refined products through various means, including pipeline and marine transportation, terminals and storage services provided by our Midstream segment. We sell refined products to wholesale marketing customers domestically and internationally, buyers on the spot market, our Speedway® business segment and to independent entrepreneurs who operate Marathon® retail outlets.
- Speedway – sells transportation fuels and convenience products in the retail market in the Midwest, East Coast and Southeast regions of the United States.
- Midstream – gathers, processes and transports natural gas; gathers, transports, fractionates, stores and markets NGLs; and transports and stores crude oil and refined products principally for the Refining & Marketing segment via pipelines, terminals, towboats and barges. The Midstream segment primarily reflects the results of MPLX, our sponsored master limited partnership.

See Item 8. Financial Statements and Supplementary Data – Note 10 for operating segment and geographic financial information, which is incorporated herein by reference.

Corporate History and Structure

MPC was incorporated in Delaware on November 9, 2009 in connection with an internal restructuring of Marathon Oil Corporation (“Marathon Oil”). On May 25, 2011, the Marathon Oil board of directors approved the spinoff of its Refining, Marketing & Transportation Business (“RM&T Business”) into an independent, publicly traded company, MPC, through the distribution of MPC common stock to the stockholders of Marathon Oil common stock on June 30, 2011 (the “Spinoff”). Following the Spinoff, Marathon Oil retained no ownership interest in MPC, and each company has separate public ownership, boards of directors and management. All subsidiaries and equity method investments not contributed by Marathon Oil to MPC remained with Marathon Oil and, together with Marathon Oil, are referred to as the “Marathon Oil Companies.” On July 1, 2011, our common stock began trading “regular-way” on the NYSE under the ticker symbol “MPC.”

MPLX is a diversified, growth-oriented publicly traded master limited partnership (“MLP”) formed by us in 2012 to own, operate, develop and acquire midstream energy infrastructure assets. MPLX is engaged in the gathering, processing and transportation of natural gas; the gathering, transportation, fractionation, storage and marketing of NGLs; and the gathering, transportation and storage of crude oil and refined petroleum products. On December 4, 2015, we completed the MarkWest Merger, whereby MarkWest became a wholly-owned subsidiary of MPLX.

As of December 31, 2017, we owned a 30.4 percent interest in MPLX, including a two percent general partner interest. MPLX is a VIE because the limited partners of MPLX do not have substantive kick-out or substantive participating rights over the general partner. We are the primary beneficiary of MPLX because in addition to significant economic interest, we also have the power, through our 100 percent ownership of the general partner, to control the decisions that most significantly impact MPLX. We therefore consolidate MPLX and record a noncontrolling interest for the interest owned by the public. The creditors of MPLX do not have recourse to MPC’s general credit through guarantees or other financial arrangements. The assets of MPLX are the property of MPLX and cannot be used to satisfy the obligations of MPC.

Recent Developments

Strategic Actions to Enhance Shareholder Value

On January 3, 2017, we announced plans to significantly accelerate the dropdown of assets with an estimated \$1.4 billion of MLP-eligible annual EBITDA to MPLX and to exchange our economic interests in the general partner of MPLX, including IDRs, for newly issued MPLX common units. In 2017, in connection with these plans, we contributed assets to MPLX with projected annual EBITDA of approximately \$400 million for \$1.93 billion of cash and approximately 31 million MPLX

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common units and general partner units. On February 1, 2018, we completed the dropdown of the remaining identified assets, which included our refining logistics assets and fuels distribution services with projected annual EBITDA of approximately \$1 billion, in exchange for \$4.1 billion of cash and 114 million MPLX common units and general partner units.

The cash consideration for these dropdowns in 2017 and 2018 was financed by MPLX with \$6.0 billion of debt. See “Other Highlights” section for additional information on MPLX debt financing in 2017 and 2018. The equity financing was funded through new MPLX common units and general partner units issued to us. Immediately following the closing of the February 1, 2018 dropdown, our IDRs were cancelled and our economic general partner interest in MPLX was converted into a non-economic general partner interest, all in exchange for 275 million newly issued MPLX common units, which resulted in us owning approximately 64 percent of the issued and outstanding MPLX common units as of February 1, 2018. These actions were designed to provide a clear valuation of our midstream platform and to provide an ongoing return of capital to our shareholders in a manner consistent with maintaining an investment-grade credit profile.

See Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations for additional information on our strategic actions to enhance shareholder value. See Item 8. Financial Statements and Supplementary Data – Note 4 for more information on the 2017 dropdowns to MPLX and Note 26 for more information on the 2018 dropdown to MPLX.

Acquisitions and Investments

Our acquisition and investment activity in 2017 was primarily focused in our Midstream segment as follows:

- On March 1, 2017, MPLX acquired the Ozark pipeline from Enbridge Pipelines (Ozark) LLC for approximately \$219 million.
- On February 15, 2017, MPLX acquired a partial, indirect equity interest in the Dakota Access Pipeline (“DAPL”) and Energy Transfer Crude Oil Company Pipeline (“ETCOP”) projects, collectively referred to as the Bakken Pipeline system, through a joint venture, MarEn Bakken Company LLC (“MarEn Bakken”), with Enbridge Energy Partners L.P. (“Enbridge Energy Partners”). MPLX holds, through a subsidiary, a 25 percent interest in MarEn Bakken, which equates to an approximate 9.2 percent indirect equity interest in the Bakken Pipeline system. MPLX contributed \$500 million of the \$2 billion purchase price paid by the joint venture.
- Effective January 1, 2017, MPLX and Antero Midstream formed a joint venture, Sherwood Midstream LLC (“Sherwood Midstream”), to support the development of Antero Resources Corporation’s Marcellus Shale acreage in West Virginia. MarkWest has a 50 percent ownership interest in Sherwood Midstream. In connection with this transaction, MarkWest contributed certain gas processing plants that were under construction at the Sherwood Complex with a fair value of approximately \$134 million, cash of approximately \$20 million and sold Class A Interests in MarkWest Ohio Fractionation to Sherwood Midstream for \$126 million in cash. Sherwood Midstream Holdings LLC (“Sherwood Midstream Holdings”), a joint venture with MarkWest and Sherwood Midstream, was also formed to own, operate and maintain certain assets owned by Sherwood Midstream and MarkWest. MarkWest contributed certain real property, equipment and facilities with a fair value of approximately \$209 million to Sherwood Midstream Holdings in exchange for a 79 percent initial ownership interest.

See Item 8. Financial Statements and Supplementary Data – Note 5 for additional information on these acquisitions and investments and Note 6 for additional information related to the investments in Sherwood Midstream, Ohio Fractionation and Sherwood Midstream Holdings.

Other Highlights

- On February 8, 2018, MPLX issued \$5.5 billion in aggregate principal amount of senior notes in a public offering, consisting of \$500 million aggregate principal amount of 3.375 percent unsecured senior notes due March 2023, \$1.25 billion aggregate principal amount of 4.000 percent unsecured senior notes due March 2028, \$1.75 billion aggregate principal amount of 4.500 percent unsecured senior notes due April 2038, \$1.5 billion aggregate principal amount of 4.700 percent unsecured senior notes due April 2048, and \$500 million aggregate principal amount of 4.900 percent unsecured senior notes due April 2058. On February 8, 2018, \$4.1 billion of the net proceeds were used to repay the 364-day term-loan facility, which was drawn on February 1, 2018 to fund the cash portion of the consideration MPLX paid MPC for the dropdown of assets on February 1, 2018. The remaining proceeds will be used to repay outstanding borrowings under MPLX’s revolving credit facility and intercompany loan agreement with us and for general partnership purposes.

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- On February 10, 2017, MPLX completed a public offering of \$1.25 billion aggregate principal amount of 4.125% unsecured senior notes due March 2027 and \$1.0 billion aggregate principal amount of 5.200% unsecured senior notes due March 2047. MPLX used the net proceeds from this offering to fund the \$1.5 billion cash portion of the consideration MPLX paid MPC for the dropdown of assets on March 1, 2017, as well as for general partnership purposes.
- Primarily during the first six months of 2017, MPLX issued an aggregate of 14 million MPLX common units under the Second Amended and Restated Distribution Agreement (the “Distribution Agreement”) providing for at-the-market issuances of common units, in amounts, at prices and on terms determined by market conditions and other factors at the time of the offerings (such as the at-the-market program, referred to as the “ATM Program”), generating net proceeds of approximately \$473 million.

See Item 8. Financial Statements and Supplementary Data – Note 4 for additional information on MPLX.

Our Competitive Strengths

Extensive Integrated Platform of Midstream, Retail and Refining Assets

We believe the integration of our midstream, retail and refining assets distinguishes us from our competitors. Our midstream, retail and refining assets have significant scale. We currently own, lease or have ownership interests in approximately 10,800 miles of crude oil and products pipelines. Additionally, we have more than 6,000 miles of natural gas gathering and NGL pipelines. We also own or have ownership interests in one of the largest private domestic fleets of inland petroleum product barges and one of the largest terminal operations in the United States, as well as trucking and rail assets. We operate this transportation and distribution system in coordination with our refining and marketing network, which can process up to 1.9 mmbpcd of crude oil, enabling us to optimize raw material supplies and refined product distribution, and deliver important economies of scale across our platform. Our Speedway segment, discussed further below, is one of our largest distribution channels and also our most ratable.

We believe our integrated platform of assets gives us extensive flexibility and optionality to meet the growth needs of the market and the ability to respond promptly to dynamic market conditions, including weather-related and marketplace disruptions.

Competitively Positioned Marketing Operations Provide Assured Product Sales

We are one of the largest wholesale suppliers of gasoline and distillates to resellers within our market area. We have two strong retail brands: Speedway® and Marathon®. We believe Speedway LLC, a wholly-owned subsidiary, operates the second largest chain of company-owned and operated retail gasoline and convenience stores in the United States, with approximately 2,740 convenience stores in 21 states throughout the Midwest, East Coast and Southeast regions of the United States. In addition, our highly successful Speedy Rewards® customer loyalty program, which averaged approximately 6 million active members in 2017, provides us with a unique competitive advantage and opportunity to increase our customer base at existing and new Speedway locations. The Marathon brand is an established motor fuel brand primarily in the Midwest and Southeast regions of the United States, comprised of approximately 5,600 retail outlets operated by independent entrepreneurs across 20 states as of December 31, 2017. The Marathon brand and Speedway have been channels for sales volume growth in existing and contiguous markets.

We consider assured sales as those sales we make to Marathon brand customers, our Speedway operations and to our wholesale customers with whom we have required minimum volume sales contracts. Our assured sales currently account for approximately 70% of our gasoline production. We believe having assured sales brings ratable to our distribution systems, provides a solid base to enhance our overall supply reliability and allows us to efficiently and effectively optimize our operations across our refineries and our transportation and distribution system.

High Quality Network of Strategically Located Assets

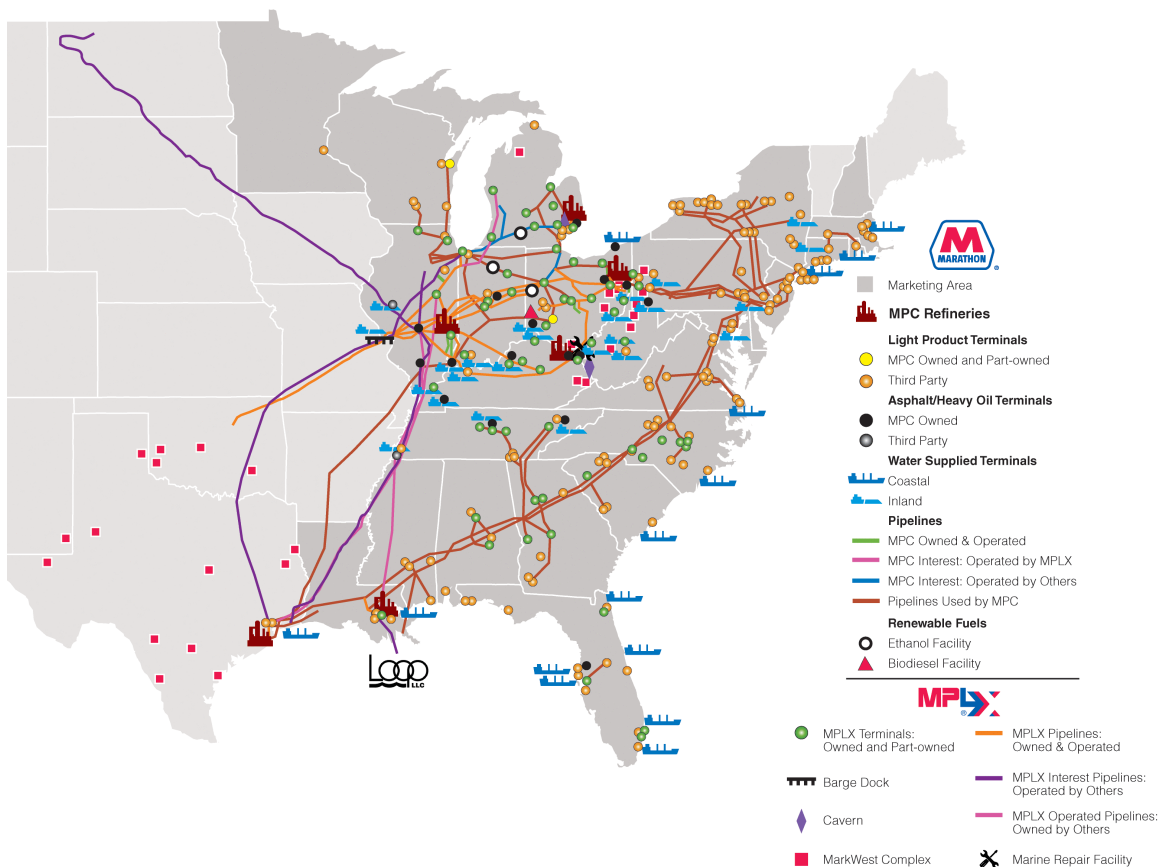
We believe we are the largest crude oil refiner in the Midwest and the second largest in the United States based on crude oil refining capacity. We own a six-plant refinery network, with approximately 1.9 mmbpcd of crude oil throughput capacity. Our refineries process a wide range of crude oils, feedstocks and condensate, including heavy and sour crude oils, which can generally be purchased at a discount to sweet crude oil, and produce transportation fuels such as gasoline and distillates, specialty chemicals and other refined products. While we have historically processed significant quantities of heavy and sour crude oils, our refineries have the ability to process as much as 65 percent to 70 percent light sweet or sour crude oils.

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The geographic locations of our refineries provide us with strategic advantages. Located in PADD II and PADD III, which consist of states in the Midwest and the Gulf Coast regions of the United States, our refineries have the ability to procure crude oil from a variety of supply sources, including domestic, Canadian and other foreign sources, which provides us with flexibility to optimize crude supply costs. For example, geographic proximity to various United States shale oil regions and Canadian crude oil supply sources allows our refineries access to price-advantaged crude oils and lower transportation costs than certain of our refining competitors. Our refinery locations and midstream distribution system also allow us to access refined product export markets and to serve a broad range of key end-user markets across the United States quickly and cost-effectively.

MPLX's logistics assets are similarly located in the Midwest and Gulf Coast regions of the United States. These regions collectively comprised approximately 75 percent of total United States crude distillation capacity and can serve markets representing approximately 81 percent of total United States finished products demand for the year ended December 31, 2017, according to the EIA. This significantly complements our Refining & Marketing segment and creates strategic opportunities for MPC. MPLX is also the largest natural gas processor and fractionator in the Marcellus and Utica shale regions which provides it with strategic competitive advantages in capturing and contracting for gathering, processing and fractionation of new supplies of natural gas as production in these regions continues to increase. MPLX also has a growing presence in the southwestern portion of the United States with an existing strong competitive position with ample opportunities for long-term continued organic growth and close proximity to other expansion opportunities. As of December 31, 2017, MPLX's gathering and processing operations include approximately 5.9 bcf/d of gathering capacity, 8.0 bcf/d of natural gas processing capacity and 610 mbpd of fractionation capacity. Our integrated midstream energy asset network links producers of natural gas, NGLs and crude oil from some of the largest supply basins in the United States to domestic and international markets.

Our Speedway segment, which operates in the Midwest, East Coast and Southeast, complements our refining and midstream assets providing a significant and reliable outlet for our refinery production. Speedway's expansion from nine to 21 states since 2013 has also enabled us to further leverage our integrated refining and transportation system. Speedway is a top performer in the convenience store industry with the highest EBITDA per store per month of its public peers and leading positions with respect to other comparisons based on light products volume, merchandise sales and total margin on a per store per month basis.



* As of December 31, 2017

General Partner and Sponsor of MPLX

Our investment in MPLX provides us an efficient vehicle to invest in organic projects and pursue acquisitions of midstream assets; all with the focus of enhancing our share price through our limited partner interest in MPLX. MLP interests tend to receive higher market multiples. MPLX’s liquidity, size, scale and access to the capital markets should provide us a strong foundation to execute our strategy for growing our midstream business.

Following the completion of our strategic actions to enhance shareholder value discussed earlier, we own approximately 505 million MPLX common units with a value of \$19.15 billion based on MPLX’s February 1, 2018 closing unit price of \$37.95.

See Item 8. Financial Statements and Supplementary Data – Note 4 for additional information on the dropdowns to MPLX.

Established Track Record of Profitability

We have demonstrated an ability to achieve positive financial results throughout all stages of the business cycle due in large part to our business mix and geographic diversity. Income generated by our Speedway segment is less sensitive to business cycles. Similarly, long-term, fee based income generated by our Midstream segment is more stable over business cycles, while our Refining & Marketing segment enables us to generate significant income and cash flow when market conditions are more favorable. We also believe our strategies position us well to continue to achieve competitive financial results.

Strong Financial Position

As of December 31, 2017, we had \$3.01 billion in cash and cash equivalents and \$4.25 billion in unused committed borrowing facilities, excluding MPLX’s cash and cash equivalents of \$5 million and its credit facilities. We had \$6.00 billion of debt at year-end, excluding MPLX debt of \$6.95 billion. This combination of strong liquidity and manageable leverage provides financial flexibility to fund our growth projects and to pursue our business strategies.

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Our Business Strategies

Maintain Top-Tier Safety and Environmental Performance

We remain committed to operating our assets in a safe and reliable manner and targeting continual improvement in our safety record across all of our operations. We have a history of safe and reliable operations, which was demonstrated again in 2017 with solid personal and process safety performance compared to similar industry averages. In addition, our corporate headquarters, four of our six refineries and 11 additional facilities have earned designations as an OSHA VPP Star site which recognizes employers and workers who have implemented effective safety and health management systems.

We also remain committed to environmental stewardship by continuing to improve the efficiency and reliability of our operations. For instance, in 2010, we established a “Focus on Energy” initiative to bolster our commitment to improving the efficiency of our existing installations. As part of this initiative, a team of dedicated energy specialists was formed to: track and communicate nearly 600 individual energy metrics throughout our refining system; ensure energy efficiency is designed into proposed capital and expense projects; and identify and implement energy-efficiency improvements at each of our refineries, including multi-year programs to enhance insulation, steam system performance and heat integration. Through this focus, our refineries have achieved significant energy-efficiency improvements and performance. Since the EPA began recognizing petroleum refineries under its Energy Star® program in 2006, we have earned 76 percent of the Energy Star® recognitions, despite owning and operating just 10 percent of total U.S. refining capacity. We have also implemented similar initiatives in our transportation fleet which has been recognized as an EPA SmartWay® partner. The SmartWay program recognizes the best-performing freight carriers for greenhouse gas and energy efficiency. These measures not only reduce emissions but can also reduce operating costs.

We proactively address our regulatory requirements and encourage our operations to continually improve their environmental performance through our DEI program, which establishes goals and measures performance. In 2017, we began to include our natural gas gathering and processing operations in certain aspects of the program. Even with the additional assets included, we maintained our performance from 2016 with 31 DEI's, a 53 percent reduction in DEI's since 2013. Since 2001, MPC's health, environment, safety and security (“HES&S”) performance has been continually improving under the Responsible Care® Management System, and we are now moving into a more rigorous phase of HES&S management that represents a new level of commitment: RC14001®:2015 certification. RC14001 is a management system that combines Responsible Care with the globally recognized ISO14001:2015 environmental management system, established by the International Organization for Standardization (“ISO”). ISO is an independent, nongovernmental international body that provides world-class specifications for products, services and systems that ensure quality, safety and efficiency. Similar to Responsible Care, RC14001 provides the Company a management system that integrates health, environmental stewardship, safety and security, and is third-party audited to ensure compliance and continual improvement. Two of our six refineries and our Marathon Pipeline organization and Terminal, Transport and Rail organization are already certified to the RC14001 standard. We expect that our remaining refineries will be certified in 2018 and our natural gas gathering and processing operations will begin to seek RC14001 certification in 2019.

Grow Higher Valued, Stable Cash Flow Businesses

We intend to continue allocating significant portions of our capital to investments to grow our midstream and retail businesses. These businesses typically have more predictable and stable income and cash flows compared to our refining operations and we believe investors assign a higher value to such businesses.

MPLX has significantly expanded its midstream activities through mergers and acquisitions, dropdown transactions with MPC and organic growth projects. MPLX will consider organic growth projects that provide attractive returns and cash flows both within its geographic footprint as well as in new regions. MPLX may pursue these opportunities as standalone projects, with MPC or with other parties. MPLX has identified a number of potential projects over the next several years. These primarily include projects to expand gathering, processing and fractionation infrastructure in the Marcellus and Utica regions and infrastructure investments in the Permian Basin to support significant oil and gas production activities forecasted in those regions.

We intend to continue growing Speedway's profitability by focusing on organic growth opportunities targeted to fill in voids in our existing markets by building new locations and by rebuilding or remodeling existing stores. We will also look to expand our presence by opportunistically acquiring high quality stores in new and existing markets. We have identified numerous opportunities for new convenience stores or store rebuilds in our existing market, with a continued focus in Chicago and Tennessee, as well as opportunities for growth in new markets including Georgia, South Carolina and upstate New York. We also plan to capitalize on diesel demand growth by building out our network of commercial fueling lane locations, which cater to local and regional transport fleets, within our core market.

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Focus on Long-Term Integrated Relationships with Our Producer Customers

MPLX has developed long-term integrated relationships with its natural gas and NGL producer customers. These relationships are characterized by an intense focus on customer service and a deep understanding of producer customers' requirements coupled with the ability to increase the level of our midstream services in response to their midstream requirements. Through collaborative planning with these producer customers, MPLX continues to construct high-quality midstream infrastructure and provide unique solutions that are critical to the ongoing success of producer customers' development plans. As a result of these efforts, MPLX's MarkWest subsidiary has been a top-rated midstream service provider in customer satisfaction since 2006, as determined by an independent research provider.

Pursue Margin Enhancing Investments in Refining to Deliver Top Quartile Refining Performance

Our refining system has the flexibility to process a wide array of crude oils, which positions us well to benefit from economically attractive Canadian heavy crudes, heavy/sour waterborne cargos, as well as the growing crude oil and condensate production from North American shale plays. In addition to having access to multiple domestic markets for our refined products, we are also well positioned to export distillates and gasoline from our Gulf Coast refineries.

We intend to enhance margins in our Refining & Marketing segment by realizing benefits from targeted investments, primarily in our Gulf Coast refining operations. Over the mid- to long-term, we believe significant opportunities exist for refiners that can access international markets with their refined products and that can upgrade residual fuel oil into more valuable refined products, especially distillates. To this end, we are investing approximately \$1.5 billion in Galveston Bay through the STAR project to create a world-class refining complex. This investment will enable us to upgrade low value residual fuel oil into higher value refined products and lowers the refinery's cost of production. The project scope increases heavy crude processing capacity, increases distillate and gas oil recovery and improves the refinery's overall reliability. Project implementation began in 2016 and will complete in early 2022. In addition to STAR, we are expanding Galveston Bay's waterborne product loading capacity to optimize our Gulf Coast product supply system. We are also investing approximately \$200 million in our Garyville refinery to increase coking capacity and ULSD production, scheduled to complete in 2020. Both the Galveston Bay STAR and Garyville coker expansion projects will allow MPC to capitalize on the expected increase in demand for low sulfur distillate arising from the International Maritime Organization ("IMO") low sulfur bunker fuel requirements effective in 2020. Additionally, Garyville will complete the final phase of its Diesel Max project in early-2018, increasing MPC's ULSD production, anticipated to be a key blending component for compliant bunker fuel. Finally, MPC has additional projects under development that would yield benefit through residual fuel oil destruction or increased ULSD production.

Sustain Focus on Disciplined Capital Allocation and Shareholder Returns

We intend to maintain our focus on a disciplined and balanced approach to capital allocation, including return of capital to shareholders, in a manner consistent with maintaining an investment-grade credit profile. Since becoming a stand-alone company in June 2011, our dividend has increased by a 26.5 percent compound annual growth rate and our board of directors has authorized share repurchases totaling \$13.0 billion. Through open market purchases and two ASR programs, we repurchased 246 million shares of our common stock for approximately \$9.81 billion, representing approximately 35 percent of our outstanding common shares when we became a stand-alone company in June 2011. We achieved these shareholder returns while also investing in the business and maintaining an investment-grade credit profile. As of December 31, 2017, \$3.19 billion of authorization remains available for future share repurchases.

Utilize and Enhance our High Quality Employee Workforce

We utilize our high quality employee workforce by continuously leveraging their commercial skills. In addition, we continue to enhance our workforce through active recruitment of the best candidates from diverse backgrounds and effective training programs on safety, environmental stewardship, diversity and inclusion and other professional and technical skills.

The above discussion contains forward-looking statements with respect to the business and operations of MPC and our competitive strengths and business strategies, including our expected investments and the adequacy of our capital resources and liquidity. Factors that could impact our competitive strengths and business strategies, including the adequacy of our capital resources and liquidity include, but are not limited to, our ability to achieve the strategic and other objectives related to the strategic initiatives discussed herein; our ability to generate sufficient income and cash flow to effect the intended share repurchases, including within the expected timeframe; our ability to manage disruptions in credit markets or changes to our credit rating; the potential impact on our share price if we are unable to effect the intended share repurchases; adverse changes in laws including with respect to tax and regulatory matters; changes to the expected construction costs and timing of projects; continued/further volatility in and/or degradation of market and industry conditions; the availability and pricing of crude oil and other feedstocks; slower growth in domestic and Canadian crude supply; the effects of the lifting of the U.S. crude oil export ban; completion of pipeline capacity to areas outside the U.S. Midwest; consumer demand for refined products; transportation logistics; the reliability of processing units and other equipment; MPC's ability to successfully implement growth opportunities; the impact of adverse market conditions affecting MPC's and MPLX's midstream business; modifications to MPLX earnings

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and distribution growth objectives; compliance with federal and state environmental, economic, health and safety, energy and other policies and regulations, including the cost of compliance with the Renewable Fuel Standard, and/or enforcement actions initiated thereunder; adverse results in litigation; changes to MPC's capital budget; other risk factors inherent to MPC's industry. These factors, among others, could cause actual results to differ materially from those set forth in the forward-looking statements. For additional information on forward-looking statements and risks that can affect our business, see "Disclosures Regarding Forward-Looking Statements" and Item 1A. Risk Factors in this Annual Report on Form 10-K.

Refining & Marketing

Refineries

We currently own and operate six refineries in the Gulf Coast and Midwest regions of the United States with an aggregate crude oil refining capacity of 1,881 mbpcd. During 2017, we merged the management and operations of the Galveston Bay and Texas City refineries into a single world-class refining complex that is now operated as Galveston Bay Refinery. As of December 31, 2017, historical refinery data reported for Galveston Bay will include the former Texas City refinery. During 2017, our refineries processed 1,765 mbpd of crude oil and 179 mbpd of other charge and blendstocks. During 2016, our refineries processed 1,699 mbpd of crude oil and 151 mbpd of other charge and blendstocks.

Our refineries include crude oil atmospheric and vacuum distillation, fluid catalytic cracking, hydrocracking, catalytic reforming, coking, desulfurization and sulfur recovery units. The refineries process a wide variety of condensate, light and heavy crude oils purchased from various domestic and foreign suppliers. We produce numerous refined products, ranging from transportation fuels, such as reformulated gasolines, blend-grade gasolines intended for blending with ethanol and ULSD fuel, to heavy fuel oil and asphalt. Additionally, we manufacture aromatics, propane, propylene and sulfur. See the Refined Product Marketing section for further information about the products we produce.

Our refineries are integrated with each other via pipelines, terminals and barges to maximize operating efficiency. The transportation links that connect our refineries allow the movement of intermediate products between refineries to optimize operations, produce higher margin products and efficiently utilize our processing capacity. For example, naphtha may be moved from Galveston Bay to Robinson where excess reforming capacity is available. Also, shipping intermediate products between facilities during partial refinery shutdowns allows us to utilize processing capacity that is not directly affected by the shutdown work.

Following is a description of each of our refineries and their capacity.

Galveston Bay, Texas City, Texas Refinery (571 mbpcd). Our Galveston Bay refinery is a world-class refining complex resulting from the combination of our former Texas City refinery and Galveston Bay refinery, which we acquired on February 1, 2013. The refinery is located on the Texas Gulf Coast approximately 30 miles southeast of Houston, Texas and can process a wide variety of crude oils into gasoline, distillates, aromatics, heavy fuel oil, refinery-grade propylene, fuel-grade coke, dry gas and sulfur. The refinery has access to the export market and multiple options to sell refined products. Our cogeneration facility, which supplies the Galveston Bay refinery, currently has 1,055 megawatts of electrical production capacity and can produce 4.3 million pounds of steam per hour. Approximately 46 percent of the power generated in 2017 was used at the refinery, with the remaining electricity being sold into the electricity grid.

Garyville, Louisiana Refinery (556 mbpcd). Our Garyville, Louisiana refinery is located along the Mississippi River in southeastern Louisiana between New Orleans, Louisiana and Baton Rouge, Louisiana. The Garyville refinery is configured to process a wide variety of crude oils into gasoline, distillates, fuel-grade coke, asphalt, polymer-grade propylene, propane, dry gas, heavy fuel oil, slurry, refinery-grade propylene and sulfur. The refinery has access to the export market and multiple options to sell refined products. A major expansion project was completed in 2009 that increased Garyville's crude oil refining capacity, making it one of the largest refineries in the U.S. Our Garyville refinery has earned designation as an OSHA VPP Star site.

Catlettsburg, Kentucky Refinery (277 mbpcd). Our Catlettsburg, Kentucky refinery is located in northeastern Kentucky on the western bank of the Big Sandy River, near the confluence with the Ohio River. The Catlettsburg refinery processes sweet and sour crude oils into gasoline, distillates, asphalt, aromatics, heavy fuel oil and propane. In the second quarter of 2015, we completed construction of a condensate splitter at our Catlettsburg refinery, which increased our capacity to process condensate from the Utica shale region.

Robinson, Illinois Refinery (245 mbpcd). Our Robinson, Illinois refinery is located in southeastern Illinois. The Robinson refinery processes sweet and sour crude oils into gasoline, distillates, anode-grade coke, propane, aromatics, slurry and refinery-grade propylene. The Robinson refinery has earned designation as an OSHA VPP Star site.

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Detroit, Michigan Refinery (139 mbpd). Our Detroit, Michigan refinery is located in southwest Detroit. It is the only petroleum refinery currently operating in Michigan. The Detroit refinery processes sweet and heavy sour crude oils into gasoline, distillates, asphalt, fuel-grade coke, chemical-grade propylene, propane and slurry. Our Detroit refinery earned designation as an OSHA VPP Star site. In the fourth quarter of 2012, we completed a heavy oil upgrading and expansion project that enabled the refinery to process up to an additional 80 mbpd of heavy sour crude oils, including Canadian crude oils.

Canton, Ohio Refinery (93 mbpd). Our Canton, Ohio refinery is located approximately 60 miles south of Cleveland, Ohio. The Canton refinery processes sweet and sour crude oils, including production from the nearby Utica Shale, into gasoline, distillates, asphalt, roofing flux, propane, refinery-grade propylene and slurry. In December 2014, we completed construction of a condensate splitter at our Canton refinery, which increased our capacity to process condensate from the Utica shale region. The Canton refinery has earned designation as an OSHA VPP Star site.

As of December 31, 2017, our refineries had 22 rail loading racks and 26 truck loading racks and three of our refineries had a total of seven owned and 12 non-owned docks. Total throughput in 2017 was 99 mbpd for the refinery loading racks and 875 mbpd for the refinery docks.

Planned maintenance activities, or turnarounds, requiring temporary shutdown of certain refinery operating units, are periodically performed at each refinery. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations for additional detail.

Refined Product Yields

The following table sets forth our refinery production by product group for each of the last three years.

Refined Product Yields (mbpd)	2017	2016	2015
Gasoline	932	900	913
Distillates	641	617	603
Propane	36	35	36
Feedstocks and special products	277	241	281
Heavy fuel oil	37	32	31
Asphalt	63	58	55
Total	1,986	1,883	1,919

Crude Oil Supply

We obtain the crude oil we refine through negotiated term contracts and purchases or exchanges on the spot market. Our term contracts generally have market-related pricing provisions. The following table provides information on our sources of crude oil for each of the last three years. The crude oil sourced outside of North America was acquired from various foreign national oil companies, production companies and trading companies.

Sources of Crude Oil Refined (mbpd)	2017	2016	2015
United States	999	986	1,138
Canada	381	326	244
Middle East and other international	385	387	329
Total	1,765	1,699	1,711

Our refineries receive crude oil and other feedstocks and distribute our refined products through a variety of channels, including pipelines, trucks, railcars, ships and barges.

Renewable Fuels

We currently own a biofuel production facility in Cincinnati, Ohio that produces biodiesel, glycerin and other by-products. The capacity of the plant is approximately 70 million gallons per year.

We hold ownership interests in ethanol production facilities in Albion, Michigan; Clymers, Indiana and Greenville, Ohio. These plants have a combined ethanol production capacity of approximately 415 million gallons per year (27 mbpd) and are managed by a co-owner.

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Refined Product Marketing

We believe we are one of the largest wholesale suppliers of gasoline and distillates to resellers and consumers within our 26-state market area. Independent retailers, wholesale customers, our Marathon brand jobbers and Speedway brand convenience stores, airlines, transportation companies and utilities comprise the core of our customer base.

The following table sets forth our refined product sales volumes by product group for each of the last three years.

Refined Product Sales by Product Group (mbpd)	2017	2016	2015
Gasoline	1,201	1,219	1,241
Distillates	691	676	667
Propane	37	35	36
Feedstocks and special products	265	231	258
Heavy fuel oil	69	35	30
Asphalt	68	63	57
Total	2,331	2,259	2,289

In addition, we sell gasoline, distillates and asphalt for export, primarily out of our Garyville and Galveston Bay refineries. The following table sets forth our refined product sales destined for export by product group for the past three years.

Refined Product Sales Destined for Export (mbpd)	2017	2016	2015
Gasoline	96	91	101
Distillates	192	199	214
Asphalt	9	6	4
Total	297	296	319

Gasoline and Distillates. We sell gasoline, gasoline blendstocks and distillates (including No. 1 and No. 2 fuel oils, jet fuel, kerosene and diesel fuel) to wholesale customers, Marathon-branded independent entrepreneurs and our Speedway® convenience stores and on the spot market. In addition, we sell diesel fuel and gasoline for export to international customers. We sold 52 percent of our gasoline sales volumes and 89 percent of our distillates sales volumes on a wholesale or spot market basis in 2017. The demand for gasoline and distillates is seasonal in many of our markets, with demand typically at its highest levels during the summer months.

We have blended ethanol into gasoline for more than 25 years and began expanding our blending program in 2007, in part due to federal regulations that require us to use specified volumes of renewable fuels. Ethanol volumes sold in blended gasoline were 81 mbpd in 2017, 84 mbpd in 2016 and 85 mbpd in 2015. We sell reformulated gasoline, which is also blended with ethanol, in 12 states in our marketing area. We also sell biodiesel-blended diesel fuel in 17 states in our marketing area. The future expansion or contraction of our ethanol and biodiesel blending programs will be driven by market economics and government regulations.

Propane. We produce propane at all of our refineries. Propane is primarily used for home heating and cooking, as a feedstock within the petrochemical industry, for grain drying and as a fuel for trucks and other vehicles. Our propane sales are typically split evenly between the home heating market and petrochemical consumers.

Feedstocks and Special Products. We are a producer and marketer of feedstocks and special products. Product availability varies by refinery and includes platformate, alkylate, FCC unit gas, naphtha, dry gas, propylene, raffinate, butane, benzene, xylene, molten sulfur, cumene and toluene. We market these products domestically to customers in the chemical, agricultural and fuel-blending industries. In addition, we produce fuel-grade coke at our Garyville, Detroit and Galveston Bay refineries, which is used for power generation and in miscellaneous industrial applications, and anode-grade coke at our Robinson refinery, which is used to make carbon anodes for the aluminum smelting industry. Our feedstocks and special products sales increased to 265 mbpd in 2017 from 231 mbpd in 2016 and decreased in 2016 from 258 mbpd in 2015. The increase in 2017 was primarily due to more feedstocks and special products sold on the spot market as a result of increased product yields. The decrease in 2016 was primarily due to more feedstocks used in production versus selling them on the spot market.

Heavy Fuel Oil. We produce and market heavy residual fuel oil or related components, including slurry, at all of our refineries. Heavy residual fuel oil is primarily used in the utility and ship bunkering (fuel) industries, though there are other more specialized uses of the product.

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Asphalt. We have refinery-based asphalt production capacity of up to 104 mbpcd, which includes asphalt cements, polymer-modified asphalt, emulsified asphalt, industrial asphalts and roofing flux. We have a broad customer base, including asphalt-paving contractors, government entities (states, counties, cities and townships) and asphalt roofing shingle manufacturers. We sell asphalt in the domestic and export wholesale markets via rail, barge and vessel.

The following table sets forth, as a percentage of total refined product sales volume, the sales of refined products to our different customer types for the past three years.

Refined Product Sales by Customer Type	2017	2016	2015
Private-brand marketers, commercial and industrial customers, including spot market	71%	69%	69%
Marathon-branded independent entrepreneurs	13%	14%	14%
Speedway® convenience stores	16%	17%	17%

As of December 31, 2017, there were 5,617 retail outlets in 20 states and the District of Columbia where independent entrepreneurs maintain Marathon-branded retail outlets.

Terminals

As of December 31, 2017, our Refining & Marketing segment owned and operated 18 asphalt terminals and two light products terminals. In addition, we distribute refined products through 59 light products terminals owned by MPLX and approximately 130 third-party light products and two third-party asphalt terminals in our market area.

Transportation - Truck and Rail

As of December 31, 2017, we owned 180 transport trucks and 193 trailers with an aggregate capacity of 1.8 million gallons for the movement of refined products and crude oil. In addition, we had 1,999 leased and 19 owned railcars of various sizes and capacities for movement and storage of refined products.

The locations and detailed information about our Refining & Marketing assets are included under Item 2. Properties and are incorporated herein by reference.

Speedway

Our Speedway segment sells gasoline, diesel and merchandise through convenience stores that it owns and operates under the Speedway brand. Speedway convenience stores offer a wide variety of merchandise, including prepared foods, beverages and non-food items. Speedway's Speedy Rewards® loyalty program has been a highly successful loyalty program since its inception in 2004, with a consistently growing base which averaged approximately 6 million active members in 2017. Speedway's ability to capture and analyze member-specific transactional data enables us to offer Speedy Rewards® members discounts and promotions specific to their buying behavior. We believe Speedy Rewards® is a key reason customers choose Speedway over competitors and it continues to drive significant value for both Speedway and our Speedy Rewards® members.

The demand for gasoline is seasonal, with the highest demand usually occurring during the summer driving season. Margins from the sale of merchandise tend to be less volatile than margins from the retail sale of gasoline and diesel fuel.

As of December 31, 2017, Speedway had 2,744 convenience stores in 21 states. Speedway also owns a 29 percent interest in PFJ Southeast LLC ("PFJ Southeast"), which is a joint venture between Speedway and Pilot Flying J with 124 travel center locations primarily in the Southeast United States as of December 31, 2017.

As of December 31, 2017, Speedway owned 109 transport trucks and 103 trailers for the movement of gasoline and distillate.

The locations and detailed information about our Speedway assets are included under Item 2. Properties and are incorporated herein by reference.

Midstream

The Midstream segment, which primarily includes the operations of MPLX, gathers, processes and transports natural gas; gathers, transports, fractionates, stores and markets NGLs; and transports and stores crude oil and refined products principally for the Refining & Marketing segment via pipelines, terminals, towboats and barges. The Midstream segment also includes certain related operations retained by MPC.

MPLX

As of December 31, 2017, MPLX assets included approximately 5.9 bcf/d of natural gas gathering capacity, 8.0 bcf/d of natural gas processing capacity and 610 mbpd of NGL fractionation capacity.

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MPLX assets as of December 31, 2017, also included 1,613 miles of owned or leased and operated common carrier crude oil pipelines and 2,360 miles of common carrier products pipelines and partial ownership in 2,194 miles of crude oil pipelines and 1,917 miles of products pipelines, all of which are across 17 states. In 2017, third parties generated 16 percent of the crude oil and product shipments on MPLX's common carrier pipelines, excluding volumes shipped by MPC under joint tariffs with third parties. MPLX owns nine butane and propane storage caverns with total capacity of approximately 3 million barrels.

As of December 31, 2017, MPLX owned and operated 59 light products terminals and distributes refined products through one leased light products terminal and two light products terminals in which it has partial ownership interests but does not operate.

As of December 31, 2017, MPLX's marine transportation operations included 18 owned towboats, as well as 208 owned and 24 leased barges that transport refined products and crude oil on the Ohio, Mississippi and Illinois rivers and their tributaries and inter-coastal waterways.

MPC-Retained Midstream Assets and Investments

We retained ownership interests in several crude oil and products pipeline systems and pipeline companies. We own 228 miles of private products pipelines that are operated by MPL for the benefit of our Refining & Marketing segment on a cost recovery basis. We also have undivided joint interests in 739 miles of common carrier crude oil pipeline systems and partial ownership interests in pipeline companies including 1,741 miles of products pipelines.

As of December 31, 2017, we also have indirect ownership interests in two ocean vessel joint ventures with Crowley through our investment in Crowley Coastal Partners. These joint ventures operate and charter four Jones Act product tankers, most of which are leased to MPC, and own and operate three 750 Series ATB vessels that are leased to MPC.

The locations and detailed information about our Midstream assets are included under Item 2. Properties and are incorporated herein by reference.

Competition, Market Conditions and Seasonality

The downstream petroleum business is highly competitive, particularly with regard to accessing crude oil and other feedstock supply and the marketing of refined products. We compete with a large number of other companies to acquire crude oil for refinery processing and in the distribution and marketing of a full array of refined products. Based upon the "The Oil & Gas Journal 2018 Worldwide Refinery Survey," we ranked second among U.S. petroleum companies on the basis of U.S. crude oil refining capacity.

We compete in four distinct markets for the sale of refined products—wholesale, spot, branded and retail distribution. We believe we compete with about 50 companies in the sale of refined products to wholesale marketing customers, including private-brand marketers and large commercial and industrial consumers; about 110 companies in the sale of refined products in the spot market; about 10 refiners or marketers in the supply of refined products to refiner-branded independent entrepreneurs; and approximately 830 retailers in the retail sale of refined products. In addition, we compete with producers and marketers in other industries that supply alternative forms of energy and fuels to satisfy the requirements of our industrial, commercial and retail consumers. We do not produce any of the crude oil we refine.

We also face strong competition for sales of retail gasoline, diesel fuel and merchandise. Our competitors include service stations and convenience stores operated by fully integrated major oil companies, independent entrepreneurs and other well-recognized national or regional convenience stores and travel centers, often selling gasoline, diesel fuel and merchandise at competitive prices. Non-traditional retailers, such as supermarkets, club stores and mass merchants, have affected the convenience store industry with their entrance into sales of retail gasoline and diesel fuel. Energy Analysts International, Inc. estimated such retailers had approximately 15 percent of the U.S. gasoline market in mid-2017.

Our Midstream operations face competition for natural gas gathering, crude oil transportation and in obtaining natural gas supplies for our processing and related services; in obtaining unprocessed NGLs for gathering and fractionation; and in marketing our products and services. Competition for natural gas supplies is based primarily on the location of gas gathering facilities and gas processing plants, operating efficiency and reliability and the ability to obtain a satisfactory price for products recovered. Competitive factors affecting our fractionation services include availability of capacity, proximity to supply and industry marketing centers and cost efficiency and reliability of service. Competition for customers to purchase our natural gas and NGLs is based primarily on price, delivery capabilities, flexibility and maintenance of high-quality customer relationships. In addition, certain of our Midstream operations are highly regulated, which affects the rates that our common carrier pipelines can charge for transportation services and the return we obtain from such pipelines.

Market conditions in the oil and gas industry are cyclical and subject to global economic and political events and new and changing governmental regulations. Our operating results are affected by price changes in crude oil, natural gas and refined

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products, as well as changes in competitive conditions in the markets we serve. Price differentials between sweet and sour crude oils, WTI and LLS crude oils and other market structure differentials also affect our operating results.

Demand for gasoline, diesel fuel and asphalt is higher during the spring and summer months than during the winter months in most of our markets, primarily due to seasonal increases in highway traffic and construction. As a result, the operating results for each of our segments for the first and fourth quarters may be lower than for those in the second and third quarters of each calendar year.

Our Midstream segment can be affected by seasonal fluctuations in the demand for natural gas and NGLs and the related fluctuations in commodity prices caused by various factors such as changes in transportation and travel patterns and variations in weather patterns from year to year. Overall, our exposure to the seasonal fluctuations in the commodity markets is declining due to our growth in fee-based business.

Environmental Matters

Our management is responsible for ensuring that our operating organizations maintain environmental compliance systems that support and foster our compliance with applicable laws and regulations, and for reviewing our overall environmental performance. We also have a Corporate Emergency Response Team that oversees our response to any major environmental or other emergency incident involving us or any of our facilities.

We believe it is likely that the scientific and political attention to issues concerning the extent and causes of climate change will continue, with the potential for further regulations that could affect our operations. Currently, legislative and regulatory measures to address greenhouse gases are in various phases of review, discussion or implementation. The cost to comply with these laws and regulations cannot be estimated at this time, but could be significant. For additional information, see Item 1A. Risk Factors. We estimate and publicly report greenhouse gas emissions from our operations and products. Additionally, we continuously strive to improve operational and energy efficiencies through resource and energy conservation where practicable.

Our operations are subject to numerous other laws and regulations relating to the protection of the environment. Such laws and regulations include, among others, the Clean Air Act (“CAA”) with respect to air emissions, the Clean Water Act (“CWA”) with respect to water discharges, the Resource Conservation and Recovery Act (“RCRA”) with respect to solid and hazardous waste treatment, storage and disposal, the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”) with respect to releases and remediation of hazardous substances and the Oil Pollution Act of 1990 (“OPA-90”) with respect to oil pollution and response. In addition, many states where we operate have similar laws. New laws are being enacted and regulations are being adopted on a continuing basis, and the costs of compliance with such new laws and regulations are very difficult to estimate until finalized.

For a discussion of environmental capital expenditures and costs of compliance for air, water, solid waste and remediation, see Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations-Environmental Matters and Compliance Costs.

Air

We are subject to many requirements in connection with air emissions from our operations. Internationally and domestically, emphasis has been placed on reducing greenhouse gas emissions. There has been a dramatic shift in climate-related policy under the Trump Administration as compared to the Obama Administration’s policies. On March 28, 2017, President Trump published Executive Order 13783, pledging, among other things, to review, rescind, revoke or withdraw much of the Obama-era climate change policies, regulations and guidance. The most prominent policies and regulations impacted by the Executive Order include the Obama Administration’s 2013 Climate Action Plan, the “Clean Power Plan,” the “Social Cost of Carbon,” the “Social Cost of Methane” and the Council on Environmental Quality’s “Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews.” President Trump also announced the United States would withdraw from the 2015 Paris UN Climate Change Conference Agreement, which aims to hold the increase in the global average temperature to well below two degrees Celsius as compared to pre-industrial levels. Many of the policies and regulations rescinded through Executive Order 13783 had been adopted to meet the United States’ pledge under the Agreement. The U.S. climate change strategy and implementation of that strategy through legislation and regulation may change under future administrations; therefore, the impact to our industry and operations due to greenhouse gas regulation is unknown at this time.

Regardless of whether legislation or regulation is enacted, given the continuing global demand for oil and gas - even under different hypothetical carbon-constrained scenarios - MPC has taken actions that have resulted in lower greenhouse gas emissions and we are positioned to remain a successful company well into the future. We have instituted a program to improve energy efficiency of our refineries and other assets which will continue to pay dividends in reducing our environmental

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footprint as well as making us more cost-competitive. We believe our mature governance and risk-management processes enable the company to effectively monitor and adjust to any transitional or physical climate-related risks.

In 2009, the EPA issued an “endangerment finding” that greenhouse gas emissions contribute to air pollution that endangers public health and welfare. Related to the endangerment finding, in April 2010, the EPA finalized a greenhouse gas emission standard for mobile sources (cars and other light duty vehicles). The endangerment finding, the mobile source standard and the EPA’s determination that greenhouse gases are subject to regulation under the Clean Air Act resulted in permitting of greenhouse gas emissions at stationary sources. Through a series of legal challenges filed against the EPA, the requirement to control greenhouse gas emissions through Best Available Control Technology has been limited to new and modified large stationary sources, such as refineries, that will also emit a criteria pollutant. Implementing Best Available Control Technology may result in increased costs to our operations. A few MPC projects may trigger greenhouse gas permitting requirements but any additional capital spending will likely not be significant.

The EPA has finalized Source Performance Standards for greenhouse gas emissions for new and existing electric utility generating units. These standards could impact electric and natural gas rates for all our operations. Legal challenges have been filed by several states and by industry groups seeking to overturn the final rules. In February 2016, the United States Supreme Court stayed implementation of the standards for existing utility generating units (also known as the Clean Power Plan) until complete disposition of the litigation. The litigation has been placed in abeyance. On October 10, 2017, the EPA issued a Notice of Proposed Rulemaking proposing to repeal the Clean Power Plan. The EPA has also announced its intention to replace the Clean Power Plan with a narrower rule. A proposed replacement rule is expected in 2018.

In the absence of federal legislation or regulation of greenhouse gas emissions, states are becoming more active in regulating greenhouse gas emissions. These measures may include state actions to develop statewide or regional programs to impose emission reductions. These measures may also include low-carbon fuel standards, such as the California program, or a state carbon tax. These measures could result in increased costs to operate and maintain our facilities, capital expenditures to install new emission controls and costs to administer any carbon trading or tax programs implemented.

We could also face increased climate-related litigation with respect to our operations or products. Private party litigation seeking damages and injunctive relief is pending against MPC and other oil and gas companies in California state court. Although uncertain, these actions could increase our costs or operations or reduce the demand for the refined products we produce, transport, store and sell.

Private parties have also sued federal and certain state governmental entities seeking additional greenhouse gas emission reductions beyond those currently being undertaken. In sum, requiring reductions in greenhouse gas emissions could result in increased costs to (i) operate and maintain our facilities, (ii) install new emission controls at our facilities and (iii) administer and manage any greenhouse gas emissions programs, including acquiring emission credits or allotments. These requirements may also significantly affect MPC’s refinery operations and may have an indirect effect on our business, financial condition and results of operations. The extent and magnitude of the impact from greenhouse gas regulation or legislation cannot be reasonably estimated due to the uncertainty regarding the additional measures and how they will be implemented.

In 2015, the EPA finalized a revision to the National Ambient Air Quality Standards (“NAAQS”) for ozone. The EPA lowered the primary ozone NAAQS from 75 ppb to 70 ppb. This revision initiated a multi-year process in which nonattainment designations will be made based on more recent ozone measurements that includes data from 2016. On November 6, 2017, the EPA finalized ozone attainment/unclassifiable designations for certain areas under the new standard. The EPA has not yet designated any counties as nonattainment under the lower primary ozone standard, but such nonattainment designations could result in increased costs associated with, or result in cancellation or delay of, capital projects at our facilities. For areas designated nonattainment, states will be required to adopt State Implementation Plans (“SIPs”) for nonattainment areas. These SIPs may include NOx and/or VOC reductions that could result in increased costs to our facilities. We cannot predict the various SIPs requirements at this time.

On September 29, 2015, the EPA signed the final regulations revising existing refinery air emissions standards. The revised regulations were published in the Federal Register on December 1, 2015. The revised rule requires additional controls, lower emission standards and ambient air monitoring to be implemented over a multi-year period. We do not anticipate that MPC’s costs to comply with the revised regulations will be material to our results of operations or cash flows.

Water

We maintain numerous discharge permits as required under the National Pollutant Discharge Elimination System program of the CWA and have implemented systems to oversee our compliance with these permits. In addition, we are regulated under OPA-90, which among other things, requires the owner or operator of a tank vessel or a facility to maintain an emergency plan to respond to releases of oil or hazardous substances. OPA-90 also requires the responsible company to pay resulting removal

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costs and damages and provides for civil penalties and criminal sanctions for violations of its provisions. We operate tank vessels and facilities from which spills of oil and hazardous substances could occur. We have implemented emergency oil response plans for all of our components and facilities covered by OPA-90 and we have established Spill Prevention, Control and Countermeasures plans for all facilities subject to such requirements.

Additionally, OPA-90 requires that new tank vessels entering or operating in U.S. waters be double-hulled and that existing tank vessels that are not double-hulled be retrofitted or removed from U.S. service. All barges used for river transport of our raw materials and refined products meet the double-hulled requirements of OPA-90. Some coastal states in which we operate have passed state laws similar to OPA-90, but with expanded liability provisions, that include provisions for cargo owner responsibility as well as ship owner and operator responsibility.

In June 2015, the EPA and the United States Army Corps of Engineers finalized significant changes to the definition of the term “waters of the United States” (“WOTUS”) used in numerous programs under the CWA. This final rulemaking is referred to as the Clean Water Rule. The Clean Water Rule, as written, expands permitting, planning and reporting obligations and may extend the timing to secure permits for pipeline and fixed asset construction and maintenance activities. The Clean Water Rule has been challenged in multiple federal courts by many states, trade groups, and other interested parties, and in October 2015, a United States Court of Appeals issued a nationwide stay of the Clean Water Rule. On appeal, however, the Supreme Court determined that the court of appeals did not have original jurisdiction to review challenges to the 2015 Rule. As such, legal challenges to the rule will proceed in federal district courts. Concurrent with the legal challenges, on February 28, 2017, President Trump signed Executive Order 13778, directing the EPA and the Army Corps of Engineers to review the 2015 Rule for consistency with the policy outlined in the Order, and to issue a proposed rule rescinding or revising the 2015 Rule as appropriate and consistent with law. The Order also directed the agencies to consider interpreting the term “navigable waters” in a manner consistent with Justice Scalia’s plurality opinion in *Rapanos v. United States*, 547 U.S. 715 (2006). On June 27, 2017, the EPA and the U.S. Army Corps of Engineers proposed a rule to rescind the Clean Water Rule and re-codify the regulatory text that existed prior to 2015 defining “waters of the United States.” Then, on February 6, 2018, the EPA and the U.S. Army Corps of Engineers published a final rule adding an applicability date of February 6, 2020, to the 2015 Clean Water Rule. Establishing an applicable date in 2020 will allow the agencies the time needed to reconsider the definition of “waters of the United States” consistent with the Executive Order.

In 2015, the EPA issued its intent to review the CWA categorical effluent limitation guidelines (“ELG”) for the petroleum refining sector. During 2017, the EPA prepared and issued a draft information request (“ICR”) requesting significant wastewater and treatment process details from select refineries, four of which were ours. EPA may also perform sampling of effluent at one or more of our refineries. The EPA has indicated they believe there have been significant changes in the characteristics of waste waters generated within refining operations that warrant the review. Specific targets for the review are the impacts of processing heavier crude oils and the transfer of air pollutants to wastewater when air pollution abatement devices are in use. A similar project, initiated in 2007 for steam electric power generation with similar attributes, resulted in a significant change in the treatment requirements for coal-fired power plants. However, on September 18, 2017, EPA postponed certain compliance dates while it conducts a rulemaking to revise the ELGs for power plants. The refining sector ELG review has the potential to result in a similar impact. The typical life-cycle for an ELG review from the intent to review to issuance of a final rule that would require upgrades is seven years. The impact of an ELG review cannot be accurately estimated at this time.

Solid Waste

We continue to seek methods to minimize the generation of hazardous wastes in our operations. RCRA establishes standards for the management of solid and hazardous wastes. Besides affecting waste disposal practices, RCRA also addresses the environmental effects of certain past waste disposal operations, the recycling of wastes and the regulation of USTs containing regulated substances. We have ongoing RCRA treatment and disposal operations at our Galveston Bay and Robinson refineries and primarily utilize offsite third-party treatment and disposal facilities. Ongoing RCRA-related costs, however, are not expected to be material to our results of operations or cash flows.

Remediation

We own or operate, or have owned or operated, certain convenience stores and other locations where, during the normal course of operations, releases of refined products from USTs have occurred. Federal and state laws require that contamination caused by such releases at these sites be assessed and remediated to meet applicable standards. Penalties or other sanctions may be imposed for noncompliance. The enforcement of the UST regulations under RCRA has been delegated to the states, which administer their own UST programs. Our obligation to remediate such contamination varies, depending on the extent of the releases and the stringency of the applicable state laws and regulations. A portion of these remediation costs may be recoverable from the appropriate state UST reimbursement funds once the applicable deductibles have been satisfied. We also have ongoing remediation projects at a number of our current and former refinery, terminal and pipeline locations.

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Claims under CERCLA and similar state acts have been raised with respect to the clean-up of various waste disposal and other sites. CERCLA is intended to facilitate the clean-up of hazardous substances without regard to fault. Potentially responsible parties for each site include present and former owners and operators of, transporters to and generators of the hazardous substances at the site. Liability is strict and can be joint and several. Because of various factors including the difficulty of identifying the responsible parties for any particular site, the complexity of determining the relative liability among them, the uncertainty as to the most desirable remediation techniques and the amount of damages and clean-up costs and the time period during which such costs may be incurred, we are unable to reasonably estimate our ultimate cost of compliance with CERCLA; however, we do not believe such costs will be material to our business, financial condition, results of operations or cash flows.

Mileage Standards, Renewable Fuels and Other Fuels Requirements

The U.S. Congress passed the Energy Independence and Security Act of 2007 (“EISA”), which, among other things, set a target of 35 miles per gallon for the combined fleet of cars and light trucks in the United States by model year 2020, and contains the RFS2. In August 2012, the EPA and the National Highway Traffic Safety Administration (“NHTSA”) jointly adopted regulations that establish average industry fleet fuel economy standards for passenger cars and light trucks of up to 41 miles per gallon by model year 2021 and average fleet fuel economy standards of up to 49.7 miles per gallon by model year 2025. The standards from 2022 to 2025 are the government’s current estimate but will require further rulemaking by the NHTSA. In 2017, the EPA announced its intention to reconsider whether the light-duty vehicle greenhouse gas emission standards previously established for years 2022-2025 are appropriate under section 202(a) of the Clean Air Act and to coordinate its reconsideration with the parallel rulemaking process to be undertaken by the Department of Transportation’s NHTSA regarding Corporate Average Fuel Economy (CAFE) standards for cars and light trucks for the same model years. Higher CAFE standards for cars and light trucks have the potential to reduce demand for our transportation fuels. New or alternative transportation fuels such as compressed natural gas could also pose a competitive threat to our operations.

The RFS2 requires the total volume of renewable transportation fuels sold or introduced annually in the U.S. to reach 24.0 billion gallons in 2017, 26.0 billion gallons in 2018 and increase to 36.0 billion gallons by 2022. Within the total volume of renewable fuel, EISA established an advanced biofuel volume of 9.0 billion gallons in 2017, 11.0 billion gallons in 2018 and increasing to 21.0 billion gallons in 2022. Subsets within the advanced biofuel volume include biomass-based diesel, which was set as at least 1.0 billion gallons in 2014 through 2022 (to be determined by the EPA through rulemaking), and cellulosic biofuel, which was set at 5.5 billion gallons in 2017, 7.0 billion gallons in 2018 and increasing to 16.0 billion gallons in 2022.

On November 30, 2015, the EPA finalized the renewable fuel standards for the years of 2014, 2015 and 2016 as well as the biomass-based diesel standard for 2017. In a legal challenge to the 2014-2016 volumes, the court vacated the total renewable volume for 2016 and remanded to EPA for reconsideration consistent with the court’s opinion. A remanded rule that increases the 2016 total renewable volume could increase our cost of compliance with the Renewable Fuels Standards and be detrimental to the RIN market.

On November 23, 2016, the EPA finalized the renewable fuel standards for the year 2017 and the biomass based diesel standard for 2018. The EPA used its cellulosic waiver authority to reduce the standards for 2017 from the statutory amounts to the following: 19.28 billion gallons total renewable fuel; 4.28 billion gallons advanced biofuel; and 311 million gallons cellulosic ethanol. The EPA increased the biomass based diesel standard for 2018 to 2.1 billion gallons. The 2017 standards have been challenged in court. On November 30, 2017, the EPA announced the final renewable fuel standards for 2018 and the biomass based diesel standard for 2019. The EPA again used its cellulosic waiver authority to reduce the standards for 2018 from the statutory amounts to the following: 19.29 billion gallons total renewable fuel; 4.29 billion gallons advanced biofuel; and 288 million gallons cellulosic ethanol. The EPA maintained the biomass based diesel standard for 2019 at 2.1 billion gallons. In the near term, the RFS2 will be satisfied primarily with ethanol blended into gasoline. Vehicle, regulatory and infrastructure constraints limit the blending of significantly more than 10 percent ethanol into gasoline (“E10”). The volumes for 2016, 2017 and 2018 result in the ethanol content of gasoline exceeding the E10 blendwall, which will require obligated parties to either sell E15 or ethanol flex fuel at levels that exceed historical levels or retire carryover RINs. In October 2010, the EPA issued a partial waiver decision under the CAA to allow for an increase in the amount of ethanol permitted to be blended into gasoline from E10 to E15 for model year 2007 and newer light-duty motor vehicles. In January 2011, the EPA issued a second waiver for the use of E15 in vehicles model year 2001-2006. There are numerous issues, including state and federal regulatory issues, associated with marketing E15 such as infrastructure compatibility issues and vehicle manufacturer warranty concerns related to E15 usage. Neither E15 nor ethanol flex fuel has been readily accepted by the consumer.

With potentially uncertain supplies, the advanced biofuels programs may present specific challenges in that we may have to enter into arrangements with other parties or purchase credits from the EPA to meet our obligations to use advanced biofuels, including biomass-based diesel and cellulosic biofuel.

We made investments in infrastructure capable of expanding biodiesel blending capability to help comply with the biodiesel RFS2 requirement by buying and blending biodiesel into our refined diesel product, and by buying needed biodiesel RINs in

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the EPA-created biodiesel RINs market. On April 1, 2014, we purchased a facility in Cincinnati, Ohio, which currently produces biodiesel, glycerin and other by-products. The capacity of the plant is approximately 60 million gallons per year. As a producer of biodiesel, we now generate RINs, thereby reducing our reliance on the external RIN market.

In November 2017, the EPA finalized its decision to deny petitions requesting that the point of obligation for the RFS2 be moved to the terminal rack. Legal challenge of the EPA's decision is expected and, should the court decide that EPA's decision was incorrect and move the point of obligation, we could be subject to increased costs and compliance uncertainties.

The RFS2 has required, and may in the future continue to require, additional capital expenditures or expenses by us to accommodate increased renewable fuels use. We may experience a decrease in demand for refined products due to an increase in combined fleet mileage or due to refined products being replaced by renewable fuels. Demand for our refined products also may increase as a result of low carbon fuel standard programs or electric vehicle mandates.

On March 3, 2014, the EPA signed the final Tier 3 fuel standards. The final Tier 3 fuel standards require, among other things, a lower annual average sulfur level in gasoline to no more than 10 ppm beginning in calendar year 2017. In addition, gasoline refiners and importers may not exceed a maximum per-gallon sulfur standard of 80 ppm while retailers may not exceed a maximum per-gallon sulfur standard of 95 ppm. We anticipate that we will spend an estimated \$650 million between 2014 and 2019 for capital expenditures necessary to comply with these standards, which includes estimated capital expenditures of approximately \$400 million in 2018-2019.

Trademarks, Patents and Licenses

Our Marathon trademark is material to the conduct of our refining and marketing operations, and our Speedway trademark is material to the conduct of our retail marketing operations. We currently hold a number of U.S. and foreign patents and have various pending patent applications. Although in the aggregate our patents and licenses are important to us, we do not regard any single patent or license or group of related patents or licenses as critical or essential to our business as a whole. In general, we depend on our technological capabilities and the application of know-how rather than patents and licenses in the conduct of our operations.

Employees

We had approximately 43,800 regular full-time and part-time employees as of December 31, 2017, which includes approximately 32,150 employees of Speedway.

Certain hourly employees at our Canton, Catlettsburg and Galveston Bay refineries are represented by the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers Union under labor agreements that are due to expire in 2019. The International Brotherhood of Teamsters represents certain hourly employees at our Detroit refinery under a labor agreement that is also scheduled to expire in 2019. In addition, they represent certain hourly employees at Speedway under agreements that cover certain retail locations in New York and New Jersey that expire on March 14, 2019 and June 30, 2019, respectively. In addition, certain hourly employees at our Cincinnati biofuel production facility are represented by the Employees Representation Association under a labor agreement that is due to expire in 2021.

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Executive and Corporate Officers of the Registrant

The executive and corporate officers of MPC are as follows:

Name	Age as of February 1, 2018	Position with MPC
Gary R. Heminger	64	Chairman and Chief Executive Officer
Molly R. Benson ^(a)	51	Vice President, Corporate Secretary and Chief Compliance Officer
Raymond L. Brooks	57	Senior Vice President, Refining
Suzanne Gagle	52	Vice President and General Counsel
Timothy T. Griffith	48	Senior Vice President and Chief Financial Officer
Thomas Kaczynski	56	Vice President, Finance and Treasurer
Thomas M. Kelley	58	Senior Vice President, Marketing
Anthony R. Kenney	64	President, Speedway LLC
D. Rick Linhardt ^(a)	59	Vice President, Tax
C. Michael Palmer	64	Senior Vice President, Supply, Distribution and Planning
Brian K. Partee ^(a)	44	Vice President, Business Development
John J. Quaid	46	Vice President and Controller
David R. Sauber	54	Senior Vice President, Human Resources, Health and Administrative Services
Donald C. Templin	54	President
Donald W. Wehrly ^(a)	58	Vice President and Chief Information Officer
David L. Whikehart ^(a)	58	Vice President, Environment, Safety and Corporate Affairs

^(a) Corporate officer.

Mr. Heminger is chairman of the board and chief executive officer. He has served as the chairman of the board since April 2016 and as chief executive officer since 2011. Mr. Heminger also served as president from 2011 until 2017, and as president of Marathon Petroleum Company LP (formerly known as Marathon Ashland Petroleum LLC and Marathon Petroleum Company LLC), currently a wholly owned subsidiary of MPC and prior to the Spinoff, a wholly owned subsidiary of Marathon Oil. He assumed responsibility as president of Marathon Petroleum Company LP in September 2001.

Ms. Benson was appointed vice president, corporate secretary and chief compliance officer effective March 1, 2016. Prior to this appointment, Ms. Benson was assistant general counsel, corporate and finance beginning in April 2012, group counsel, corporate and finance beginning in 2011, group counsel, North American production for Marathon Oil Company beginning in 2010 and senior attorney, downstream business beginning in 2006.

Mr. Brooks was appointed senior vice president, Refining effective March 1, 2016. Prior to this appointment, Mr. Brooks was general manager, Galveston Bay refinery beginning in February 2013, general manager, Robinson refinery beginning in 2010 and general manager, St. Paul Park, Minnesota refinery (no longer owned by MPC) beginning in 2006.

Ms. Gagle was appointed vice president and general counsel effective March 1, 2016. Prior to this appointment, Ms. Gagle was assistant general counsel, litigation and Human Resources beginning in April 2011, senior group counsel, downstream operations beginning in 2010 and group counsel, litigation, beginning in 2003.

Mr. Griffith was appointed senior vice president and chief financial officer effective March 3, 2015. Prior to this appointment, Mr. Griffith served as vice president, Finance and Investor Relations, and treasurer beginning in January 2014. He was vice president of Finance and treasurer beginning in August 2011. Previously, Mr. Griffith was vice president Investor Relations and treasurer of Smurfit-Stone Container Corporation, a packaging manufacturer, in St. Louis, Missouri, from 2008 to 2011.

Mr. Kaczynski was appointed vice president, Finance and treasurer effective August 31, 2015. Prior to this appointment, Mr. Kaczynski was vice president and treasurer of Goodyear Tire and Rubber Company, one of the world's largest tire manufacturers, beginning in 2014. Previously, he served as vice president, Investor Relations, of Goodyear Tire and Rubber Company beginning in 2013, vice president and corporate treasurer of Affinia Group Inc. beginning in 2005, and director of affiliate finance and of capital markets and bank relations of Visteon Corporation beginning in 2000.

Mr. Kelley was appointed senior vice president, Marketing effective June 30, 2011. Prior to this appointment, Mr. Kelley served in the same capacity for Marathon Petroleum Company LP beginning in January 2010. Previously, he served as director

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of Crude Supply and Logistics for Marathon Petroleum Company LP beginning in January 2008, and as a Brand Marketing manager for eight years prior to that.

Mr. Kenney has served as president of Speedway LLC since August 2005. Prior to this appointment, Mr. Kenney served as vice president, Business Development of Marathon Ashland Petroleum LLC beginning in 2001.

Mr. Linhardt was appointed vice president, Tax effective February 1, 2018. Prior to this appointment, Mr. Linhardt served as director of Tax beginning in June 2017 and manager of Tax Compliance beginning in May 2013. Previously, he served as head of tax at RRI Energy, Inc., an energy service provider, beginning in 2009.

Mr. Palmer was appointed senior vice president, Supply, Distribution and Planning effective June 30, 2011. Prior to this appointment, Mr. Palmer served as vice president, Crude, Supply and Logistics for Marathon Petroleum Company LP beginning in June 2010. He served as director of Crude, Supply and Logistics beginning in February 2010, and as senior vice president, Oil Sands Operations and Commercial Activities for Marathon Oil Canada Corporation beginning in 2007.

Mr. Partee was appointed vice president, Business Development effective February 1, 2018. Prior to this appointment, Mr. Partee was director of Business Development beginning in January 2017. Previously, he was manager of crude oil logistics beginning in September 2014, vice president, Business Development and Franchise at Speedway beginning in November 2012 and commercial director for Speedway beginning in December 2009.

Mr. Quaid was appointed vice president and controller effective June 23, 2014. Prior to this appointment, Mr. Quaid was vice president of Iron Ore at United States Steel Corporation ("U. S. Steel"), an integrated steel producer, beginning in January 2014. Previously, Mr. Quaid served in various leadership positions at U. S. Steel since February 2002, including vice president and treasurer beginning in August 2011, controller, North American Flat-Rolled Operations beginning in July 2010 and assistant corporate controller beginning in 2008.

Mr. Sauber was appointed senior vice president, Human Resources, Health and Administrative services effective January 1, 2018. Prior to this appointment, Mr. Sauber served as vice president, Human Resources and Labor Relations beginning February 1, 2017. Previously he was vice president, Human Resources Policy, Benefits and Services of Shell Oil Company, a global energy and petrochemical company, beginning in 2013 and served in various leadership positions at Shell Oil Company since 2000 including regional Human Resources manager for U.S. manufacturing in 2009.

Mr. Templin was appointed president effective July 1, 2017. Prior to this appointment, Mr. Templin served as executive vice president beginning January 1, 2016, executive vice president, Supply, Transportation and Marketing beginning March 3, 2015 and senior vice president and chief financial officer beginning on June 30, 2011. Previously, he was a partner at PricewaterhouseCoopers LLP, an audit, tax and advisory services provider, with various audit and management responsibilities beginning in 1996.

Mr. Wehrly was appointed vice president and chief information officer effective June 30, 2011. Prior to this appointment, Mr. Wehrly was the manager of Information Technology Services for Marathon Petroleum Company LP beginning in 2003.

Mr. Whitehart was appointed vice president, Environment, Safety and Corporate Affairs effective February 29, 2016. Prior to this appointment, Mr. Whitehart served as vice president, Corporate Planning, Government & Public Affairs effective January 1, 2016 and director, Product Supply and Optimization beginning in March 2011. Previously, Mr. Whitehart served as director, Climate Change and Carbon Management beginning in 2010 and director, Business Development beginning in 2008.

Available Information

General information about MPC, including Corporate Governance Principles and Charters for the Audit Committee, Compensation Committee and Corporate Governance and Nominating Committee, can be found at <http://ir.marathonpetroleum.com>. In addition, our Code of Business Conduct and Code of Ethics for Senior Financial Officers are also available in this same location.

MPC uses its website, www.marathonpetroleum.com, as a channel for routine distribution of important information, including news releases, analyst presentations, financial information and market data. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as any amendments and exhibits to those reports, are available free of charge through our website as soon as reasonably practicable after the reports are filed or furnished with the SEC. These documents are also available in hard copy, free of charge, by contacting our Investor Relations office. In addition, our website allows investors and other interested persons to sign up to automatically receive email alerts when we post news releases and financial information on our website. Information contained on our website is not incorporated into this Annual Report on Form 10-K or other securities filings.

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Item 1A. Risk Factors

You should carefully consider each of the following risks and all of the other information contained in this Annual Report on Form 10-K in evaluating us and our common stock. Some of these risks relate principally to our business and the industry in which we operate, while others relate to the ownership of our common stock.

Our business, financial condition, results of operations or cash flows could be materially and adversely affected by any of these risks, and, as a result, the trading price of our common stock could decline.

Risks Relating to our Business

A substantial or extended decline in refining and marketing margins would reduce our operating results and cash flows and could materially and adversely impact our future rate of growth, the carrying value of our assets and our ability to execute share repurchases and continue the payment of our base dividend.

Our operating results, cash flows, future rate of growth, the carrying value of our assets and our ability to execute share repurchases and continue the payment of our base dividend are highly dependent on the margins we realize on our refined products. The measure of the difference between market prices for refined products and crude oil, or crack spread, is commonly used by the industry as a proxy for refining and marketing margins. Historically, refining and marketing margins have been volatile, and we believe they will continue to be volatile. Our margins from the sale of gasoline and other refined products are influenced by a number of conditions, including the price of crude oil. We do not produce crude oil and must purchase all of the crude oil we refine. The price of crude oil and the price at which we can sell our refined products may fluctuate independently due to a variety of regional and global market conditions. Any overall change in crack spreads will impact our refining and marketing margins. Many of the factors influencing a change in crack spreads and refining and marketing margins are beyond our control. These factors include:

- worldwide and domestic supplies of and demand for crude oil and refined products;
- the cost of crude oil and other feedstocks to be manufactured into refined products;
- the prices realized for refined products;
- utilization rates of refineries;
- natural gas and electricity supply costs incurred by refineries;
- the ability of the members of OPEC to agree to and maintain production controls;
- political instability or armed conflict in oil and natural gas producing regions;
- local weather conditions;
- seasonality of demand in our marketing area due to increased highway traffic in the spring and summer months;
- natural disasters such as hurricanes and tornadoes;
- the price and availability of alternative and competing forms of energy;
- domestic and foreign governmental regulations and taxes; and
- local, regional, national and worldwide economic conditions.

Some of these factors can vary by region and may change quickly, adding to market volatility, while others may have longer-term effects. The longer-term effects of these and other factors on refining and marketing margins are uncertain. We purchase our crude oil and other refinery feedstocks weeks before we refine them and sell the refined products. Price level changes during the period between purchasing feedstocks and selling the refined products from these feedstocks could have a significant effect on our financial results. We also purchase refined products manufactured by others for resale to our customers. Price changes during the periods between purchasing and reselling those refined products also could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Lower refining and marketing margins may reduce the amount of refined products we produce, which may reduce our revenues, income from operations and cash flows. Significant reductions in refining and marketing margins could require us to reduce our capital expenditures, impair the carrying value of our assets (such as property, plant and equipment, inventory or goodwill), decrease or eliminate our share repurchase activity and our base dividend.

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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. For example, pipelines provide a nearly-exclusive form of transportation of crude oil to, or refined products from, some of our refineries. In such instances, a prolonged interruption in service of such a pipeline could materially and adversely affect the operations, profitability and cash flows of the impacted refinery.

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. 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.

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. Historically, we also have maintained insurance coverage for physical damage and resulting business interruption to our major facilities, with significant self-insured retentions. In the future, we may not be able to maintain insurance of the types and amounts we desire at reasonable rates.

We rely on the performance of our information technology systems, the failure of which due to cyber-security threats or other risks could have an adverse effect on our business, financial condition, results of operations and cash flows.

We are heavily dependent on our information technology systems, network infrastructure and maintain cloud applications for the effective operation of our business. We rely on such systems to process, transmit and store electronic information, including financial records and personally identifiable information such as employee, customer, investor and payroll data, and to manage or support a variety of business processes, including our supply chain, pipeline operations, gathering and processing operations, retail sales, credit card payments and authorizations at our Speedway and Marathon branded retail outlets, financial transactions, banking and numerous other processes and transactions. These information systems involve data network and telecommunications, Internet access and website functionality, and various computer hardware equipment and software applications, including those that are critical to the safe operation of our business. Our systems and infrastructure are subject to damage or interruption from a number of potential sources including natural disasters, software viruses or other malware, power failures, cyber-attacks and other events. We also face various other cyber-security threats from criminal hackers, state-sponsored intrusion, industrial espionage and employee malfeasance, including threats to gain unauthorized access to sensitive information or to render data or systems unusable. To protect against such attempts of unauthorized access or attack, we have implemented infrastructure protection technologies and disaster recovery plans and continuously provide employee awareness training around phishing, malware and other cyber-attacks to help ensure we are protected against cyber risks and security breaches. While we have invested significant amounts in the protection of our technology systems and maintain what we believe are adequate security controls over personally identifiable customer, investor and employee data, there can be no guarantee such plans, to the extent they are in place, will be effective. Certain vendors have access to sensitive information, including personally identifiable customer, investor and employee data and a breakdown of their technology systems or infrastructure as a result of a cyber-attack or otherwise could result in unauthorized disclosure of such information. Unauthorized disclosure of sensitive or personally identifiable information, including by cyber-attacks or other security breach, could cause loss of data, give rise to remediation or other expenses, expose us to liability under federal and state laws, reduce our customers' willingness to do business with us, disrupt the services we provide to customers and subject us to litigation and investigations, which could have an adverse effect on our reputation, business, financial condition, results of operations and cash flows. In addition, our applicable insurance may not compensate us adequately for losses that may occur. State and federal cyber-security legislation could also impose new requirements, which could increase our cost of doing business.

The retail market is diverse and highly competitive, and very aggressive competition could adversely impact our business.

We face strong competition in the market for the sale of retail gasoline, diesel fuel and merchandise. Our competitors include outlets owned or operated by fully integrated major oil companies or their dealers or jobbers, and other well-recognized national or regional retail outlets, often selling gasoline or merchandise at very competitive prices. Several non-traditional

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retailers such as supermarkets, club stores and mass merchants are in the retail business. These non-traditional gasoline retailers have obtained a significant share of the transportation fuels market and we expect their market share to grow. Because of their diversity, integration of operations, experienced management and greater financial resources, these companies may be better able to withstand volatile market conditions or levels of low or no profitability in the retail segment of the market. In addition, these retailers may use promotional pricing or discounts, both at the pump and in the store, to encourage in-store merchandise sales. These activities by our competitors could pressure us to offer similar discounts, adversely affecting our profit margins. Additionally, the loss of market share by our convenience stores to these and other retailers relating to either gasoline or merchandise could have a material adverse effect on our business, financial condition, results of operations and cash flows.

The development, availability and marketing of alternative and competing fuels in the retail market could adversely impact our business. We compete with other industries that provide alternative means to satisfy the energy and fuel needs of our consumers. Increased competition from these alternatives as a result of governmental regulations, technological advances and consumer demand could have an impact on pricing and demand for our products and our profitability.

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

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

We may incur losses to our business as a result of our forward-contract activities and derivative transactions.

We currently use commodity derivative instruments, and we expect to enter into these types of transactions in the future. A failure of a futures commission merchant or counterparty to perform would affect these transactions. To the extent the instruments we utilize to manage these exposures are not effective, we may incur losses related to the ineffective portion of the derivative transaction or costs related to moving the derivative positions to another futures commission merchant or counterparty once a failure has occurred.

We have significant debt obligations; therefore, our business, financial condition, results of operations and cash flows could be harmed by a deterioration of our credit profile, a decrease in debt capacity or unsecured commercial credit available to us, or by factors adversely affecting credit markets generally.

At December 31, 2017, our total debt obligations for borrowed money and capital lease obligations were \$13.4 billion, including \$7.4 billion of obligations of MPLX. We may incur substantial additional debt obligations in the future.

Our indebtedness may impose various restrictions and covenants on us that could have material adverse consequences, including:

- increasing our vulnerability to changing economic, regulatory and industry conditions;
- limiting our ability to compete and our flexibility in planning for, or reacting to, changes in our business and the industry;
- limiting our ability to pay dividends to our stockholders;
- limiting our ability to borrow additional funds; and
- requiring us to dedicate a substantial portion of our cash flow from operations to payments on our debt, thereby reducing funds available for working capital, capital expenditures, acquisitions, share repurchases, dividends and other purposes.

A decrease in our debt or commercial credit capacity, including unsecured credit extended by third-party suppliers, or a deterioration in our credit profile could increase our costs of borrowing money and/or limit our access to the capital markets and commercial credit, which could materially and adversely affect our business, financial condition, results of operations and cash flows.

We have a trade receivables securitization facility that provides liquidity of up to \$750 million depending on the amount of eligible domestic trade accounts receivables. In periods of lower prices, we may not have sufficient eligible accounts receivables to support full availability of this facility.

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Historic or current operations could subject us to significant legal liability or restrict our ability to operate.

We currently are defending litigation and anticipate we will be required to defend new litigation in the future. Our operations, including those of MPLX, and those of our predecessors could expose us to litigation and civil claims by private plaintiffs for alleged damages related to contamination of the environment or personal injuries caused by releases of hazardous substances from our facilities, products liability, consumer credit or privacy laws, product pricing or antitrust laws or any other laws or regulations that apply to our operations. While an adverse outcome in most litigation matters would not be expected to be material to us, in class-action litigation, large classes of plaintiffs may allege damages relating to extended periods of time or other alleged facts and circumstances that could increase the amount of potential damages. Attorneys general and other government officials may pursue litigation in which they seek to recover civil damages from companies on behalf of a state or its citizens for a variety of claims, including violation of consumer protection and product pricing laws or natural resources damages. We are defending litigation of that type and anticipate that we will be required to defend new litigation of that type in the future. If we are not able to successfully defend such litigation, it may result in liability to our company that could materially and adversely affect our business, financial condition, results of operations and cash flows. We do not have insurance covering all of these potential liabilities. In addition to substantial liability, plaintiffs in litigation may also seek injunctive relief which, if imposed, could have a material adverse effect on our future business, financial condition, results of operations and cash flows.

A portion of our workforce is unionized, and we may face labor disruptions that could materially and adversely affect our business, financial condition, results of operations and cash flows.

Approximately 37 percent of our refining employees are covered by collective bargaining agreements. Certain hourly employees at our Canton, Catlettsburg, Galveston Bay and Texas City refineries are represented by the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers Union under labor agreements that are due to expire in 2019. The International Brotherhood of Teamsters represents certain hourly employees at our Detroit refinery under a labor agreement that is also scheduled to expire in 2019. In addition, they represent certain hourly employees at Speedway under agreements that cover certain retail locations in New York and New Jersey that expire on March 14, 2019 and June 30, 2019, respectively. These contracts may be renewed at an increased cost to us. In addition, we have experienced, or may experience, work stoppages as a result of labor disagreements. Any prolonged work stoppages disrupting operations could have a material adverse effect on our business, financial condition, results of operations and cash flows.

One of our subsidiaries acts as the general partner of a publicly traded master limited partnership, MPLX, which may involve a greater exposure to certain legal liabilities than existed under our historic business operations.

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

If foreign investment in us or MPLX exceeds certain levels, MPLX could be prohibited from operating inland river vessels, which could materially and adversely affect our business, financial condition, results of operations and cash flows.

The Shipping Act of 1916 and Merchant Marine Act of 1920, which we refer to collectively as the Maritime Laws, generally require that vessels engaged in U.S. coastwise trade be owned by U.S. citizens. Among other requirements to establish citizenship, entities that own such vessels must be owned at least 75 percent by U.S. citizens. If we fail to maintain compliance with the Maritime Laws, MPLX would be prohibited from operating vessels in the U.S. inland waters. Such a prohibition could materially and adversely affect our business, financial condition, results of operations and cash flows.

We are subject to certain continuing contingent liabilities of Marathon Oil relating to taxes and other matters and to potential liabilities pursuant to the tax sharing agreement and separation and distribution agreement we entered into with Marathon Oil that could materially and adversely affect our business, financial condition, results of operations and cash flows.

Although the Spinoff occurred in mid-2011, certain liabilities of Marathon Oil could become our obligations. For example, under the Internal Revenue Code of 1986 (the "Code") and related rules and regulations, each corporation that was a member of the Marathon Oil consolidated tax reporting group during any taxable period or portion of any taxable period ending on or before the effective time of the Spinoff is jointly and severally liable for the federal income tax liability of the entire Marathon Oil consolidated tax reporting group for that taxable period. In connection with the Spinoff, we entered into a tax sharing agreement with Marathon Oil that allocates the responsibility for prior period taxes of the Marathon Oil consolidated tax reporting group between us and Marathon Oil. However, if Marathon Oil is unable to pay any prior period taxes for which it is

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responsible, 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, following the Spinoff we are responsible generally for all taxes attributable to us or any of our subsidiaries, whether accruing before, on or after the Spinoff. We also agreed to be responsible for, and indemnify Marathon Oil with respect to, all taxes arising as a result of the Spinoff (or certain internal restructuring transactions) failing to qualify as transactions 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 Spinoff or in the tax sharing agreement. In addition, we agreed to indemnify Marathon Oil for specified tax-related liabilities associated with our 2005 acquisition of the minority interest in our refining joint venture from Ashland Inc. Our indemnification obligations to Marathon Oil and its subsidiaries, officers and directors are not limited or subject to any cap. If we are required to indemnify Marathon Oil and its subsidiaries and their respective officers and directors under the tax sharing agreement, we may be subject to substantial liabilities. At this time, we cannot precisely quantify the amount of these liabilities that have been assumed pursuant to the tax sharing agreement, and there can be no assurances as to their final amounts.

Also, in connection with the Spinoff, we entered into a separation and distribution agreement with Marathon Oil that provides for, among other things, the principal corporate transactions that were required to effect the Spinoff, certain conditions to the Spinoff and provisions governing the relationship between our company and Marathon Oil with respect to and resulting from the Spinoff. Among other things, the separation and distribution agreement provides for indemnification obligations designed to make us financially responsible for substantially all liabilities that may exist relating to our downstream business activities, whether incurred prior to or after the Spinoff, as well as certain obligations of Marathon Oil assumed by us. Our obligations to indemnify Marathon Oil under the circumstances set forth in the separation and distribution agreement could subject us to substantial liabilities. Marathon Oil also agreed to indemnify us for certain liabilities. However, third parties could seek to hold us responsible for any of the liabilities retained by Marathon Oil, and there can be no assurance that the indemnity from Marathon Oil will be sufficient to protect us against the full amount of such liabilities, that Marathon Oil will be able to fully satisfy its indemnification obligations or that Marathon Oil's insurers will cover us for liabilities associated with occurrences prior to the Spinoff. Moreover, even if we ultimately succeed in recovering from Marathon Oil or its insurers any amounts for which we are held liable, we may be temporarily required to bear these losses ourselves. The tax liabilities and underlying liabilities in the event Marathon Oil is unable to satisfy its indemnification obligations described in this paragraph could have a material adverse effect on our business, financial condition, results of operation and cash flows.

Significant acquisitions in the future will involve the integration of new assets or businesses and present substantial risks that could adversely affect our business, financial conditions, results of operations and cash flows.

Significant future transactions involving the addition of new assets or businesses will present potential risks, which may include, among others:

- Inaccurate assumptions about future synergies, revenues, capital expenditures and operating costs;
- An inability to successfully integrate assets or businesses we acquire;
- A decrease in our liquidity resulting from using a portion of our available cash or borrowing capacity under our revolving credit agreement to finance transactions;
- A significant increase in our interest expense or financial leverage if we incur additional debt to finance transactions;
- The assumption of unknown environmental and other liabilities, losses or costs for which we are not indemnified or for which our indemnity is inadequate;
- The diversion of management's attention from other business concerns; and
- The incurrence of other significant charges, such as impairment of goodwill or other intangible assets, asset devaluation or restructuring charges.

A significant decrease or delay in oil and natural gas production in MPLX's areas of operation, whether due to sustained declines in oil, natural gas and NGL prices, natural declines in well production, or otherwise, may adversely affect MPLX's business, results of operations and financial condition, and could reduce MPLX's ability to make distributions to us.

A significant portion of MPLX's operations are dependent upon production from oil and natural gas reserves and wells owned by its producer customers, which will naturally decline over time, which means that MPLX's cash flows associated with these wells will also decline over time. To maintain or increase throughput levels and the utilization rate of MPLX's facilities, MPLX must continually obtain new oil, natural gas and NGL supplies, which depends in part on the level of successful drilling activity near its facilities.

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We have no control over the level of drilling activity in the areas of MPLX's operations, the amount of reserves associated with the wells or the rate at which production from a well will decline. In addition, we have no control over producers or their production decisions, which are affected by, among other things, prevailing and projected energy prices, drilling costs per Mcf or barrel, demand for hydrocarbons, operational challenges, access to downstream markets, the level of reserves, geological considerations, governmental regulations and the availability and cost of capital. Because of these factors, even if new oil or natural gas reserves are discovered in areas served by MPLX assets, producers may choose not to develop those reserves. If MPLX is not able to obtain new supplies of oil, natural gas or NGLs to replace the natural decline in volumes from existing wells, throughput on MPLX pipelines and the utilization rates of MPLX facilities would decline, which could have a material adverse effect on MPLX's business, results of operations and financial condition and could reduce MPLX's ability to make distributions to us.

Decreases in energy prices can decrease drilling activity, production rates and investments by third parties in the development of new oil and natural gas reserves. The prices for oil, natural gas and NGLs depend upon factors beyond our control, including global and local demand, production levels, changes in interstate pipeline gas quality specifications, imports and exports, seasonality and weather conditions, economic and political conditions domestically and internationally and governmental regulations. Sustained periods of low prices could result in producers also significantly curtailing or limiting their oil and gas drilling operations which could substantially delay the production and delivery of volumes of oil, natural gas and NGLs to MPLX's facilities and adversely affect MPLX's revenues and cash available for distribution to us. This impact may also be exacerbated due to the extent of MPLX's commodity-based contracts, which are more directly impacted by changes in natural gas and NGL prices than its fee-based contracts due to frac spread exposure and may result in operating losses when natural gas becomes more expensive on a Btu equivalent basis than NGL products. In addition, MPLX's purchase and resale of natural gas and NGLs in the ordinary course exposes MPLX to significant risk of volatility in natural gas or NGL prices due to the potential difference in the time of the purchases and sales and the potential difference in the price associated with each transaction, and direct exposure may also occur naturally as a result of MPLX's production processes. Also, the significant volatility in natural gas, NGL and oil prices could adversely impact MPLX's unit price, thereby increasing its distribution yield and cost of capital. Such impacts could adversely impact MPLX's ability to execute its long-term organic growth projects, satisfy obligations to its customers and make distributions to unitholders at intended levels, and may also result in non-cash impairments of long-lived assets or goodwill or other-than-temporary non-cash impairments of our equity method investments.

Our recently completed strategic actions designed to enhance shareholder value may not deliver the anticipated benefits.

In January 2017, we announced strategic actions designed to enhance shareholder value, including the significant acceleration of dropdowns of midstream assets into MPLX and the exchange of our economic interests in the general partner, including incentive distribution rights, for newly issued MPLX common units in conjunction with the completion of such dropdowns. On March 1, 2017, we contributed certain terminal, pipeline and storage assets to MPLX and on September 1, 2017 we contributed our joint-interest ownership in certain pipelines and storage facilities to MPLX. On February 1, 2018, we completed the dropdown of our refining logistics assets and fuels distribution services to MPLX and the exchange of our economic interests in the general partner, including incentive distribution rights, for 275 million newly issued MPLX common units. We may not be able to achieve the anticipated benefits of these actions and the market price of our common stock could decline if securities or industry analysts or our investors disagree with these strategic actions or the way we implement such actions. Accordingly, there is no assurance that these actions will be reflected in the market price of our stock to the extent currently anticipated by management.

Significant stockholders may attempt to effect changes at our company or acquire control over our company, which could impact the pursuit of business strategies and adversely affect our results of operations and financial condition.

Our stockholders may from time to time engage in proxy solicitations, advance stockholder proposals or otherwise attempt to effect changes or acquire control over our company. Campaigns by stockholders to effect changes at publicly traded companies are sometimes led by investors seeking to increase short-term stockholder value through actions such as financial restructuring, increased debt, special dividends, stock repurchases or sales of assets or the entire company. Responding to proxy contests and other actions by activist stockholders can be costly and time-consuming and could divert the attention of our board of directors and senior management from the management of our operations and the pursuit of our business strategies. As a result, stockholder campaigns could adversely affect our results of operations and financial condition.

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Risks Relating to Our Industry

Changes in environmental or other laws or regulations may reduce our refining and marketing margin and may result in substantial capital expenditures and operating costs that could materially and adversely affect our business, financial condition, results of operations and cash flows.

Various laws and regulations are expected to impose increasingly stringent and costly requirements on our operations, which may reduce our refining and marketing margin. Laws and regulations expected to become more stringent relate to the following:

- the emission or discharge of materials into the environment,
- solid and hazardous waste management,
- pollution prevention,
- greenhouse gas emissions,
- climate change,
- characteristics and composition of gasoline and diesel fuels,
- public and employee safety and health, and
- facility security.

The specific impact of laws and regulations on us and our competitors may vary depending on a number of factors, including the age and location of operating facilities, marketing areas, crude oil and feedstock sources and production processes. We may be required to make expenditures to modify operations, install pollution control equipment, perform site cleanups or curtail operations that could materially and adversely affect our business, financial condition, results of operations and cash flows.

Because the issue of climate change continues to receive scientific and political attention, there is the potential for further legislation or regulation that could result in increased operating costs and reduced consumer demand for the traditional transportation fuels we produce, transport, store and sell. Greenhouse gas emissions regulations could be implemented, such as methods to further reduce methane emissions from our midstream assets, a carbon tax or similar effort that increases the cost of our products, thereby reducing demand. Regardless of whether climate change legislation or regulation is enacted, given the continuing global demand for oil and gas - even under various hypothetical carbon-constrained scenarios - we believe we effectively budget for prospective costs of climate regulations in our business and strategic planning and our approval of capital project allocations. Our mature governance and risk-management processes enable us to effectively monitor and adjust to physical climate-related risks. At this time, however, we cannot predict the extent to which any such legislation or regulation will be enacted and, if enacted, what its impacts upon our operations would be.

We could also face increased climate-related litigation with respect to our operations or products. Private party litigation is pending against MPC and other oil and gas companies in California state court. Although uncertain, these types of actions could increase our costs of operations or reduce the demand for the refined products we produce, transport, store and sell.

In October 2015, the EPA reduced the primary (health) ozone NAAQS to 70 ppb from the prior ozone level of 75 ppb. On November 6, 2017, the EPA finalized ozone attainment/unclassifiable designations under the new standard. The EPA has not yet designated any counties as nonattainment under the lower primary ozone standard, but such nonattainment designations could result in increased costs associated with, or result in cancellation or delay of, capital projects at our facilities. States will also be required to adopt SIPs for nonattainment areas. These SIPs may include NOx and/or VOC reductions that could result in increased costs to our facilities. We cannot predict the various SIP requirements at this time.

The EISA established increases in fuel mileage standards. The Department of Transportation's National Highway Safety Administration and the EPA work in conjunction to establish CAFE standards and greenhouse gas emission standards for light-duty vehicles that become more stringent over time. In addition, pursuant to a waiver granted by the EPA, California and other states have enacted laws that require vehicle emission reductions. Increases in fuel mileage standards and requirements for zero emission vehicles may reduce demand for refined product.

The EISA also expanded the Renewable Fuel Standard ("RFS") program administered by the EPA. Governmental regulations encouraging the use of new or alternative fuels could pose a competitive threat to our operations. The EISA required the total volume of renewable transportation fuels sold or introduced annually in the U.S. to reach 36.0 billion gallons by 2022. The RFS presents production and logistics challenges for both the renewable fuels and petroleum refining industries, and may continue to require additional capital expenditures or expenses by us to accommodate increased renewable fuels use. Gasoline consumption has been lower than forecasted by the EPA, which has led to concerns that the renewable fuel volumes may not be met. The 2018 renewable fuel standards were finalized and published on December 12, 2017. The final standards are lower than the statutory requirements but nevertheless result in volumes that breach the ethanol "blendwall." The advanced biofuels

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program, a subset of the RFS requirements, creates uncertainties and presents challenges of supply, and may require that we and other refiners and other obligated parties purchase credits from the EPA to meet our obligations.

Tax incentives and other subsidies have also made renewable fuels more competitive with refined products than they otherwise would have been, which may further reduce refined product margins. The tax incentives and subsidies are causing uncertainties because they have expired and been reinstated retroactively. The biodiesel credit, for example, expired at the end of 2016 and there is uncertainty if it will be reinstated.

On March 3, 2014, the EPA signed the final Tier 3 fuel standards. The final Tier 3 fuel standards require, among other things, a lower annual average sulfur level in gasoline to no more than 10 parts ppm beginning in calendar year 2017. In addition, gasoline refiners and importers may not exceed a maximum per-gallon sulfur standard of 80 ppm, while retailers may not exceed a maximum per-gallon sulfur standard of 95 ppm. We anticipate that we will spend an estimated \$650 million between 2014 and 2019 for capital expenditures necessary to comply with these standards, which includes estimated capital expenditures of approximately \$400 million in 2018-2019.

Federal, state and local legislation and regulatory initiatives relating to hydraulic fracturing could delay or impede producer's gas production or result in reduced volumes available for our midstream assets to gather, process and fractionate. While we do not conduct hydraulic fracturing operations, we do provide gathering, processing and fractionation services with respect to natural gas and natural gas liquids produced by our customers as a result of such operations. If federal, state or local laws or regulations that significantly restrict hydraulic fracturing are adopted, such legal requirements could make it more difficult to complete natural gas wells in shale formations and increase producers' costs of compliance.

Severe weather events may adversely affect our facilities and ongoing operations.

We have mature systems in place to manage potential acute physical risks, such as floods and hurricane-force winds, and potential chronic physical risks, such as higher ocean levels. If any such events were to occur, they could have an adverse effect on our assets and operations. Specifically, where appropriate, we are hardening and modernizing assets against flood and wind damage and ensuring we have resiliency measures in place, such as storm-specific readiness plans. We have incurred and will continue to incur additional costs to protect our assets and operations from such physical risks and employ the evolving technologies and processes available to mitigate such risks. To the extent such severe weather events increase in frequency and severity, we may be required to modify operations and incur costs that could materially and adversely affect our business, financial condition, results of operations and cash flows.

Plans we may have to expand existing assets or construct new assets 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 business and ability to realize certain growth strategies.

Our anticipated growth and 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. However, 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. One of the ways we may grow our business is through the construction of new pipelines or the expansion of existing ones. The construction of a new pipeline or the expansion of an existing pipeline, by adding horsepower or pump stations or by adding a second pipeline along an existing pipeline, involves numerous regulatory, environmental, political, and legal uncertainties, most of which are beyond our control. The approval process for storage and transportation projects has become increasingly challenging, due in part to state and local concerns related to pipelines and negative public perception regarding the oil and gas industry. These projects may not be completed on schedule (or at all) or at the budgeted cost. In addition, our revenues may not increase immediately upon the expenditure of funds on a particular project. For instance, if we build a new pipeline, the construction will occur over an extended period of time and we will not receive any material increases in revenues until after completion of the project. Delays or cost increases related to capital spending programs involving engineering, procurement and construction of facilities (including improvements and repairs to our existing facilities) could adversely affect our ability to achieve forecasted internal rates of return and operating results, thereby limiting our ability to grow and generate cash flows.

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 project returns. If we are unable to complete capital projects at their expected costs and in a timely manner, or if the market conditions assumed in our project economics deteriorate, our business, financial condition, results of operations and cash flows could be materially and adversely affected.

Delays or cost increases related to capital spending programs involving engineering, procurement and construction of facilities could materially adversely affect our ability to achieve forecasted internal rates of return and operating results. Delays in making

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required changes or upgrades to our facilities could subject us to fines or penalties as well as affect our ability to supply certain products we produce. Such delays or cost increases may arise as a result of unpredictable factors, many of which are beyond our control, including:

- denial of or delay in receiving requisite regulatory approvals and/or permits;
- unplanned increases in the cost of construction materials or labor;
- disruptions in transportation of components or construction materials;
- adverse weather conditions, natural disasters or other events (such as equipment malfunctions, explosions, fires or spills) affecting our facilities, or those of vendors or suppliers;
- shortages of sufficiently skilled labor, or labor disagreements resulting in unplanned work stoppages;
- market-related increases in a project's debt or equity financing costs; and
- nonperformance by, or disputes with, vendors, suppliers, contractors or subcontractors.

Any one or more of these factors could have a significant impact on our ongoing capital projects. If we were unable to make up the delays associated with such factors or to recover the related costs, or if market conditions change, it could materially and adversely affect our business, financial condition, results of operations and cash flows.

The availability of crude oil and increases in crude oil prices may reduce profitability and refining and marketing margins.

The profitability of our operations depends largely on the difference between the cost of crude oil and other feedstocks we refine and the selling prices we obtain for refined products. A portion of our crude oil is purchased from various foreign national oil companies, production companies and trading companies, including suppliers from Canada, the Middle East and various other international locations. The market for crude oil and other feedstocks is largely a world market. We are, therefore, subject to the attendant political, geographic and economic risks of such a market. If one or more major supply sources were temporarily or permanently eliminated, we believe adequate alternative supplies of crude oil would be available, but it is possible we would be unable to find alternative sources of supply. If we are unable to obtain adequate crude oil volumes or are able to obtain such volumes only at unfavorable prices, our operations, sales of refined products and refining and marketing margins could be adversely affected, materially and adversely impacting our business, financial condition, results of operations and cash flows.

Worldwide political and economic developments could materially and adversely impact our business, financial condition, results of operations and cash flows.

In addition to impacting crude oil and other feedstock supplies, political and economic factors in global markets could have a material adverse effect on us in other ways. Hostilities in the Middle East or the occurrence or threat of future terrorist attacks could adversely affect the economies of the U.S. and other developed countries. A lower level of economic activity could result in a decline in energy consumption, which could cause our revenues and margins to decline and limit our future growth prospects. These risks could lead to increased volatility in prices for refined products, NGLs and natural gas. Additionally, these risks could increase instability in the financial and insurance markets and make it more difficult and/or costly for us to access capital and to obtain the insurance coverage that we consider adequate. Additionally, tax policy, legislative or regulatory action and commercial restrictions could reduce our operating profitability. For example, the U.S. government could prevent or restrict exports of refined products, NGLs, natural gas or the conduct of business with certain foreign countries.

Compliance with and changes in tax laws could materially and adversely impact our financial condition, results of operations and cash flows.

We are subject to extensive tax liabilities, including federal and state income taxes and transactional taxes such as excise, sales and use, payroll, franchise, withholding and property taxes. New tax laws and regulations and changes in existing tax laws and regulations could result in increased expenditures by us for tax liabilities in the future and could materially and adversely impact our financial condition, results of operations and cash flows.

Additionally, many tax liabilities are subject to periodic audits by taxing authorities, and such audits could subject us to interest and penalties.

Terrorist attacks aimed at our facilities or that impact our customers or the markets we serve could adversely affect our business.

The U.S. government has issued warnings that energy assets in general, including the nation's refining, pipeline and terminal infrastructure, may be future targets of terrorist organizations. The threat of terrorist attacks has subjected our operations to increased risks. Any future terrorist attacks on our facilities, those of our customers and, in some cases, those of other pipelines,

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could have a material adverse effect on our business. Similarly, any future terrorist attacks that severely disrupt the markets we serve could materially and adversely affect our results of operations, financial position and cash flows.

Risks Relating to Ownership of Our Common Stock

Provisions in our corporate governance documents could operate to delay or prevent a change in control of our company, dilute the voting power or reduce the value of our capital stock or affect its liquidity.

The existence of some provisions within our restated certificate of incorporation and amended and restated bylaws could discourage, delay or prevent a change in control of us that a stockholder may consider favorable. These include provisions:

- providing that our board of directors fixes the number of members of the board;
- providing for the division of our board of directors into three classes with staggered terms;
- providing that only our board of directors may fill board vacancies;
- limiting who may call special meetings of stockholders;
- prohibiting stockholder action by written consent, thereby requiring stockholder action to be taken at a meeting of the stockholders;
- establishing advance notice requirements for nominations of candidates for election to our board of directors or for proposing matters that can be acted on by stockholders at stockholder meetings;
- establishing supermajority vote requirements for certain amendments to our restated certificate of incorporation and stockholder proposals for amendments to our amended and restated bylaws;
- providing that our directors may only be removed for cause;
- authorizing a large number of shares of common stock that are not yet issued, which would allow our board of directors to issue shares to persons friendly to current management, thereby protecting the continuity of our management, or which could be used to dilute the stock ownership of persons seeking to obtain control of us; and
- authorizing the issuance of “blank check” preferred stock, which could be issued by our board of directors to increase the number of outstanding shares and thwart a takeover attempt.

We believe these provisions protect our stockholders from coercive or otherwise unfair takeover tactics by requiring potential acquirers to negotiate with our board of directors and by providing our board of directors time to assess any acquisition proposal, and are not intended to make us immune from takeovers. However, these provisions apply even if the offer may be considered beneficial by some stockholders and could delay or prevent an acquisition.

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

Finally, to facilitate compliance with the Maritime Laws, our restated certificate of incorporation limits the aggregate percentage ownership by non-U.S. citizens of our common stock or any other class of our capital stock to 23 percent of the outstanding shares. We may prohibit transfers that would cause ownership of our common stock or any other class of our capital stock by non-U.S. citizens to exceed 23 percent. Our restated certificate of incorporation also authorizes us to effect any and all measures necessary or desirable to monitor and limit foreign ownership of our common stock or any other class of our capital stock. These limitations could have an adverse impact on the liquidity of the market for our common stock if holders are unable to transfer shares to non-U.S. citizens due to the limitations on ownership by non-U.S. citizens. Any such limitation on the liquidity of the market for our common stock could adversely impact the market price of our common stock.

Item 1B. Unresolved Staff Comments

None.

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Item 2. Properties

See the detail below for the assets we own by segment. In addition, as of December 31, 2017, we were the lessee under a number of cancellable and noncancellable leases for certain properties, including land and building space, office equipment, storage facilities and transportation equipment. See Item 8. Financial Statements and Supplementary Data – Note 24 for additional information regarding our leases.

We believe that our properties and facilities are adequate for our operations and that our facilities are adequately maintained.

Refining and Marketing

The table below sets forth the location and crude oil refining capacity for each of our refineries, which include approximately 670 tanks with total tank storage capacity of approximately 60 million barrels, as of December 31, 2017.

Refinery	Crude Oil Refining Capacity (mbpcd)^(a)
Galveston Bay, Texas City, Texas	571
Garyville, Louisiana	556
Catlettsburg, Kentucky	277
Robinson, Illinois	245
Detroit, Michigan	139
Canton, Ohio	93
Total	1,881

^(a) Refining throughput can exceed crude oil capacity due to the processing of other charge and blendstocks in addition to crude oil and the timing of planned turnaround and major maintenance activity.

The following table sets forth the approximate number of retail outlets by state where independent entrepreneurs maintain Marathon-branded retail outlets, as of December 31, 2017.

State	Number of Marathon® Retail Outlets
Alabama	268
District of Columbia	2
Florida	629
Georgia	284
Illinois	285
Indiana	647
Kentucky	573
Louisiana	15
Maryland	20
Michigan	814
Minnesota	39
Mississippi	94
New York	6
North Carolina	224
Ohio	862
Pennsylvania	69
South Carolina	110
Tennessee	401
Virginia	119
West Virginia	114
Wisconsin	42
Total	5,617

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The following table sets forth details about our Refining & Marketing owned and operated terminals as of December 31, 2017.

Owned and Operated Terminals	Number of Terminals	Tank Storage Capacity (thousand barrels)	Number of Tanks	Number of Loading Lanes
Light Products Terminals:				
Ohio	1	495	13	4
Wisconsin	1	351	8	4
Subtotal light products terminals	2	846	21	8
Asphalt Terminals:				
Florida	1	132	3	3
Illinois	2	82	31	6
Indiana	2	424	19	6
Kentucky	4	549	52	14
Louisiana	1	54	8	2
Michigan	1	12	2	8
Ohio	4	1,491	48	13
Pennsylvania	1	494	12	8
Tennessee	2	483	38	8
Subtotal asphalt terminals	18	3,721	213	68
Total owned and operated terminals	20	4,567	234	76

The following table sets forth details about our railcars as of December 31, 2017.

Class of Equipment	Number of Railcars			Capacity per Railcar
	Owned	Leased	Total	
General service tank cars	—	793	793	20,000-30,000 gallons
High pressure tank cars	—	921	921	33,500 gallons
Open-top hoppers	19	285	304	4,000 cubic feet
	19	1,999	2,018	

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Speedway

The following table sets forth the number of Speedway® convenience stores by state as of December 31, 2017.

State	Number of Convenience Stores^(a)
Connecticut	1
Delaware	4
Florida	241
Georgia	4
Illinois	123
Indiana	311
Kentucky	147
Massachusetts	109
Michigan	305
New Hampshire	12
New Jersey	71
New York	235
North Carolina	277
Ohio	489
Pennsylvania	116
Rhode Island	19
South Carolina	52
Tennessee	42
Virginia	62
West Virginia	60
Wisconsin	64
Total	2,744

^(a) Includes stores with commercial fueling lanes.

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Midstream - MPLX

The following tables set forth certain information relating to our crude and products pipeline systems and storage assets as of December 31, 2017.

Pipeline System or Storage Asset	Origin	Destination	Diameter (inches)	Length (miles)	Capacity ^(a)	Associated MPC refinery
Crude oil pipeline systems (mbpd):						
Patoka, IL to Lima, OH crude system	Patoka, IL	Lima, OH	20"-22"	302	267	Detroit, Canton
Lima, OH to Canton, OH crude system	Lima, OH	Canton, OH	12"-16"	153	84	Canton
Catlettsburg, KY and Robinson, IL crude system	Patoka, IL	Catlettsburg, KY & Robinson, IL	20"-24"	484	515	Catlettsburg, Robinson
Detroit, MI crude system ^(b)	Samaria & Romulus, MI	Detroit, MI	16"	61	197	Detroit
Ozark crude system	Cushing, OK	Wood River, IL	22"	433	230	All Midwest refineries
Wood River, IL to Patoka, IL crude system ^(b)	Wood River & Roxana, IL	Patoka, IL	12"-22"	115	314	All Midwest refineries
St. James, LA to Garyville, LA crude system	St James, LA	Garyville, LA	30"	20	620	Garyville, LA
Inactive pipelines				45	N/A	
Total				<u>1,613</u>	<u>2,227</u>	
Products pipeline systems (mbpd):						
Cornerstone products system	Cornerstone	Canton, OH	8"-16"	58	238	Canton
Garyville, LA products system	Garyville, LA	Zachary, LA	20"-36"	72	389	Garyville
Texas City, TX products system	Texas City, TX	Pasadena, TX	16"-36"	43	215	Galveston Bay
ORPL products system	Various	Various	4"-14"	876	368	Catlettsburg, Canton
Robinson, IL products system ^(b)	Various	Various	10"-16"	1,131	513	Robinson
Woodhaven, MI to Detroit, MI	Woodhaven, MI	Detroit, MI	4"	26	12	N/A
Louisville, KY Airport products system	Louisville, KY	Louisville, KY	6"-8"	14	29	Robinson
Inactive pipelines ^(b)				140	N/A	
Total				<u>2,360</u>	<u>1,764</u>	
Wood River, IL barge dock (mbpd)					78	Garyville
Storage assets (thousand barrels):						
Tank Farms ^(c)					18,642	N/A
Caverns					2,755	N/A
Total					<u>21,397</u>	

^(a) All capacities reflect 100 percent of the pipeline systems' and barge dock's average capacity in thousands of barrels per day and 100 percent of the available storage capacity of our caverns and tank farms in thousands of barrels.

^(b) Includes pipelines leased from third parties.

^(c) MPLX owns and operates 15 tank farms and operates two leased tank farms.

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As of December 31, 2017, MPLX had partial ownership interests in the following pipeline companies.

Pipeline Company	Origin	Destination	Diameter (inches)	Length (miles)	Ownership Interest	Operated by MPL
Crude oil pipeline companies:						
Bakken Pipeline system	Bakken/Three Forks area, North Dakota	Nederland, TX	30"	1,921	9.2%	No
Illinois Extension Pipeline Company LLC	Flanagan, IL	Patoka, IL	24"	168	35%	No
LOCAP LLC	Clovelly, LA	St. James, LA	48"	57	59%	No
LOOP LLC (LOOP) ^(a)	Offshore Gulf of Mexico	Clovelly, LA	48"	48	41%	No
Total				2,194		
Products pipeline companies:						
Explorer Pipeline Company	Port Arthur, TX	Hammond, IN	12"-28"	1,830	25%	No
Louisville, KY to Lexington, KY ^(a)	Louisville, KY	Lexington, KY	8"	87	65%	Yes
				1,917		

^(a) Excludes MPC's 10% ownership interest in LOOP.

The following table sets forth details about MPLX owned and operated terminals as of December 31, 2017. Additionally, MPLX operates one leased terminal and has partial ownership interest in two terminals.

Owned and Operated Terminals	Number of Terminals	Tank Storage Capacity (thousand barrels)	Number of Tanks	Number of Loading Lanes
Light Products Terminals:				
Alabama	2	443	16	4
Florida	4	3,422	65	22
Georgia	4	998	31	9
Illinois	4	1,275	34	14
Indiana	6	3,229	60	17
Kentucky	6	2,587	56	25
Louisiana	1	97	7	2
Michigan	8	2,440	73	26
North Carolina	4	1,509	34	13
Ohio	12	3,227	101	28
Pennsylvania	1	390	12	2
South Carolina	1	370	8	3
Tennessee	4	1,148	30	12
West Virginia	2	1,587	25	2
Total light products terminals	59	22,722	552	179

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The following table sets forth details about barges and towboats as of December 31, 2017.

Class of Equipment	Number in Class	Capacity (thousand barrels)
Inland tank barges: ^(a)		
Less than 25,000 barrels	62	942
25,000 barrels and over	170	4,985
Total	232	5,927
Inland towboats:		
Less than 2,000 horsepower	2	
2,000 horsepower and over	16	
Total	18	

^(a) All of our barges are double-hulled.

The following tables set forth certain information relating to our gas processing facilities, fractionation facilities, de-ethanization facilities and natural gas gathering systems as of December 31, 2017, and include capacities and throughputs related to operated equity method investments on a 100 percent basis.

Gas Processing Complexes	Location	Design Throughput Capacity (MMcf/d) ^(a)	Natural Gas Throughput (MMcf/d) ^(b)	Utilization of Design Capacity ^(b)
Bluestone Complex	Butler County, PA	410	310	76%
Houston Complex ^(c)	Washington County, PA	520	495	95%
Majorsville Complex	Marshall County, WV	1,070	905	85%
Mobley Complex	Wetzel County, WV	920	695	76%
Sherwood Complex ^(d)	Doddridge County, WV	1,800	1,480	102%
Cadiz Complex ^(e)	Harrison County, OH	525	509	97%
Seneca Complex ^(e)	Noble County, OH	800	475	59%
Kenova Complex ^(f)	Wayne County, WV	160	108	68%
Boldman Complex ^(f)	Pike County, KY	70	32	46%
Cobb Complex	Kanawha County, WV	65	24	37%
Kermit Complex ^(g)	Mingo County, WV	32	N/A	N/A
Langley Complex	Langley, KY	325	101	31%
Carthage Complex	Panola County, TX	600	399	67%
Western Oklahoma Complex	Custer and Beckham Counties, OK	425	373	88%
Hidalgo System	Culberson County, TX	200	199	100%
Javelina Complex	Corpus Christi, TX	142	112	79%
Total		8,032	6,217	81%

^(a) Centrahoma processing capacity of 280 MMcf/d and actual throughput of 243 MMcf/d, that exceeded MPLX's 40 percent share of the capacity of 112 MMcf/d, are not included in this table as MPLX owns a non-operating interest.

^(b) Natural gas throughput is a weighted average for days in operation. The utilization of design capacity has been calculated using the weighted average design throughput capacity.

^(c) Approximately 35 MMcf/d of processing capacity at the Houston Complex was decommissioned during the first quarter of 2017 and will be replaced with 200 MMcf/d of processing capacity in 2018.

^(d) The Sherwood Complex is partially owned by Sherwood Midstream LLC ("Sherwood Midstream"), which MPLX accounts for as an equity method investment.

^(e) The Cadiz and Seneca Complexes are owned by MarkWest Utica EMG, L.L.C. ("MarkWest Utica EMG"), which MPLX accounts for as an equity method investment.

^(f) A portion of the gas processed at the Boldman plant, and all of the gas processed at the Kermit plant, is further processed at the Kenova plant to recover additional NGLs.

^(g) The Kermit processing plant is operated by a third party solely to prevent liquids from condensing in the gathering and transmission pipelines upstream of our Kenova plant. MPLX does not receive Kermit gas volume information but does receive all of the liquids produced at the Kermit Complex. As such, the natural gas throughput has been excluded from the total.

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Fractionation & Condensate Stabilization Complexes	Location	Design Throughput Capacity (mbpd)	NGL Throughput (mbpd) ^(a)	Utilization of Design Capacity ^(a)
Bluestone Complex ^{(b)(c)}	Butler County, PA	47	19	40%
Houston Complex ^(b)	Washington County, PA	60	61	102%
Hopedale Complex ^{(b)(d)}	Harrison County, OH	180	134	77%
Ohio Condensate Complex ^(e)	Harrison County, OH	23	13	57%
Siloam Complex ^(f)	South Shore, KY	24	14	58%
Javelina Complex	Corpus Christi, TX	11	8	73%
Total		345	249	73%

^(a) NGL throughput is a weighted average for days in operation. The utilization of design capacity has been calculated using the weighted average design throughput capacity.

^(b) The MPLX Houston, Hopedale and Bluestone Complexes have above-ground NGL storage with a usable capacity of 32 million gallons, large-scale truck and rail loading. In addition, the Houston Complex has large-scale truck unloading. MPLX also has access to up to an additional 50 million gallons of propane storage capacity that can be utilized in the Marcellus Shale, Utica Shale and Appalachia region under an agreement with a third party that expires in 2018. Lastly, MPLX has up to eight million gallons of propane storage with third parties that can be utilized in the Marcellus Shale and Utica Shale.

^(c) Includes 33 mbpd of de-propanization only capacity.

^(d) The MPLX Hopedale Complex is jointly owned by Ohio Fractionation Company, L.L.C. (“Ohio Fractionation”) and MarkWest Utica EMG. Ohio Fractionation is a joint venture between MarkWest Liberty Midstream & Resources, L.L.C. (“MarkWest Liberty Midstream”) and Sherwood Midstream (a joint venture between Markwest Liberty Midstream and Antero Midstream LLC). MarkWest Liberty Midstream and Sherwood Midstream are entities that operate in the Marcellus region, and Markwest Utica EMG is an entity that operates in the Utica regions. MPLX accounts for MarkWest Utica EMG and Sherwood Midstream as equity method investments.

^(e) The Ohio Condensate Complex as up to 7 million gallons of condensate storage. The Ohio Condensate Complex is partially-owned by MarkWest Utica EMG Condensate, L.L.C. MPLX accounts for Ohio Condensate as an equity method investment.

^(f) The MPLX Siloam Complex has both above-ground, pressurized NGL storage facilities, with usable capacity of two million gallons, and underground storage facilities, with usable capacity of 10 million gallons. Product can be received by truck, pipeline or rail and can be transported from the facility by truck, rail or barge. This facility has large-scale truck and rail loading and unloading capabilities, and a river barge facility capable of loading barges up to 860,000 gallons.

De-ethanization Complexes	Location	Design Throughput Capacity (mbpd)	NGL Throughput (mbpd) ^(a)	Utilization of Design Capacity ^(a)
Bluestone Complex	Butler County, PA	34	15	63%
Houston Complex	Washington County, PA	40	40	100%
Majorsville Complex	Marshall County, WV	80	45	99%
Mobley Complex	Wetzel County, WV	10	11	110%
Sherwood Complex	Doddridge County, WV	40	30	75%
Cadiz Complex ^(b)	Harrison County, OH	40	5	13%
Javelina Complex	Corpus Christi, TX	18	12	67%
Total		262	158	72%

^(a) NGL throughput is a weighted average for days in operation. The utilization of design capacity has been calculated using the weighted average design throughput capacity.

^(b) The Cadiz Complex is owned by MarkWest Utica EMG, which MPLX accounts for as an equity method investment.

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Natural Gas Gathering Systems	Location	Design Throughput Capacity (MMcf/d)	Natural Gas Throughput (MMcf/d)^(a)	Utilization of Design Capacity^(a)
Bluestone System	Butler County, PA	227	165	73%
Houston System	Washington County, PA	1,178	839	74%
Ohio Gathering System ^(b)	Harrison, Monroe, Belmont, Guernsey and Noble Counties, OH	1,123	766	70%
Jefferson Gas System ^(c)	Jefferson County, OH	1,250	426	47%
East Texas System	Harrison and Panola Counties, TX	680	444	65%
Western Oklahoma System	Wheeler County, TX and Roger Mills, Ellis, Custer, Beckham and Washita Counties, OK	585	404	69%
Southeast Oklahoma System	Hughes, Pittsburg and Coal Counties, OK	755	525	70%
Eagle Ford System	Dimmit County, TX	45	30	67%
Other Systems ^(d)	Various	60	9	15%
Total		5,903	3,608	66%

^(a) Natural gas throughput is a weighted average for days in operation. The utilization of design capacity has been calculated using the weighted average design throughput capacity.

^(b) The Ohio Gathering System is owned by Ohio Gathering Company, L.L.C., which MPLX accounts for as an equity method investment.

^(c) The Jefferson Gas System is owned by Jefferson Dry Gas, which is a joint venture between MarkWest Liberty Midstream and EMG MWE Dry Gas Holdings, LLC. MPLX accounts for Jefferson Dry Gas as an equity method investment.

^(d) Excludes lateral pipelines where revenue is not based on throughput.

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The following tables set forth certain information relating to our NGL pipelines and crude oil pipeline as of December 31, 2017.

NGL Pipelines	Location	Design Throughput Capacity (mbpd)	NGL Throughput (mbpd)	Utilization of Design Capacity
Sherwood to Mobley propane and heavier liquids pipeline	Doddridge County, WV to Wetzel County, WV	75	60	80%
Mobley to Majorsville propane and heavier liquids pipeline	Wetzel County, WV to Marshall County, WV	105	85	81%
Majorsville to Houston propane and heavier liquids pipeline	Marshall County, WV to Washington County, PA	45	32	71%
Majorsville to Hopedale propane and heavier liquids pipeline	Marshall County, WV to Harrison County, OH	140	69	49%
Third party processing plant to Bluestone ethane and heavier liquids pipeline	Butler County, PA	32	8	25%
Bluestone to Mariner West ethane pipeline ^(a)	Butler County, PA to Beaver County, PA	35	15	43%
Houston to Ohio River ethane pipeline ^(b)	Washington County, PA to Beaver County, PA	57	9	16%
Majorsville to Houston ethane pipeline ^(a)	Marshall County, WV to Washington County, PA	137	49	36%
Sherwood to Mobley ethane pipeline	Doddridge County, WV to Wetzel County, WV	47	30	64%
Mobley to Majorsville ethane pipeline	Wetzel County, WV to Marshall County, WV	57	41	72%
Seneca to Cadiz propane and heavier liquids pipeline ^(c)	Noble County, OH to Harrison County, OH	75	16	21%
Cadiz to Hopedale propane and heavier liquids pipeline ^(c)	Harrison County, OH	90	31	34%
Seneca to Cadiz propane/ethane and heavier liquids pipeline ^(c,d)	Noble County, OH to Harrison County, OH	69/82	1	1%
Cadiz to Atex ethane pipeline ^(c)	Harrison County, OH	125	5	4%
Cadiz to Utopia ethane pipeline ^(c)	Harrison County, OH	125	1	1%
Langley to Siloam propane and heavier liquids pipeline ^(e)	Langley, KY to South Shore, KY	17	12	71%
East Texas liquids pipeline	Panola County, TX	39	22	56%

^(a) This pipeline is FERC-regulated.

^(b) This is the section of the Mariner West pipeline, which is FERC-regulated, leased to and operated by Sunoco Logistics Partners LP.

^(c) This pipeline is owned by MarkWest Utica EMG, which MPLX accounts for as an equity method investment.

^(d) This is the same pipeline from Seneca to Cadiz and can only be used for either ethane and heavier liquids or propane and heavier liquids at one time. Both throughput capacities are listed above, respectively, with ethane included in the total.

^(e) NGLs transported through the Langley to Ranger and Ranger to Kenova pipelines are combined with NGLs recovered at the Kenova facility. The design capacity and volume reported for the Langley to Siloam pipeline represent the combined NGL stream.

Crude Oil Pipeline	Location	Design Throughput Capacity (mbpd)	NGL Throughput (mbpd)	Utilization of Design Capacity
Michigan crude pipeline	Manistee County, MI to Crawford County, MI	60	10	17%

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Midstream - MPC-Retained Assets and Investments

The following tables set forth certain information related to our crude and products pipeline systems not owned by MPLX.

As of December 31, 2017, we owned undivided joint interests in the following common carrier crude oil pipeline systems.

Pipeline System	Origin	Destination	Diameter (inches)	Length (miles)	Ownership Interest	Operated by MPL
Capline	St. James, LA	Patoka, IL	40"	644	33%	Yes
Maumee	Lima, OH	Samaria, MI	22"	95	26%	No
Total				739		

As of December 31, 2017, we had partial ownership interests in the following pipeline companies.

Pipeline Company	Origin	Destination	Diameter (inches)	Length (miles)	Ownership Interest	Operated by MPL
Crude oil pipeline companies:						
LOOP ^(a)	Offshore Gulf of Mexico	Clovelly, LA	48"	48	10%	No
Products pipeline companies:						
Ascension Pipeline Company LLC	Riverside, LA	Garyville, LA	12"	32	50%	No
Centennial Pipeline LLC ^(b)	Beaumont, TX	Bourbon, IL	24"-26"	796	50%	Yes
Muskegon Pipeline LLC	Griffith, IN	Muskegon, MI	10"	170	60%	Yes
Wolverine Pipe Line Company	Chicago, IL	Bay City & Ferrysburg, MI	6"-18"	743	6%	No
Total				1,741		

^(a) Represents interest retained by MPC and excludes MPLX's 41% ownership interest in LOOP. Pipeline mileage is excluded from total as it is included with MPLX assets.

^(b) All system pipeline miles are inactive.

The following table provides information on private crude oil pipelines and private products pipelines that we own as of December 31, 2017.

Private Pipeline Systems	Diameter (inches)	Length (miles)	Capacity (mbpd)
Crude oil pipeline systems:			
Inactive pipelines		9	N/A
Products pipeline systems:			
Illinois pipeline systems	4"-8"	118	39
Texas pipeline systems	8"	103	45
Inactive pipelines		7	N/A
Total		228	84

The following table sets forth details about the assets held by two ocean vessel joint ventures in which we hold a 50% interest as of December 31, 2017.

Class of Equipment	Number in Class	Capacity (thousand barrels)
Jones Act product tankers ^(a)	4	1,320
750 Series ATB vessels ^(b)	3	990

^(a) Represents ownership through our indirect noncontrolling interest in Crowley Ocean Partners.

^(b) Represents ownership through our indirect noncontrolling interest in Crowley Blue Water Partners.

Item 3. Legal Proceedings

We are the subject of, or a party to, a number of pending or threatened legal actions, contingencies and commitments involving a variety of matters, including laws and regulations relating to the environment. Some of these matters are discussed below.

Litigation

We are a party to a number of lawsuits and other proceedings and cannot predict the outcome of every such matter with certainty. While it is possible that an adverse result in one or more of the lawsuits or proceedings in which we are a defendant could be material to us, based upon current information and our experience as a defendant in other matters, we believe that these lawsuits and proceedings, individually or in the aggregate, will not have a material adverse effect on our consolidated results of operations, financial position or cash flows.

MPLX, MarkWest, MarkWest Liberty Midstream, MarkWest Liberty Bluestone, L.L.C., Ohio Fractionation and MarkWest Utica EMG (collectively, the “MPLX Parties”) are parties to various lawsuits with Bilfinger Westcon, Inc. (“Westcon”) that were instituted in 2016 and 2017 in the Court of Common Pleas in Butler County, Pennsylvania, the Circuit Court in Wetzel County, West Virginia, and the Court of Common Pleas in Harrison County, Ohio. The lawsuits relate to disputes regarding construction work performed by Westcon at the Bluestone, Mobley and Cadiz processing complexes in Pennsylvania, West Virginia and Ohio, respectively, and the Hopedale fractionation complex in Ohio. With respect to work performed by Westcon at the Mobley and Bluestone processing complexes, one or more of the MPLX Parties have asserted breach of contract, fraud, and with respect to work performed at the Mobley processing complex, MarkWest Liberty Midstream has also asserted negligent misrepresentation claims against Westcon. Westcon has also asserted claims against one or more of the MPLX Parties regarding these construction projects for breach of contract, unjust enrichment, promissory estoppel, fraud and constructive fraud, tortious interference with contractual relations, and civil conspiracy. The MPLX Parties seek in excess of \$10 million, plus an unspecified amount of punitive damages. Westcon seeks in excess of \$40 million, plus an unspecified amount of punitive damages. While the ultimate outcome and impact cannot be predicted with certainty, and management is not able to provide a reasonable estimate of the potential loss or range of loss, if any, for these claims, we believe the resolution of these claims will not have a material adverse effect on its consolidated financial position, results of operations, or cash flows.

In May 2015, the Kentucky attorney general filed a lawsuit against our wholly-owned subsidiary, Marathon Petroleum Company LP (“MPC LP”), in the United States District Court for the Western District of Kentucky asserting claims under federal and state antitrust statutes, the Kentucky Consumer Protection Act, and state common law. The complaint, as amended in July 2015, alleges that MPC LP used deed restrictions, supply agreements with customers and exchange agreements with competitors to unreasonably restrain trade in areas within Kentucky and seeks declaratory relief, unspecified damages, civil penalties, restitution and disgorgement of profits. At this stage, the ultimate outcome of this litigation remains uncertain, and neither the likelihood of an unfavorable outcome nor the ultimate liability, if any, can be determined, and we are unable to estimate a reasonably possible loss (or range of loss) for this matter. We intend to vigorously defend ourselves in this matter.

In May 2007, the Kentucky attorney general filed a lawsuit against us and Marathon Oil in state court in Franklin County, Kentucky for alleged violations of Kentucky’s emergency pricing and consumer protection laws following Hurricanes Katrina and Rita in 2005. The lawsuit alleges that we overcharged customers by \$89 million during September and October 2005. The complaint seeks disgorgement of these sums, as well as penalties, under Kentucky’s emergency pricing and consumer protection laws. We are vigorously defending this litigation. We believe that this is the first lawsuit for damages and injunctive relief under the Kentucky emergency pricing laws to progress this far and it contains many novel issues. In May 2011, the Kentucky attorney general amended his complaint to include a request for immediate injunctive relief as well as unspecified damages and penalties related to our wholesale gasoline pricing in April and May 2011 under statewide price controls that were activated by the Kentucky governor on April 26, 2011 and which have since expired. The court denied the attorney general’s request for immediate injunctive relief, and the remainder of the 2011 claims likely will be resolved along with those dating from 2005. If the lawsuit is resolved unfavorably in its entirety, it could materially impact our consolidated results of operations, financial position or cash flows. However, management does not believe the ultimate resolution of this litigation will have a material adverse effect.

Environmental Proceedings

The Illinois Environmental Protection Agency (“IEPA”) initiated an enforcement action against Marathon Pipe Line LLC, a wholly-owned subsidiary of MPLX (“MPL”), in connection with an April 17, 2016 pipeline release to the Wabash River near Crawleyville, Indiana. MPL responded to a Clean Water Act request for information from the EPA in furtherance of its investigation of possible violations arising from the April 17, 2016 pipeline release. MPL has entered into joint settlement negotiations with the IEPA and the EPA and reached a settlement in principle for payment of a total civil penalty of \$335,000.

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On December 22, 2017, we entered into a settlement with the Ohio Environmental Protection Agency in connection with alleged violations of the Clean Air Act at our Canton, Ohio refinery. In accordance with the settlement, we paid a penalty of \$250,000.

In July 2015, representatives from the EPA and the United States Department of Justice conducted a search at a MarkWest Liberty Midstream pipeline launcher/receiver site utilized for pipeline maintenance operations in Washington County, Pennsylvania pursuant to a search warrant. The criminal investigation ended without any charges against MarkWest Liberty Midstream. With respect to the civil enforcement allegations associated with permitting or other related regulatory obligations for its launcher/receiver and compressor station facilities in the region, MarkWest Liberty Midstream and its affiliates have agreed in principle to pay a cash penalty of approximately \$0.6 million and to undertake certain supplemental environmental projects with an estimated cost of approximately \$2.4 million.

We are involved in a number of other environmental proceedings arising in the ordinary course of business. While the ultimate outcome and impact on us cannot be predicted with certainty, we believe the resolution of these environmental proceedings will not have a material adverse effect on our consolidated results of operations, financial position or cash flows.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock is listed on the NYSE and traded under the symbol “MPC.” As of February 16, 2018, there were 32,545 registered holders of our common stock.

The following table reflects intraday high and low sales prices of and dividends declared on our common stock by quarter:

<i>Dollars per share</i>	2017			2016		
	High Price	Low Price	Dividends	High Price	Low Price	Dividends
Quarter 1	\$ 54.59	\$ 46.88	\$ 0.36	\$ 52.83	\$ 29.24	\$ 0.32
Quarter 2	55.20	47.78	0.36	43.26	32.02	0.32
Quarter 3	56.81	49.30	0.40	44.56	35.16	0.36
Quarter 4	67.07	55.25	0.40	51.15	40.01	0.36
Year	67.07	46.88	1.52	52.83	29.24	1.36

Dividends

Our board of directors intends to declare and pay dividends on our common stock based on our financial condition and consolidated results of operations. On January 29, 2018, we announced that our board of directors approved a 46 cent per share dividend, payable March 12, 2018 to shareholders of record at the close of business on February 21, 2018.

Dividends on our common stock are limited to our legally available funds.

Issuer Purchases of Equity Securities

The following table sets forth a summary of our purchases during the quarter ended December 31, 2017, of equity securities that are registered by MPC pursuant to Section 12 of the Securities Exchange Act of 1934, as amended:

Period	Total Number of Shares Purchased ^(a)	Average Price Paid per Share ^(b)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs ^(c)
10/01/17-10/31/17	9,750,623	\$ 56.43	9,746,982	\$ 3,391,603,964
11/01/17-11/30/17	1,784,657	62.03	1,784,530	3,280,906,366
12/01/17-12/31/17	1,429,515	62.78	1,423,324	3,191,552,142
Total	12,964,795	57.90	12,954,836	

^(a) The amounts in this column include 3,641, 127 and 6,191 shares of our common stock delivered by employees to MPC, upon vesting of restricted stock, to satisfy tax withholding requirements in October, November and December, respectively.

^(b) Amounts in this column reflect the weighted average price paid for shares purchased under our share repurchase authorizations and for shares tendered to us in satisfaction of employee tax withholding obligations upon the vesting of restricted stock granted under our stock plans. The weighted average price includes commissions paid to brokers on shares purchased under our share repurchase authorizations.

^(c) On May 31, 2017, we announced that our board of directors had approved a \$3.0 billion share repurchase authorization and extended the remaining balance under the previous repurchase authorization announced on July 30, 2015, with both such outstanding authorizations having no expiration date. These authorizations, together with prior authorizations, result in a total of \$13.0 billion of share repurchase authorizations since January 1, 2012.

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Item 6. Selected Financial Data

The following table should be read in conjunction with Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations and Item 8. Financial Statements and Supplementary Data.

<i>(In millions, except per share data)</i>	Year Ended December 31,				
	2017 ^(a)	2016	2015 ^(b)	2014 ^(b)	2013 ^(b)
Statements of Income Data					
Revenues	\$ 74,733	\$ 63,339	\$ 72,051	\$ 97,817	\$ 100,160
Income from operations	3,969	2,378	4,692	4,051	3,425
Net income	3,804	1,213	2,868	2,555	2,133
Net income attributable to MPC	3,432	1,174	2,852	2,524	2,112
Per Share Data^(c)					
Net income attributable to MPC per share:					
Basic	\$ 6.76	\$ 2.22	\$ 5.29	\$ 4.42	\$ 3.34
Diluted	\$ 6.70	\$ 2.21	\$ 5.26	\$ 4.39	\$ 3.32
Dividends per share	\$ 1.52	\$ 1.36	\$ 1.14	\$ 0.92	\$ 0.77
Statements of Cash Flows Data					
Net cash provided by operating activities	\$ 6,609	\$ 3,995	\$ 4,073	\$ 3,121	\$ 3,413
Additions to property, plant and equipment	2,732	2,892	1,998	1,480	1,206
Acquisitions, net of cash acquired ^(b)	249	—	1,218	2,821	1,515
Investments - acquisitions, loans and contributions	805	288	331	413	151
Common stock repurchased	2,372	197	965	2,131	2,793
Dividends paid	773	719	613	524	484

<i>(In millions)</i>	December 31,				
	2017	2016	2015 ^(b)	2014 ^(b)	2013 ^(b)
Balance Sheets Data					
Total assets	\$ 49,047	\$ 44,413	\$ 43,115	\$ 30,425	\$ 28,367
Long-term debt, including capitalized leases ^(d)	12,946	10,572	11,925	6,602	3,378
Noncontrolling interests	6,795	6,646	6,438	639	412
Total equity	20,828	20,203	19,675	11,390	11,332

^(a) Earnings for 2017 include a tax benefit of approximately \$1.5 billion or \$2.93 per diluted share as a result of re-measuring certain net deferred tax liabilities using the lower corporate tax rate enacted in the fourth quarter 2017.

^(b) On December 4, 2015, MPLX, our consolidated subsidiary, merged with MarkWest. On September 30, 2014, we acquired Hess’ Retail Operations and Related Assets. On February 1, 2013, we acquired the Galveston Bay Refinery and Related Assets. The financial results for these operations are included in our consolidated results from the date of acquisition.

^(c) The number of weighted average shares reflect the impacts of shares of common stock repurchased under our share repurchase plans.

^(d) Includes amounts due within one year. During 2017, MPLX issued \$2.25 billion aggregate principal amount of senior notes and used the net proceeds to fund the \$1.5 billion cash portion of the consideration paid to MPC for the dropdown of assets on March 1, 2017. During 2015, in connection with the MarkWest Merger, MPLX assumed MarkWest Senior Notes with an aggregate principal amount of \$4.1 billion and used its credit facility to repay \$850 million of the \$943 million of borrowings under MarkWest’s credit facility. During 2014, we issued \$1.95 billion aggregate principal amount of senior notes and entered into a \$700 million term loan agreement to fund a portion of the Hess’ Retail Operations and Related Assets acquisition.

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

Management’s Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with the information included under Item 1. Business, Item 1A. Risk Factors, Item 6. Selected Financial Data and Item 8. Financial Statements and Supplementary Data.

Management’s Discussion and Analysis of Financial Condition and Results of Operations includes various forward-looking statements concerning trends or events potentially affecting our business. You can identify our forward-looking statements by words such as “anticipate,” “believe,” “could,” “design,” “estimate,” “expect,” “forecast,” “goal,” “guidance,” “imply,” “intend,” “may,” “objective,” “opportunity,” “outlook,” “plan,” “position,” “potential,” “predict,” “project,” “prospective,” “pursue,” “seek,” “should,” “strategy,” “target,” “will,” “would,” or other similar expressions that convey the uncertainty of future events or outcomes. In accordance with “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995, these statements are accompanied by cautionary language identifying important factors, though not necessarily all such factors, which could cause future outcomes to differ materially from those set forth in forward-looking statements.

Corporate Overview

We are an independent petroleum refining and marketing, retail and midstream company. Overall, we are one of the largest independent petroleum product refining, marketing, retail and transportation businesses in the United States and the largest east of the Mississippi.

We currently own and operate six refineries, all located in the United States, with an aggregate crude oil refining capacity of approximately 1.9 mmbpcd. Our refineries supply refined products to resellers and consumers within our market areas, including the Midwest, Northeast, East Coast, Southeast and Gulf Coast regions of the United States. We distribute refined products to our customers through pipeline and marine transportation, terminals and storage services provided by our Midstream segment. We are one of the largest wholesale suppliers of gasoline and distillates to resellers within our market area.

We have two strong retail brands: Speedway® and Marathon®. We believe that Speedway LLC, a wholly-owned subsidiary, operates the second largest chain of company-owned and operated retail gasoline and convenience stores in the United States, with approximately 2,740 convenience stores in 21 states throughout the Midwest, East Coast and Southeast. The Marathon brand is an established motor fuel brand in the Midwest and Southeast regions of the United States, and is available through approximately 5,600 retail outlets operated by independent entrepreneurs in 20 states and the District of Columbia.

Through our ownership interests in MPLX, we are one of the largest processors of natural gas in the United States and the largest processor and fractionator in the Marcellus and Utica shale regions. Our integrated midstream energy asset network links producers of natural gas and NGLs from some of the largest supply basins in the United States to domestic and international markets. Our midstream gathering and processing operations include: natural gas gathering, processing and transportation; and NGL gathering, transportation, fractionation, storage and marketing. Our assets include approximately 5.9 bcf/d of gathering capacity, 8.0 bcf/d of natural gas processing capacity and 610 mbpd of fractionation capacity as of December 31, 2017. As of December 31, 2017, we owned, leased or had ownership interests in approximately 10,800 miles of crude oil and refined product pipelines to deliver crude oil to our refineries and other locations and refined products to wholesale and retail market areas. We distribute our refined products through one of the largest terminal operations in the United States and one of the largest private domestic fleets of inland petroleum product barges.

In the first quarter of 2017, we revised our segment reporting in connection with the contribution of certain terminal, pipeline and storage assets to MPLX. The operating results for these assets are now reported in our Midstream segment. Previously, they were reported as part of our Refining & Marketing segment. Comparable prior period information has been recast to reflect our revised presentation. The results for the pipeline and storage assets were recast effective January 1, 2015 and the results for the terminal assets were recast effective April 1, 2016. Prior to these dates, these assets were not considered businesses for accounting purposes and, therefore, there are no financial results from which to recast segment results.

Our operations consist of three reportable operating segments: Refining & Marketing; Speedway; and Midstream. Each of these segments is organized and managed based upon the nature of the products and services they offer. See Item 1. Business for additional information on our segments.

- Refining & Marketing – refines crude oil and other feedstocks at our six refineries in the Gulf Coast and Midwest regions of the United States, purchases refined products and ethanol for resale and distributes refined products through various means, including pipeline and marine transportation, terminals and storage services provided by our Midstream segment. We sell refined products to wholesale marketing customers domestically and internationally, buyers on the spot market, our Speedway business segment and independent entrepreneurs who operate Marathon® retail outlets.

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- Speedway – sells transportation fuels and convenience products in the retail market in the Midwest, East Coast and Southeast.
- Midstream – gathers, processes and transports natural gas; gathers, transports, fractionates, stores and markets NGLs; and transports and stores crude oil and refined products principally for the Refining & Marketing segment via pipelines, terminals, towboats and barges. The Midstream segment primarily reflects the results of MPLX, our sponsored master limited partnership.

Strategic Actions to Enhance Shareholder Value

On January 3, 2017, we announced plans to significantly accelerate the dropdown of assets with an estimated \$1.4 billion of MLP-eligible annual EBITDA to MPLX and to exchange our economic interests in the general partner of MPLX, including IDRs, for newly issued MPLX common units. In 2017, in connection with these plans, we contributed assets to MPLX with projected annual EBITDA of approximately \$400 million for \$1.93 billion of cash and approximately 31 million MPLX common units and general partner units. See “MPLX LP - MPLX Highlights” for information on these dropdowns. On February 1, 2018, we completed the dropdown of the remaining identified assets, which included our refining logistics assets and fuels distribution services with projected annual EBITDA of approximately \$1 billion, in exchange for \$4.1 billion of cash and 114 million MPLX common units and general partner units.

The cash consideration for these dropdowns in 2017 and 2018 was financed by MPLX with \$6.0 billion of debt. See “MPLX Highlights” section for additional information on MPLX debt financing in 2017 and 2018. The equity financing was funded through new MPLX common units and general partner units issued to us. Immediately following the closing of the February 1, 2018 dropdown, our IDRs were cancelled and our economic general partner interest was converted into a non-economic general partner interest, all in exchange for 275 million newly issued MPLX common units, which resulted in us owning approximately 64 percent of the issued and outstanding MPLX common units as of February 1, 2018. These actions were designed to provide a clear valuation of our midstream platform and to provide an ongoing return of capital to our shareholders in a manner consistent with maintaining an investment-grade credit profile.

Our January 3, 2017 announcement included conducting a full and thorough review of Speedway to ensure optimum value is being delivered to shareholders over the long term. On September 5, 2017, we announced that our board of directors, based on a recommendation from its independent special committee, determined that maintaining Speedway as a fully integrated business with MPC provides the best opportunity for enhancing long-term shareholder value. Key factors in the board of directors’ decision to maintain Speedway as an integrated business within MPC included substantial integration synergies, support of MPC’s investment-grade credit profile and ability to return capital to shareholders and the strong value of cash flow diversification.

Executive Summary

Results

Select results for 2017 and 2016 are reflected in the following table.

<i>(In millions, except per share data)</i>	2017	2016
Income from Operations by segment		
Refining & Marketing	\$ 2,321	\$ 1,357
Speedway	732	734
Midstream	1,339	1,048
Items not allocated to segments	(423)	(761)
Total	\$ 3,969	\$ 2,378
(Benefit) provision for income taxes	\$ (460)	\$ 609
Noncontrolling interests	\$ 307	\$ (2)
Net income attributable to MPC	\$ 3,432	\$ 1,174
Net income attributable to MPC per diluted share	\$ 6.70	\$ 2.21

Net income attributable to MPC increased \$2.26 billion, or \$4.49 per diluted share, in 2017 compared to 2016, primarily due to an income tax benefit of approximately \$1.5 billion resulting from the TCJA and improved results from our Refining & Marketing segment.

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Refining & Marketing segment income from operations increased in 2017 compared to 2016. Excluding the \$345 million LCM inventory benefit recognized in 2016, the increase in segment results for 2017 primarily resulted from higher LLS crack spreads in both the U.S. Gulf Coast and Chicago markets. The LLS blended crack spread for 2017 increased to \$9.84 per barrel from \$6.96 per barrel in 2016. These favorable effects were partially offset by less favorable product price realizations as compared to the spot market prices used in the LLS blended crack spread.

Excluding the \$25 million LCM inventory benefit recognized in 2016, the increase in Speedway segment results for 2017 was primarily due to contributions from its travel center joint venture formed in the fourth quarter of 2016 and lower operating expense, partially offset by lower merchandise margin and lower gains from asset sales.

Midstream segment income from operations increased in 2017 compared to 2016, primarily due to higher natural gas and NGL gathering, processing and fractionating volumes and changes in natural gas and NGL prices. Segment results also benefited from the first quarter 2017 acquisitions of the Ozark pipeline and our ownership interest in the Bakken Pipeline system.

Items not allocated in 2017 includes an \$86 million litigation charge, a litigation benefit of \$57 million, \$52 million of pension settlement expenses and a benefit of \$23 million related to MPC's share of gains from the sale of assets remaining from the canceled Sandpiper pipeline project. Items not allocated to segments in 2016 includes non-cash impairment charges totaling \$486 million, which included \$267 million related to our equity method investment in the Sandpiper pipeline project resulting from the indefinite deferral of this project, \$130 million related to the goodwill recognized in connection with the MarkWest Merger and \$89 million related to an MPLX equity method investment.

During the fourth quarter of 2017, the TCJA significantly revised U.S. corporate income tax law by, among other things, reducing the corporate income tax rate to 21 percent. Earnings for 2017 includes a tax benefit of approximately \$1.5 billion as a result of remeasuring certain net deferred tax liabilities using the lower corporate tax rate.

Noncontrolling interests increased in 2017 compared to 2016, primarily due to increased MPLX net income.

MPLX LP

MPLX is a diversified, growth-oriented publicly traded master limited partnership originally formed by us to own, operate, develop and acquire midstream energy infrastructure assets. MPLX is engaged in the gathering, processing and transportation of natural gas; the gathering, transportation, fractionation, storage and marketing of NGLs; and the gathering, transportation and storage of crude oil and refined petroleum products. On December 4, 2015, we completed the MarkWest Merger, whereby MarkWest became a wholly-owned subsidiary of MPLX.

As of December 31, 2017, we owned a 30.4 percent interest in MPLX, including a two percent general partner interest. MPLX is a VIE because the limited partners of MPLX do not have substantive kick-out or substantive participating rights over the general partner. We are the primary beneficiary of MPLX because in addition to significant economic interest, we also have the power, through our 100 percent ownership of the general partner, to control the decisions that most significantly impact MPLX. We therefore consolidate MPLX and record a noncontrolling interest for the 69.6 percent interest owned by the public. The creditors of MPLX do not have recourse to MPC's general credit through guarantees or other financial arrangements. The assets of MPLX are the property of MPLX and cannot be used to satisfy the obligations of MPC. MPC has effectively guaranteed certain indebtedness of LOOP and LOCAP, in which MPLX holds an interest. See Item 8. Financial Statements and Supplementary Data – Note 25 for more information.

See the "Strategic Actions to Enhance Shareholder Value" section for information on our ownership of MPLX after the dropdown of certain assets and IDR exchange on February 1, 2018.

MPLX Highlights

- On February 8, 2018, MPLX issued \$5.5 billion in aggregate principal amount of senior notes in a public offering, consisting of \$500 million aggregate principal amount of 3.375 percent unsecured senior notes due March 2023, \$1.25 billion aggregate principal amount of 4.000 percent unsecured senior notes due March 2028, \$1.75 billion aggregate principal amount of 4.500 percent unsecured senior notes due April 2038, \$1.5 billion aggregate principal amount of 4.700 percent unsecured senior notes due April 2048, and \$500 million aggregate principal amount of 4.900 percent unsecured senior notes due April 2058. On February 8, 2018, \$4.1 billion of the net proceeds were used to repay the 364-day term-loan facility, which was drawn on February 1, 2018 to fund the cash portion of the consideration MPLX paid MPC for the dropdown of assets on February 1, 2018. The remaining proceeds will be used to repay outstanding borrowings under MPLX's revolving credit facility and intercompany loan agreement with us and for general partnership purposes.
- On September 1, 2017, we contributed our joint-interest ownership in certain pipelines and storage facilities to MPLX in exchange for total consideration of \$1.05 billion.

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- On March 1, 2017, we contributed certain terminal, pipeline and storage assets to MPLX in exchange for total consideration of \$2.0 billion.
- On February 10, 2017, MPLX completed a public offering of \$1.25 billion aggregate principal amount of 4.125% unsecured senior notes due March 2027 and \$1.0 billion aggregate principal amount of 5.200% unsecured senior notes due March 2047. MPLX used the net proceeds from this offering to fund the \$1.5 billion cash portion of the consideration MPLX paid MPC for the dropdown of assets on March 1, 2017, as well as for general partnership purposes.
- On March 31, 2016, we contributed our inland marine business to MPLX in exchange for 23 million common units and 460 thousand general partner units.
- On August 4, 2016, MPLX entered into a Second Amended and Restated Distribution Agreement (the “Distribution Agreement”) providing for at-the-market issuance of common units, in amounts, at prices and on terms determined by market conditions and other factors at the time of the offerings (such as at-the-market program, referred to as the “ATM Program”). During 2017, MPLX issued an aggregate of 14 million common units under the ATM Program, generating net proceeds of approximately \$473 million. MPLX used the net proceeds from sales under the ATM Program for general partnership purposes including repayment of debt and funding for acquisitions, working capital requirements and capital expenditures.
- On September 1, 2016, MPC, MPLX and various affiliates initiated a series of reorganization transactions in order to simplify MPLX’s ownership structure and its financial and tax reporting. In connection with these transactions, MPC contributed \$225 million to MPLX, and all of the issued and outstanding MPLX Class A Units, all of which were held by MarkWest Hydrocarbon, a wholly-owned subsidiary of MPLX, were exchanged for newly issued MPLX common units.
- On May 13, 2016, MPLX completed the private placement of approximately 30.8 million 6.5 percent Series A Convertible Preferred Units (the “MPLX Preferred Units”) at a cash price of \$32.50 per unit. The aggregate net proceeds of approximately \$984 million from the sale of the MPLX Preferred Units was used for capital expenditures, repayment of debt and general partnership purposes.

Distributions from MPLX

The following table summarizes the cash distributions we received from MPLX during 2017 and 2016.

<i>(In millions)</i>	2017	2016
Cash distributions received from MPLX:		
General partner distributions, including IDRs	\$ 301	\$ 190
Limited partner distributions	197	142
Total	<u>\$ 498</u>	<u>\$ 332</u>

As discussed in the “Strategic Actions to Enhance Shareholder Value” section above, we believe there is substantial value in our economic interests in the general partner of MPLX and exchanged these economic interests for 275 million newly issued MPLX common units in conjunction with the completion of our dropdowns to highlight that value. After giving effect to the dropdown of certain assets and IDR exchange on February 1, 2018, we owned approximately 505 million MPLX common units valued at \$19.15 billion based on the February 1, 2018 closing unit price of \$37.95.

On January 26, 2018, MPLX declared a quarterly cash distribution of \$0.6075 per common unit, which was payable February 14, 2018. As a result, MPLX made distributions totaling \$346 million to its limited and general partners. MPC’s portion of this distribution was approximately \$170 million.

See Item 8. Financial Statements and Supplementary Data – Note 4 for additional information on MPLX.

Acquisitions and Investments

- On March 1, 2017, MPLX acquired the Ozark pipeline from Enbridge Pipelines (Ozark) LLC for approximately \$219 million.
- On February 15, 2017, MPLX acquired a partial, indirect equity interest in the Dakota Access Pipeline (“DAPL”) and Energy Transfer Crude Oil Company Pipeline (“ETCOP”) projects, collectively referred to as the Bakken Pipeline system, through a joint venture, MarEn Bakken Company LLC (“MarEn Bakken”), with Enbridge Energy Partners L.P. (“Enbridge Energy Partners”). MPLX holds, through a subsidiary, a 25 percent interest in MarEn Bakken, which equates to an approximate 9.2 percent indirect equity interest in the Bakken Pipeline system.

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- Effective January 1, 2017, MPLX and Antero Midstream formed a joint venture, Sherwood Midstream LLC (“Sherwood Midstream”), to support the development of Antero Resources Corporation’s Marcellus Shale acreage in West Virginia. MarkWest has a 50 percent ownership interest in Sherwood Midstream. In connection with this transaction, MarkWest contributed certain gas processing plants currently under construction at the Sherwood Complex with a fair value of approximately \$134 million, cash of approximately \$20 million and sold Class A Interests in MarkWest Ohio Fractionation to Sherwood Midstream for \$126 million in cash. Sherwood Midstream Holdings LLC (“Sherwood Midstream Holdings”), a joint venture with MarkWest and Sherwood Midstream, was also formed to own, operate and maintain certain assets owned by Sherwood Midstream and MarkWest. MarkWest contributed certain real property, equipment and facilities with a fair value of approximately \$209 million to Sherwood Midstream Holdings in exchange for a 79 percent initial ownership interest.
- In the fourth quarter of 2016, Speedway and Pilot Flying J finalized the formation of a joint venture consisting of 123 travel plazas, primarily in the Southeast United States. The new entity, PFJ Southeast, consisted of 41 existing locations contributed by Speedway and 82 locations contributed by Pilot Flying J, all of which carry either the Pilot or Flying J brand and are operated by Pilot Flying J. Our non-cash contribution was \$273 million based on the book value of the assets we contributed to the joint venture.
- On September 1, 2016, Enbridge Energy Partners announced that its affiliate, North Dakota Pipeline, would withdraw certain pending regulatory applications for the Sandpiper pipeline project and that the project would be deferred indefinitely. These decisions were considered to indicate an impairment of the costs capitalized to date on the project. We made contributions of \$14 million to North Dakota Pipeline during the year ended December 31, 2016 and contributed \$301 million since project inception to fund our share of the construction costs for the project. As the operator of North Dakota Pipeline, which owns the investments made to date in the Sandpiper pipeline project, and the entity responsible for maintaining its financial records, Enbridge Energy Partners completed a fixed asset impairment analysis as of August 31, 2016, in accordance with ASC Topic 360, to determine the fixed asset impairment charge. Based on the estimated liquidation value of the fixed assets, an impairment charge was recorded by North Dakota Pipeline. Based on our 37.5 percent ownership of North Dakota Pipeline, we recognized approximately \$267 million of this charge in the third quarter of 2016 through “Income (loss) from equity method investments” on the accompanying consolidated statements of income. See Item 8. Financial Statements and Supplementary Data – Note 17 to the for information regarding the charge.
- In September 2015, we acquired a 50 percent ownership interest in a joint venture, Crowley Ocean Partners, with Crowley. The joint venture owns and operates four new Jones Act product tankers, three of which are leased to MPC. We contributed a total of \$141 million for the four vessels.
- In May 2016, MPC and Crowley formed a new ocean vessel joint venture, Crowley Coastal Partners, in which MPC has a 50 percent ownership interest. MPC and Crowley each contributed their 50 percent ownership in Crowley Ocean Partners, discussed above, into Crowley Coastal Partners. In addition, we contributed \$48 million in cash and Crowley contributed its 100 percent ownership interest in Crowley Blue Water Partners to Crowley Coastal Partners. Crowley Blue Water Partners is an entity that owns and operates three 750 Series ATB vessels that are leased to MPC.
- On December 4, 2015, MPLX completed the MarkWest Merger. Each common unit of MarkWest issued and outstanding immediately prior to the effective time of the MarkWest Merger was converted into a right to receive 1.09 common units of MPLX representing limited partner interests in MPLX, plus a one-time cash payment of \$6.20 per unit. We contributed approximately \$1.28 billion of cash to MPLX to pay the aggregate cash consideration to MarkWest unitholders, without receiving any new equity from MPLX in exchange. At closing, we made a payment of \$1.23 billion to MarkWest common unitholders and the remaining \$50 million was paid in equal amounts, the first \$25 million was paid in July 2016 and the second \$25 million was paid in July 2017, in connection with the conversion of the MPLX Class B Units to MPLX common units. MPLX recorded impairment charges of approximately \$130 million in 2016 to impair a portion of the \$2.21 billion of goodwill, as adjusted, recorded in connection with the MarkWest Merger. Our financial results and operating statistics reflect the results of MarkWest from the date of the MarkWest Merger.

See Item 8. Financial Statements and Supplementary Data – Note 5 for additional information on these acquisitions and investments, Note 6 for additional information on Crowley Coastal Partners as a VIE and Note 25 for information regarding our conditional guarantee of the indebtedness of Crowley Ocean Partners and Crowley Blue Water Partners.

Share Repurchases

As part of our strategic actions to enhance shareholder value, we repurchased \$2.37 billion of our common stock at an average cost per share of \$53.85 during 2017. Since January 1, 2012, our board of directors has approved \$13.0 billion in total share repurchase authorizations and we have repurchased a total of \$9.81 billion of our common stock, leaving \$3.19 billion available for repurchases as of December 31, 2017. Under these authorizations, we have acquired 246 million shares at an average cost per share of \$39.82.

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Liquidity

As of December 31, 2017, we had cash and cash equivalents of \$3.01 billion, excluding MPLX's cash and cash equivalents of \$5 million, and no borrowings or letters of credit outstanding under our \$3.5 billion bank revolving credit facilities or under our \$750 million trade receivables securitization facility ("trade receivables facility"). As of December 31, 2017, eligible trade receivables supported borrowings of \$750 million under the trade receivable facility. As of December 31, 2017, we do not have any commercial paper borrowings outstanding. We do not intend to have outstanding commercial paper borrowings in excess of available capacity under our bank revolving credit facilities. As of December 31, 2017, MPLX had \$505 million borrowings outstanding under its \$2.25 billion revolving credit agreement and \$114 million available through its \$500 million intercompany loan agreement with MPC.

See Item 8. Financial Statements and Supplementary Data – Note 19 for information on our new bank revolving credit facilities.

Overview of Segments

Refining & Marketing

Refining & Marketing segment income from operations depends largely on our Refining & Marketing margin and refinery throughputs. Our total refining capacity was 1,881 mbpcd, 1,817 mbpcd and 1,794 mbpcd as of December 31, 2017, 2016 and 2015, respectively.

Our Refining & Marketing margin is the difference between the prices of refined products sold and the costs of crude oil and other charge and blendstocks refined, including the costs to transport these inputs to our refineries and the costs of products purchased for resale. The crack spread is a measure of the difference between market prices for refined products and crude oil, commonly used by the industry as a proxy for the refining margin. Crack spreads can fluctuate significantly, particularly when prices of refined products do not move in the same relationship as the cost of crude oil. As a performance benchmark and a comparison with other industry participants, we calculate Midwest (Chicago) and USGC crack spreads that we believe most closely track our operations and slate of products. LLS prices and a 6-3-2-1 ratio of products (6 barrels of LLS crude oil producing 3 barrels of unleaded regular gasoline, 2 barrels of ultra-low sulfur diesel and 1 barrel of three percent residual fuel oil) are used for these crack-spread calculations.

Our refineries can process significant amounts of sour crude oil, which typically can be purchased at a discount to sweet crude oil. The amount of this discount, the sweet/sour differential, can vary significantly, causing our Refining & Marketing margin to differ from crack spreads based on sweet crude oil. In general, a larger sweet/sour differential will enhance our Refining & Marketing margin.

Future crude oil differentials will be dependent on a variety of market and economic factors, as well as U.S. energy policy.

The following table provides sensitivities showing an estimated change in annual net income due to potential changes in market conditions.

(In millions, after-tax^(a))

LLS 6-3-2-1 crack spread sensitivity ^(b) (per \$1.00/barrel change)	\$	590
Sweet/sour differential sensitivity ^(c) (per \$1.00/barrel change)		300
LLS-WTI differential sensitivity ^(d) (per \$1.00/barrel change)		90
Natural gas price sensitivity ^(e) (per \$1.00/million British thermal unit change)		200

^(a) The tax rate reflects the lower corporate tax rate under the TCJA.

^(b) Weighted 40 percent Chicago and 60 percent USGC LLS 6-3-2-1 crack spreads and assumes all other differentials and pricing relationships remain unchanged.

^(c) LLS (prompt) – [delivered cost of sour crude oil: Arab Light, Kuwait, Maya, Western Canadian Select and Mars] and assumes approximately 58 percent of crude throughput are sour-based crudes.

^(d) Assumes approximately 17 percent of crude oil throughput volumes are WTI-based domestic crude oil.

^(e) This is consumption based exposure for our Refining & Marketing segment and does not include the sales exposure for our Midstream segment.

In addition to the market changes indicated by the crack spreads, the sweet/sour differential and the LLS to WTI differential, our Refining & Marketing margin is impacted by factors such as:

- the selling prices realized for refined products;
- the types of crude oil and other charge and blendstocks processed;
- our refinery yields;
- the cost of products purchased for resale;

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- the impact of commodity derivative instruments used to hedge price risk; and
- the potential impact of LCM adjustments to inventories in periods of declining prices.

Inventories are stated at the lower of cost or market. Costs of crude oil, refinery feedstocks and refined products are stated under the LIFO inventory costing method and aggregated on a consolidated basis for purposes of assessing if the cost basis of these inventories may have to be written down to market values. At December 31, 2017, market values for refined products exceed their cost basis and, therefore, there is no LCM inventory market valuation reserve at the end of the year. Based on movements of refined product prices, future inventory valuation adjustments could have a negative effect to earnings. Such losses are subject to reversal in subsequent periods if prices recover.

Refining & Marketing segment income from operations is also affected by changes in refinery direct operating costs, which include turnaround and major maintenance, depreciation and amortization and other manufacturing expenses. Changes in manufacturing costs are primarily driven by the cost of energy used by our refineries, including purchased natural gas, and the level of maintenance costs. Planned major maintenance activities, or turnarounds, requiring temporary shutdown of certain refinery operating units, are periodically performed at each refinery. The following table lists the refineries that had significant planned turnaround and major maintenance activities for each of the last three years.

<u>Year</u>	<u>Refinery</u>
2017	Catlettsburg, Galveston Bay and Garyville
2016	Galveston Bay, Garyville and Robinson
2015	Catlettsburg, Galveston Bay, Garyville and Robinson

Speedway

Our retail marketing margin for gasoline and distillate, which is the price paid by consumers less the cost of refined products, including transportation, consumer excise taxes and bankcard processing fees, impacts the Speedway segment profitability. Gasoline and distillate prices are volatile and are impacted by changes in supply and demand in PADD 1 and PADD 2 where we operate. Numerous factors impact gasoline and distillate demand throughout the year, including local competition, seasonal demand fluctuations, the available wholesale supply, the level of economic activity in our marketing areas and weather conditions. The following PADD 1 and PADD 2 market demands for 2017 are based on current estimates. PADD 2 2017 gasoline demand grew for the fifth consecutive year, up 0.5 percent from last year's record level. PADD 1 gasoline demand posted an annual gain in 2017 for the fourth consecutive year, up 0.9 percent year over year. Continuing economic growth and slowing fleet fuel efficiency gains supported gasoline demand in most of the U.S. Distillate demand in 2017 posted its first year-over-year increase in three years, up 1.9 percent from 2016. Increases in truck tonnage, which grew by 3.8 percent, the largest annual increase since 2013, and rail traffic (total carloads and intermodal) supported a 3.4 percent increase in 2017 distillate demand over 2016's six year low. PADD 1 2017 distillate demand was up 0.8 percent from its four year low in 2016. PADD 2 2017 distillate demand is up 2.8 percent year over year. The margin on merchandise sold at our convenience stores historically has been less volatile and has contributed substantially to Speedway's margin. More than half of Speedway's margin was derived from merchandise sales in 2017. Speedway's convenience stores offer a wide variety of merchandise, including prepared foods, beverages and non-food items.

Inventories are carried at the lower of cost or market value. Costs of refined products and merchandise are stated under the LIFO inventory costing method and aggregated on a consolidated basis for purposes of assessing if the cost basis of these inventories may have to be written down to market values. As of December 31, 2017, market values for refined products exceed their cost basis and, therefore, there is no LCM inventory market valuation reserve at the end of the year. Based on movements of refined product prices, future inventory valuation adjustments could have a negative effect to earnings. Such losses are subject to reversal in subsequent periods if prices recover.

Midstream

NGL and natural gas prices are volatile and are impacted by changes in fundamental supply and demand, as well as market uncertainty, availability of NGL transportation and fractionation capacity and a variety of additional factors. Our Midstream segment profitability is affected by prevailing commodity prices primarily as a result of processing or conditioning at our own or third-party processing plants, purchasing and selling or gathering and transporting volumes of natural gas at index-related prices and the cost of third-party transportation and fractionation services. To the extent that commodity prices influence the level of natural gas drilling volumes by our producer customers, such prices also affect Midstream segment profitability.

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The profitability of our pipeline transportation operations included in our Midstream segment, primarily depends on tariff rates and the volumes shipped through the pipelines. A majority of the crude oil and refined product shipments on our common carrier pipelines serve our Refining & Marketing segment. The volume of crude oil that we transport is directly affected by the supply of, and refiner demand for, crude oil in the markets served directly by our crude oil pipelines. Key factors in this supply and demand balance are the production levels of crude oil by producers in various regions or fields, the availability and cost of alternative modes of transportation, the volumes of crude oil processed at refineries and refinery and transportation system maintenance levels. The volume of refined products that we transport is directly affected by the production levels of, and user demand for, refined products in the markets served by our refined product pipelines. In most of our markets, demand for gasoline and distillate peaks during the summer driving season, which extends from May through September of each year, and declines during the fall and winter months. As with crude oil, other transportation alternatives and system maintenance levels influence refined product movements.

Results of Operations

The following discussion includes comments and analysis relating to our results of operations for the years ended December 31, 2017, 2016 and 2015. This discussion should be read in conjunction with Item 8. Financial Statements and Supplementary Data and is intended to provide investors with a reasonable basis for assessing our historical operations, but should not serve as the only criteria for predicting our future performance.

Consolidated Results of Operations

<i>(In millions)</i>	2017	2016	2017 vs. 2016 Variance	2015	2016 vs. 2015 Variance
Revenues and other income:					
Sales and other operating revenues (including consumer excise taxes)	\$ 74,104	\$ 63,277	\$ 10,827	\$ 72,045	\$ (8,768)
Sales to related parties	629	62	567	6	56
Income (loss) from equity method investments	306	(185)	491	88	(273)
Net gain on disposal of assets	10	32	(22)	7	25
Other income	320	178	142	112	66
Total revenues and other income	<u>75,369</u>	<u>63,364</u>	<u>12,005</u>	<u>72,258</u>	<u>(8,894)</u>
Costs and expenses:					
Cost of revenues (excludes items below)	58,760	49,170	9,590	55,583	(6,413)
Purchases from related parties	570	509	61	308	201
Inventory market valuation adjustment	—	(370)	370	370	(740)
Consumer excise taxes	7,759	7,506	253	7,692	(186)
Impairment expense	—	130	(130)	144	(14)
Depreciation and amortization	2,114	2,001	113	1,502	499
Selling, general and administrative expenses	1,743	1,605	138	1,576	29
Other taxes	454	435	19	391	44
Total costs and expenses	<u>71,400</u>	<u>60,986</u>	<u>10,414</u>	<u>67,566</u>	<u>(6,580)</u>
Income from operations	<u>3,969</u>	<u>2,378</u>	<u>1,591</u>	<u>4,692</u>	<u>(2,314)</u>
Net interest and other financial income (costs)	(625)	(556)	(69)	(318)	(238)
Income before income taxes	<u>3,344</u>	<u>1,822</u>	<u>1,522</u>	<u>4,374</u>	<u>(2,552)</u>
(Benefit) provision for income taxes	(460)	609	(1,069)	1,506	(897)
Net income	<u>3,804</u>	<u>1,213</u>	<u>2,591</u>	<u>2,868</u>	<u>(1,655)</u>
Less net income (loss) attributable to:					
Redeemable noncontrolling interest	65	41	24	—	41
Noncontrolling interests	307	(2)	309	16	(18)
Net income attributable to MPC	<u>\$ 3,432</u>	<u>\$ 1,174</u>	<u>\$ 2,258</u>	<u>\$ 2,852</u>	<u>\$ (1,678)</u>

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Net income attributable to MPC increased \$2.26 billion in 2017 compared to 2016 and decreased \$1.68 billion in 2016 compared to 2015. The increase in 2017 was primarily due to a tax benefit of \$1.5 billion resulting from the TCJA enacted in the fourth quarter of 2017 and an increase in our Refining & Marketing segment income from operations of \$964 million in 2017 compared to 2016. The decrease in 2016 was primarily due to a decrease in our Refining & Marketing segment income from operations of \$2.64 billion in 2016 compared to 2015, partially offset by increases in our Midstream and Speedway segment results. Income from operations for 2016 includes a non-cash benefit of \$370 million related to the reversal of the Company's LCM inventory valuation reserve and impairment charges of \$356 million related to equity method investments and \$130 million related to goodwill. See Segment Results for additional information.

Sales and other operating revenues (including consumer excise taxes) increased \$10.83 billion in 2017 compared to 2016 and decreased \$8.77 billion in 2016 compared to 2015. The increase in 2017 was primarily due to higher averaged refined product sales prices, which increased \$0.25 per gallon, and an increase in refined product sales volumes, which increased 42 mbpd. The decrease in 2016 was primarily due to lower refined product sales prices, which decreased \$0.27 per gallon, and lower sales volumes, which decreased 32 mbpd.

Sales to related parties increased \$567 million in 2017 compared to 2016 mainly due to sales from our Refining & Marketing segment to PFJ Southeast, a joint venture with Pilot Flying J, which commenced in the fourth quarter of 2016.

Income (loss) from equity method investments increased \$491 million in 2017 compared to 2016 and decreased \$273 million in 2016 compared to 2015. The increase in 2017 was primarily due to the absence of impairment charges related to equity method investments of \$356 million recorded in 2016 along with increases in income from new and existing pipeline, natural gas, retail and marine affiliates. The decrease in 2016 was primarily due to the \$356 million of impairment charges, partially offset by increases in income from new and existing pipeline and marine equity investments.

Net gain on disposal of assets decreased \$22 million in 2017 compared to 2016 and increased \$25 million in 2016 compared to 2015 primarily due to gains on the sale of certain Speedway locations in 2016.

Other income increased \$142 million in 2017 compared to 2016 and increased \$66 million in 2016 compared to 2015. The increase in 2017 was primarily due to increased RIN sales. The increase in 2016 was primarily due to the inclusion of a full year of MarkWest other income and increased RIN sales.

Cost of revenues increased \$9.59 billion in 2017 compared to 2016 and decreased \$6.41 billion in 2016 compared to 2015. The increase in 2017 was primarily due to an increase in refined product cost of sales of \$9.18 billion, primarily attributable to an increase in our average crude oil costs of \$9.50 per barrel. The decrease in 2016 was primarily due to a decrease in refined product cost of sales of \$6.52 billion, primarily attributable to a decrease in our average crude oil costs of \$7.26 per barrel, partially offset by an increase in refinery direct operating costs of \$407 million, or \$0.72 per barrel of total refinery throughput, which reflects significantly higher turnaround activity in 2016 as compared to a lower than normal level of turnaround costs in 2015.

Purchases from related parties increased \$61 million in 2017 compared to 2016 and increased \$201 million in 2016 compared to 2015. The increase in 2017 was primarily due to:

- an increase in transportation services provided by Crowley Ocean Partners of \$27 million;
- an increase in transportation services provided by Crowley Blue Water Partners of \$23 million; and
- an increase in volumes purchased from LOOP of \$12 million.

The increase in purchases from related parties in 2016 was primarily due to:

- an increase in volumes transported by Illinois Extension Pipeline, which is a pipeline affiliate that became operational in December 2015, of \$106 million;
- an increase in transportation services provided by Crowley Ocean Partners, which was a new marine joint venture established in September 2015, of \$46 million; and
- an increase in transportation services provided by Crowley Blue Water Partners, which was a new marine joint venture established in May 2016, of \$37 million.

Inventory market valuation adjustment decreased costs and expenses by \$740 million in 2016 compared to 2015. The LCM inventory reserve recorded in 2015 of \$370 million was reversed in 2016 due to increases in refined product prices during the second quarter of 2016 resulting in reductions to cost of revenues of \$370 million in 2016.

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Impairment expense decreased \$130 million in 2017 compared to 2016 and decreased \$14 million in 2016 compared to 2015. Impairment expense in 2016 reflects a \$130 million charge recorded by MPLX to impair a portion of the \$2.21 billion of goodwill recorded in connection with the MarkWest Merger. In 2015, an impairment charge of \$144 million was recorded related to the cancellation of the ROUX project at our Garyville refinery. Impairments related to equity method investments were recorded to Income (loss) from equity method investments and discussed above.

Depreciation and amortization increased \$499 million in 2016 compared to 2015, primarily due to the depreciation of the fair value of the assets acquired in connection with the MarkWest Merger in December 2015.

Selling, general and administrative expenses increased \$138 million in 2017 compared to 2016 and increased \$29 million in 2016 compared to 2015. The increase in 2017 was primarily due a \$45 million increase in pension settlement expenses, increases in employee-related compensation and benefit expenses, higher corporate costs and net litigation settlement expenses of \$29 million. The increase in 2016 was primarily attributable to the inclusion of MarkWest expenses, largely offset by decreases in contract services and other corporate costs.

Other taxes increased \$44 million in 2016 compared to 2015, primarily due to the inclusion of MarkWest's taxes.

Net interest and other financial costs increased \$69 million in 2017 compared to 2016 and increased \$238 million in 2016 compared to 2015. The increase in 2017 reflects the MPLX senior notes issued in February 2017, partially offset by decreased borrowings on the MPC term loan agreement. The increase in 2016 was primarily due to interest on the debt assumed in the MarkWest Merger. We capitalized interest of \$55 million in 2017, \$63 million in 2016 and \$37 million in 2015. See Item 8. Financial Statements and Supplementary Data – Note 19 for further details.

Provision for income taxes decreased \$1.07 billion in 2017 compared to 2016 and decreased \$897 million in 2016 compared to 2015. The TCJA was signed into law on December 22, 2017 and provided several key changes to U.S. tax law, including a federal corporate tax rate of 21 percent replacing the current rate applicable to MPC of 35 percent. MPC was required to calculate the effect of the TCJA on its deferred tax balances as of the enactment date. The effect of the federal corporate income tax rate change reduced net deferred tax liabilities by \$1.5 billion in 2017. This benefit was partially offset by an increase in our income before income taxes, which increased \$1.52 billion in 2017 compared to 2016. The decrease in 2016 was primarily due to a decrease in our income before income taxes of \$2.55 billion compared to 2015. The TCJA impacted our effective tax rate by 45 percentage points in 2017, decreasing our effective tax rate from 31 percent to (14) percent. The effective tax rate, excluding the TCJA, of 31 percent in 2017 and the effective tax rates of 33 percent and 34 percent in 2016 and 2015, respectively, are slightly less than the U.S. statutory rate of 35 percent primarily due to certain permanent benefit differences, including the domestic manufacturing deduction, partially offset by state and local tax expense. See Item 8. Financial Statements and Supplementary Data – Note 12 for further details.

Segment Results

Non-GAAP Financial Measures

Management uses certain financial measures to evaluate our operating performance that are calculated and presented on the basis of methodologies other than in accordance with GAAP (“non-GAAP”). We believe these non-GAAP financial measures are useful to investors and analysts to assess our ongoing financial performance because, when reconciled to its most comparable GAAP financial measure, they provide improved comparability between periods through the exclusion of certain items that we believe are not indicative of our core operating performance and that may obscure our underlying business results and trends. These measures should not be considered a substitute for, or superior to, measures of financial performance prepared in accordance with GAAP, and our calculations thereof may not be comparable to similarly titled measures reported by other companies. The non-GAAP financial measures we use are as follows:

Refining & Marketing Margin

Refining margin is defined as sales revenue less the cost of refinery inputs and purchased products and excludes the LCM inventory market adjustment.

Speedway Gasoline and Distillate Margin

Speedway gasoline and distillate margin is defined as the price paid by consumers less the cost of refined products, including transportation, consumer excise taxes and bankcard processing fees and excluding any LCM inventory market adjustment.

Speedway Merchandise Margin

Speedway merchandise margin is defined as the price paid by consumers less the cost of merchandise.

See the reconciliations of these non-GAAP measures in the following segment discussions.

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Refining & Marketing

Key Financial and Operating Data	2017	2016	2015
Refining & Marketing revenues (in millions)	\$ 64,691	\$ 53,817	\$ 64,198
Refining & Marketing intersegment sales to Speedway (in millions)	\$ 11,309	\$ 10,589	\$ 12,024
Refining & Marketing intersegment fees paid to Midstream (in millions)	\$ 1,443	\$ 1,262	\$ 930
Refining & Marketing income from operations (in millions) ^(a)	\$ 2,321	\$ 1,357	\$ 3,997
Consumer excise taxes included in both revenues and costs (in millions)	\$ 7,759	\$ 7,506	\$ 7,692
Refined product sales volumes (thousands of barrels per day) ^(b)	2,301	2,259	2,289
Refined product intersegment sales volumes to Speedway (millions of gallons)	5,611	5,957	5,873
Refined product sales destined for export (thousands of barrels per day)	297	296	319
Average refined product sales prices (dollars per gallon)	\$ 1.72	\$ 1.47	\$ 1.74
Average refined product intersegment sales prices to Speedway (dollars per gallon)	\$ 2.01	\$ 1.77	\$ 2.04
Refinery throughputs (thousands of barrels per day):			
Crude oil refined	1,765	1,699	1,711
Other charge and blendstocks	179	151	177
Total	1,944	1,850	1,888
Sour crude oil throughput percent	59	60	55
WTI-priced crude oil throughput percent	21	19	20
Refining & Marketing margin (dollars per barrel) ^(c)	\$ 12.60	\$ 11.16	\$ 15.16
Refinery direct operating costs (dollars per barrel): ^(d)			
Planned turnaround and major maintenance	\$ 1.72	\$ 1.83	\$ 1.13
Depreciation and amortization	1.43	1.47	1.39
Other manufacturing ^(e)	4.07	4.09	4.15
Total	\$ 7.22	\$ 7.39	\$ 6.67

^(a) We revised our operating segment presentation in the first quarter of 2017 in connection with the contribution of certain terminal, pipeline and storage assets to MPLX. The operating results for these assets, which were previously included in the Refining & Marketing segment, are now included in the Midstream segment. Comparable prior period information has been recast to reflect our revised presentation. The results for the pipeline and storage assets were recast effective January 1, 2015, and the results for the terminal assets were recast effective April 1, 2016. Prior to these dates these assets were not considered businesses and therefore there are no financial results from which to recast segment results.

^(b) Includes intersegment sales and sales destined for export.

^(c) Sales revenue less cost of refinery inputs and purchased products, divided by total refinery throughputs. Excludes the LCM inventory valuation adjustments.

^(d) Per barrel of total refinery throughputs.

^(e) Includes utilities, labor, routine maintenance and other operating costs.

Reconciliation of Refining & Marketing margin to Refining & Marketing income from operations (in millions)

	2017	2016	2015
Refining & Marketing income from operations	\$ 2,321	\$ 1,357	\$ 3,997
<i>Plus (Less):</i>			
Refinery direct operating costs ^(a)	4,113	4,007	3,640
Refinery depreciation and amortization	1,013	994	955
Other:			
Operating expenses ^{(a)(b)}	1,924	1,835	1,742
Segment (income) expense, net ^(a)	(499)	(360)	(325)
Depreciation and amortization	69	69	97
Inventory market valuation adjustment	—	(345)	345
Refining & Marketing margin^(c)	\$ 8,941	\$ 7,557	\$ 10,451

^(a) Excludes depreciation and amortization.

^(b) Includes fees paid to MPLX for various midstream services, which includes marine and pipeline transportation and terminal and storage services, but excludes costs related to delivery of crude and feedstocks to our refineries.

^(c) Sales revenue less cost of refinery inputs and purchased products, excluding any LCM inventory market adjustment.

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The following table presents certain benchmark prices in our marketing areas and market indicators that we believe are helpful in understanding the results of our Refining & Marketing segment's business.

Benchmark prices (dollars per gallon)	2017	2016	2015
Chicago spot unleaded regular gasoline	\$ 1.58	\$ 1.33	\$ 1.60
Chicago spot ultra-low sulfur diesel	1.64	1.34	1.62
USGC spot unleaded regular gasoline	1.60	1.33	1.55
USGC spot ultra-low sulfur diesel	1.62	1.32	1.58
Market Indicators (dollars per barrel)			
Chicago LLS 6-3-2-1 crack spread ^{(a)(b)}	\$ 9.77	\$ 7.19	\$ 10.67
USGC LLS 6-3-2-1 crack spread ^(a)	9.89	6.80	9.11
Blended 6-3-2-1 crack spread ^{(a)(c)}	9.84	6.96	9.70
LLS	54.00	45.01	52.35
WTI	50.85	43.47	48.76
LLS – WTI crude oil differential ^(a)	3.15	1.55	3.59
Sweet/Sour crude oil differential ^{(a)(d)}	5.94	6.52	6.10

The following table includes the impacts of changes in the market indicators above on Refining & Marketing segment results.

Market Indicators impact on Refining & Marketing segment income	2017 vs. 2016 Variance		2016 vs. 2015 Variance	
	(dollars per barrel)	(in millions)	(dollars per barrel)	(in millions)
Chicago LLS 6-3-2-1 crack spread ^{(a)(b)}	\$ 2.58	\$ 825	\$ (3.48)	\$ (846)
USGC LLS 6-3-2-1 crack spread ^(a)	3.09	1,446	(2.31)	(1,129)
LLS – WTI crude oil differential ^(a)	1.60	249	(2.04)	(260)
Sweet/Sour crude oil differential ^{(a)(d)}	(0.58)	(189)	0.42	334
Total		\$ 2,331		\$ (1,901)

^(a) All spreads and differentials are measured against prompt LLS.

^(b) Calculation utilizes USGC three percent residual fuel oil price as a proxy for Chicago three percent residual fuel oil price.

^(c) Blended Chicago/USGC crack spread is 40/60 percent in 2017, 40/60 percent in 2016 and 38/62 percent in 2015 based on MPC's refining capacity by region in each period.

^(d) LLS (prompt) – [delivered cost of sour crude oil: Arab Light, Kuwait, Maya, Western Canadian Select and Mars].

Refining & Marketing segment revenues increased \$10.87 billion in 2017 compared to 2016 and decreased \$10.38 billion in 2016 compared to 2015. The increase in 2017 was primarily due to higher refined product sales prices and volumes. The decrease in 2016 was primarily due to lower refined product sales prices and volumes.

Refining & Marketing intersegment sales to our Speedway segment increased \$720 million in 2017 compared to 2016 and decreased \$1.44 billion in 2016 compared to 2015. The increase in 2017 was primarily due to an increase in average refined product sales prices, partially offset by a decrease in sales volumes. The decrease in 2016 was primarily due to a decrease in average refined product sales prices, partially offset by an increase in refined product sales volumes.

Refining & Marketing intersegment fees paid to our Midstream segment increased \$181 million in 2017 compared to 2016 and \$332 million in 2016 compared to 2015 due to the dropdown of certain assets to MPLX. Certain segment information has been recast to reflect this activity as noted in the "Corporate Overview" section. After the February 1, 2018 dropdown of assets to MPLX, as noted in the "Corporate Overview - Strategic Actions to Enhance Shareholder Value" section, Refining & Marketing intersegment fees paid to MPLX will increase for fuels distribution services and refinery logistics assets and Refining & Marketing direct operating costs will decrease. These changes will not impact Refining & Marketing margin but will reduce Refining & Marketing segment results. There will be a corresponding increase in the Midstream segment results.

Refining & Marketing segment income from operations increased \$964 million in 2017 compared to 2016 and decreased \$2.64 billion in 2016 compared to 2015. Segment income in 2016 includes a \$345 million non-cash benefit related to the Company's LCM inventory reserve. Excluding the LCM inventory benefit, the increase in segment results for 2017 primarily resulted from higher LLS crack spreads in both the U.S. Gulf Coast and Chicago markets. The LLS blended crack spread for 2017 increased to \$9.84 per barrel from \$6.96 per barrel in 2016. These favorable effects were partially offset by less favorable product price realizations as compared to the spot market prices used in the LLS blended crack spread. Segment income in 2015 includes a

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\$345 million non-cash charge related to the Company's LCM inventory reserve, which was reversed in 2016. The favorable LCM inventory adjustment variance was more than offset by the unfavorable effects of lower crack spreads and higher direct operating costs due to refinery turnarounds.

Based on changes in the market indicators shown above and our refinery throughputs, we estimate a positive impact of \$2.33 billion for 2017 compared to 2016 and a negative impact of \$1.90 billion for 2016 compared to 2015 on Refining & Marketing segment income from operations. The market indicators use spot market values and an estimated mix of crude purchases and product sales. Differences in our results compared to these market indicators, including product price realizations, the mix of crudes purchased and their costs, the effects of LCM inventory valuation adjustments, the effects of market structure on our crude oil acquisition prices, and other items like refinery yields and other feedstock variances, had estimated negative impacts on Refining & Marketing segment income from operations of \$1.35 billion in 2017 compared to 2016 and \$304 million in 2016 compared to 2015. The significant elements of the negative impact in both years were unfavorable product price realizations and unfavorable crude acquisition costs relative to the market indicators. In 2016, these negative impacts were partially offset by the reversal of the Company's LCM inventory valuation reserve that was recorded in 2015.

The cost of inventories of crude oil and refinery feedstocks, refined products and merchandise is determined primarily under the LIFO method. In the second quarter of 2016, we had recognized the effects of an interim liquidation of our refined products inventories which we did not expect to reinstate by year end resulting in a pre-tax charge of approximately \$54 million to income. Based on year end refined product inventories, which were higher than inventories at the beginning of the year, we had a build in refined product inventories for 2016. Therefore, we recognized the effects of this annual build in our refined products in the fourth quarter of 2016 which had the effect of reversing the second quarter charge. In the fourth quarter of 2015, we recorded a LIFO charge of \$45 million as a result of annual decreased levels in refined products and crude inventory volumes. For the full year, we recognized a LIFO charge of \$7 million in 2017, \$2 million in 2016 and \$78 million in 2015.

Refinery direct operating costs decreased \$0.17 per barrel in 2017 compared to 2016 and increased \$0.72 per barrel in 2016 compared to 2015. The decrease in 2017 includes an \$0.11 per barrel decrease in planned turnaround and major maintenance costs resulting from lower turnaround activity at our Garyville and Robinson refineries partially offset by higher activity at our Catlettsburg refinery. The change in 2016 compared to 2015 includes an increase in planned turnaround and major maintenance costs of \$0.70 per barrel as well as a decrease in other manufacturing costs of \$0.06 per barrel. The increase in planned turnaround and major maintenance costs for 2016 are primarily attributable to higher turnaround activity at the Galveston Bay, Garyville and Robinson refineries and a lower than normal schedule of turnaround activity in 2015, partially offset by a decrease in turnaround activity at the Catlettsburg refinery. In 2016, the decrease in other manufacturing costs was primarily due to lower routine maintenance costs, general and administrative expenses and waste costs.

We purchase RINs to satisfy a portion of our RFS2 compliance. Our expenses associated with purchased RINs were \$457 million in 2017, \$288 million in 2016 and \$212 million in 2015. The increase in 2017 was primarily due to higher weighted average RIN costs driven by higher market prices for purchased RINs and increases in the number of RINs purchased. In 2015, we recorded a \$46 million charge to recognize increased estimated costs for compliance based on the renewable fuel standards for 2014 and 2015 proposed by the EPA in May 2015 and finalized in November 2015, particularly those for biomass-based diesel and advanced biofuels. Excluding this charge, the increase in 2016 was primarily due to the effect of increased purchases of biomass-based diesel RINs at increased prices.

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Speedway

Key Financial and Operating Data	2017	2016	2015
Speedway revenues (in millions)	\$ 19,033	\$ 18,286	\$ 19,693
Speedway income from operations (in millions)	\$ 732	\$ 734	\$ 673
Convenience stores at period-end	2,744	2,733	2,766
Gasoline & distillate sales (millions of gallons)	5,799	6,094	6,038
Average gasoline & distillate sales prices (dollars per gallon)	\$ 2.34	\$ 2.09	\$ 2.36
Gasoline & distillate margin (dollars per gallon) ^(a)	\$ 0.1738	\$ 0.1656	\$ 0.1823
Same store gasoline sales volume (period over period)	(1.3)%	(0.4)%	(0.3)%
Merchandise sales (in millions)	\$ 4,893	\$ 5,007	\$ 4,879
Same store merchandise sales (period over period) ^(b)	1.2 %	3.2 %	4.1 %
Merchandise margin (in millions) ^(c)	\$ 1,402	\$ 1,435	\$ 1,368
Merchandise margin percent	28.7 %	28.7 %	28.0 %

^(a) The price paid by consumers less the cost of refined products, including transportation, consumer excise taxes and bankcard processing fees, divided by gasoline and distillate sales volume. Excludes LCM inventory valuation adjustments.

^(b) Excludes cigarettes.

^(c) The price paid by the consumers less the cost of merchandise.

Reconciliation of Speedway total margin to Speedway income from operations (in millions)

	2017	2016	2015
Speedway income from operations	\$ 732	\$ 734	\$ 673
<i>Plus (Less):</i>			
Operating, selling, general and administrative expenses ^(a)	1,530	1,554	1,573
Depreciation and amortization ^(a)	275	273	254
Income from equity method investments	(69)	(5)	—
Net gain on disposal of assets	(14)	(30)	(1)
Other income ^(a)	(14)	(18)	(17)
Inventory market valuation adjustment	—	(25)	25
Speedway total margin	<u>\$ 2,440</u>	<u>\$ 2,483</u>	<u>\$ 2,507</u>

Speedway total margin:^(a)

Gasoline and distillate margin ^(b)	\$ 1,008	\$ 1,009	\$ 1,101
Merchandise margin ^(c)	1,402	1,435	1,368
Other margin	30	39	38
Speedway total margin	<u>\$ 2,440</u>	<u>\$ 2,483</u>	<u>\$ 2,507</u>

^(a) 2017 margin and expenses do not reflect any results from the 41 travel centers contributed to PFJ Southeast, whereas they are reflected in the 2016 and 2015 information. Our share of the net results from the joint venture is reflected in income from equity method investments.

^(b) The price paid by consumers less the cost of refined products, including transportation, consumer excise taxes and bankcard processing fees and excluding any LCM inventory market adjustment.

^(c) The price paid by the consumers less the cost of merchandise.

Speedway segment revenues increased \$747 million in 2017 compared to 2016 and decreased \$1.41 billion in 2016 compared to 2015. The increase in 2017 was due to an increase in gasoline and distillate sales of \$860 million partially offset by a decrease in merchandise sales of \$114 million. Average gasoline and distillate selling prices increased \$0.25 per gallon which were partially offset by a decrease in sales volumes in 2017 compared to 2016. The decreases in gasoline and distillate sales volumes and merchandise sales are primarily attributable to the contribution of 41 travel centers to PJF Southeast in fourth quarter of 2016. The decrease in 2016 was due to a decrease in gasoline and distillate sales of \$1.52 billion primarily due to a decrease in gasoline and distillate selling prices of \$0.27 per gallon.

Speedway segment income from operations decreased \$2 million in 2017 compared to 2016 and increased \$61 million in 2016 compared to 2015. Segment income in 2016 includes a \$25 million non-cash benefit related to the reversal of the Company's LCM inventory reserve, which was recorded in 2015. Excluding the LCM inventory benefit recognized in 2016, the increase in segment results for 2017 was primarily due to a full year of contributions from Speedway's travel center joint venture formed

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in the fourth quarter 2016 and lower operating expense, partially offset by lower merchandise margin and lower gains from asset sales. In 2016, in addition to the favorable LCM inventory adjustment variance, the remaining increase during 2016 was primarily due to higher merchandise margin of \$67 million and gains from asset sales, partially offset by lower gasoline and distillate margin of \$91 million, or \$0.0167 per gallon. The increase in merchandise margin in 2016 was related to a combination of higher merchandise and food sales and improved margins.

Midstream

Key Financial and Operating Data	2017	2016	2015
Midstream third party revenues (in millions)	\$ 2,322	\$ 1,828	\$ 187
Midstream intersegment sales to Refining & Marketing (in millions)	1,443	1,262	930
Total Midstream revenues (in millions)	\$ 3,765	\$ 3,090	\$ 1,117
Midstream income from operations (in millions) ^(a)	\$ 1,339	\$ 1,048	\$ 463
Crude oil and refined product pipeline throughputs (mbpd) ^(b)	3,377	2,948	2,829
Average crude oil and refined products tariff rates (dollars per barrel) ^(c)	\$ 0.61	\$ 0.61	\$ 0.62
Terminal throughput (mbpd) ^(d)	1,477	1,505	—
Gathering system throughput (MMcf/d) ^(e)	3,608	3,275	3,075
Natural gas processed (MMcf/d) ^(e)	6,460	5,761	5,468
C2 (ethane) + NGLs fractionated (mbpd) ^(e)	394	335	307
Benchmark Prices			
Natural Gas NYMEX HH (\$ per MMBtu) ^(e)	\$ 3.02	\$ 2.55	\$ 2.04
C2 + NGL Pricing (\$ per gallon) ^{(e)(f)}	\$ 0.66	\$ 0.47	\$ 0.40

^(a) We revised our operating segment presentation in the first quarter of 2017 in connection with the contribution of certain terminal, pipeline and storage assets to MPLX. The operating results for these assets, which were previously included in the Refining & Marketing segment, are now included in the Midstream segment. Comparable prior period information has been recast to reflect our revised presentation. The results for the pipeline and storage assets were recast effective January 1, 2015, and the results for the terminal assets were recast effective April 1, 2016. Prior to these dates these assets were not considered businesses and therefore there are no financial results from which to recast segment results.

^(b) On owned common-carrier pipelines, excluding equity method investments.

^(c) Average tariff rates calculated using pipeline transportation revenues divided by pipeline throughput barrels.

^(d) Includes the results of the terminal assets beginning on April 1, 2016, the date the assets became a business.

^(e) Beginning December 4, 2015, which was the effective date of the MarkWest Merger.

^(f) C2 + NGL pricing based on Mont Belvieu prices assuming an NGL barrel of approximately 35 percent ethane, 35 percent propane, six percent Iso-Butane, 12 percent normal butane and 12 percent natural gasoline.

Midstream segment revenue and income from operations increased \$675 million and \$291 million in 2017 compared to 2016, respectively, and \$1.97 billion and \$585 million in 2016 compared to 2015, respectively. The increases in 2017 were primarily due to increased revenue from higher natural gas and NGL gathering, processing and fractionation volumes and changes in natural gas and NGL prices. Segment results also benefited from the first quarter 2017 acquisitions of the Ozark pipeline and our ownership interest in the Bakken Pipeline system. The comparison for 2017 and 2016 also reflects the absence of any revenues for the terminal services provided to the Refining & Marketing segment in the first quarter of 2016 versus the inclusion of revenues for these services in the first quarter of 2017. These assets were not considered a business prior to April 1, 2016, and therefore, no financial results for these assets were available from which to recast first quarter 2016 Midstream segment results. The increases in 2016 were primarily due to the inclusion of MarkWest's operating results in Midstream segment income following the merger with MPLX from the December 4, 2015 merger date. Midstream income from operations also increased due to earnings from new and existing pipeline and marine equity investments.

After the February 1, 2018 dropdown of assets to MPLX, as noted in the "Corporate Overview - Strategic Actions to Enhance Shareholder Value" section, intersegment sales to our Refining & Marketing segment will increase for fees charged for fuels distribution services and refinery logistics assets.

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Corporate and Other

Key Financial Information (in millions)	2017	2016	2015
Items not allocated to segments:			
Corporate and other unallocated items ^(a)	\$ (365)	\$ (268)	\$ (293)
Pension settlement expenses ^(b)	\$ (52)	\$ (7)	\$ (4)
Litigation	\$ (29)	\$ —	\$ —
Impairment ^(c)	\$ 23	\$ (486)	\$ (144)

^(a) Corporate and other unallocated items consists primarily of MPC's corporate administrative expenses and costs related to certain non-operating assets, except for corporate overhead expenses attributable to MPLX, which are included in the Midstream segment. Corporate overhead expenses are not allocated to the Refining & Marketing and Speedway segments.

^(b) See Item 8. Financial Statements and Supplementary Data – Note 22.

^(c) See Item 8. Financial Statements and Supplementary Data – Notes 16 and 17.

Corporate and other unallocated expenses increased \$97 million in 2017 compared to 2016 and decreased \$25 million in 2016 compared to 2015. The increase in 2017 is largely due to higher unallocated corporate costs and increases in employee-related expenses and corporate costs. The decrease in 2016 is primarily due to increased allocations of corporate costs to the segments.

Other unallocated items in 2017 include an \$86 million litigation charge, a litigation benefit of \$57 million and a benefit of \$23 million related to MPC's share of gains from the sale of assets remaining from the canceled Sandpiper pipeline project. Other unallocated items in 2016 include impairment charges of \$486 million resulting from non-cash charges of \$267 million related to the indefinite deferral of the Sandpiper pipeline project, \$130 million related to the goodwill recognized in connection with the MarkWest Merger and \$89 million related to an MPLX equity method investment. Other unallocated items in 2015 include an impairment charge of \$144 million recorded in the third quarter of 2015 related to the cancellation of the ROUX project at our Garyville refinery. See Item 8. Financial Statements and Supplementary Data – Note 17 for additional information on the impairment charges.

We recorded pretax pension settlement expenses of \$52 million in 2017, \$7 million in 2016 and \$4 million in 2015 from the recognition of certain deferred pension plan losses in connection with significant settlements of our pension obligations during these years.

Liquidity and Capital Resources

Cash Flows

Our cash and cash equivalents balance was \$3.01 billion at December 31, 2017 compared to \$887 million at December 31, 2016. Net cash provided by (used in) operating activities, investing activities and financing activities for the past three years is presented in the following table.

(In millions)	2017	2016	2015
Net cash provided by (used in):			
Operating activities	\$ 6,609	\$ 3,995	\$ 4,073
Investing activities	(3,394)	(2,941)	(3,441)
Financing activities	(1,091)	(1,294)	(999)
Total	\$ 2,124	\$ (240)	\$ (367)

Net cash provided by operating activities increased \$2.61 billion in 2017 compared to 2016, primarily due to increased operating results and favorable changes in working capital of \$1.74 billion compared to 2016. Net cash provided by operating activities decreased \$78 million in 2016 compared to 2015, primarily due to decreased operating results, partially offset by favorable changes in working capital of \$1.22 billion compared to 2015. The above changes in working capital exclude changes in short-term debt.

For 2017, changes in working capital were a net \$1.94 billion source of cash, primarily due to an increase in accounts payable and accrued liabilities and a decrease in inventories, partially offset by an increase in current receivables. Changes from December 31, 2016 to December 31, 2017 per the consolidated balance sheets, excluding the impact of acquisitions, were as follows:

- Accounts payable increased \$2.70 billion from year-end 2016, primarily due to higher crude oil payable volumes and prices.

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- Current receivables increased \$1.08 billion from year-end 2016, primarily due to higher crude oil and refined product receivable prices and volumes.
- Inventories decreased \$106 million from year-end 2016, primarily due to lower crude oil inventory volumes.

For 2016, changes in working capital were a net \$200 million source of cash, primarily due to an increase in accounts payable and accrued liabilities, partially offset by increases in current receivables and inventories. Accounts payable increased \$850 million from year-end 2015, primarily due to higher crude oil payable prices; current receivables increased \$690 million from year-end 2015, primarily due to higher refined product and crude oil receivable prices; and inventories increased \$61 million from year-end 2015, excluding the change in the Company's inventory valuation reserve of \$370 million, primarily due to higher crude oil and refined product inventory volumes.

For 2015, changes in working capital were a net \$1.02 billion use of cash, primarily due to a decrease in accounts payable and accrued liabilities, partially offset by decreases in current receivables and inventories. Accounts payable decreased \$1.92 billion from year-end 2014, primarily due to lower crude oil payable prices and volumes; current receivables decreased \$1.13 billion from year-end 2014, primarily due to lower refined product and crude oil receivable prices and lower crude oil receivable volumes; and inventories decreased \$47 million from year-end 2014, excluding a \$370 million LCM inventory valuation charge, primarily due to lower refined product and crude oil inventory volumes.

Cash flows used in investing activities increased \$453 million in 2017 compared to 2016 and decreased \$500 million in 2016 compared to 2015.

- Cash used for additions to property, plant and equipment was primarily due to spending in our Midstream segment. See discussion of capital expenditures and investments under the "Capital Spending" section.
- Net investments were a use of cash of \$740 million in 2017 compared to \$262 million in 2016 and \$327 million in 2015. The change in 2017 compared to 2016 was primarily due to MPLX's investment of \$500 million for a partial interest in the Bakken Pipeline system. The change in 2016 compared to 2015 was primarily due to decreases in contributions to the SAX pipeline project of \$114 million, the Sandpiper pipeline project of \$57 million and Crowley Ocean Partners of \$38 million, partially offset by increases in contributions to Crowley Coastal Partners of \$82 million and MPLX equity method investments of \$74 million.
- Cash provided by disposal of assets totaled \$79 million, \$101 million and \$21 million in 2017, 2016 and 2015, respectively. Cash provided in 2016 was primarily due to the sale of certain Speedway locations in the normal course of business.

The consolidated statements of cash flows exclude changes to the consolidated balance sheets that did not affect cash. A reconciliation of additions to property, plant and equipment to total capital expenditures and investments follows for each of the last three years.

<i>(In millions)</i>	2017	2016	2015
Additions to property, plant and equipment per consolidated statements of cash flows	\$ 2,732	\$ 2,892	\$ 1,998
Non-cash additions to property, plant and equipment	—	—	5
Asset retirement expenditures	2	6	1
Increase (decrease) in capital accruals	67	(127)	94
Total capital expenditures	2,801	2,771	2,098
Acquisitions ^(a)	250	10	13,854
Investments in equity method investees ^(b)	805	288	331
Total capital expenditures and investments	\$ 3,856	\$ 3,069	\$ 16,283

^(a) The 2017 acquisitions include the Ozark pipeline. The 2016 acquisitions include purchase price adjustments related to the MarkWest Merger. The 2015 acquisitions include the MarkWest Merger. The acquisition numbers above include property, plant and equipment, equity investments, intangibles and goodwill. See Item 8. Financial Statements and Supplementary Data – Note 5 for further details.

^(b) The 2017 investments in equity method investees includes the investment of \$500 million in MarEn Bakken related to the Bakken Pipeline system. The 2016 amount excludes an adjustment of \$143 million to the fair value of equity method investments acquired in connection with the MarkWest Merger.

Financing activities were uses of cash of \$1.09 billion in 2017, \$1.29 billion in 2016 and \$999 million in 2015.

- Long-term debt borrowings and repayments, including debt issuance costs, were a net \$2.24 billion source of cash in 2017 compared to a \$1.42 billion use of cash in 2016 and a \$746 million source of cash in 2015. During 2017 MPLX issued \$2.25 billion of senior notes, borrowed \$505 million under the MPLX bank revolving credit agreement, repaid the remaining \$250 million under the MPLX term loan agreement and we repaid the remaining \$200 million balance

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under the MPC term loan agreement. During 2016, MPLX used proceeds from its issuance of the MPLX Preferred Units to repay amounts outstanding under the MPLX bank revolving credit facility and MPC chose to prepay \$500 million under its term loan. See Item 8. Financial Statements and Supplementary Data – Note 19 for additional information on our long-term debt.

- Cash proceeds from the issuance of MPLX common units were \$473 million in 2017 and \$776 million in 2016. Cash proceeds from the issuance of MPLX Preferred Units was \$984 million in 2016. See Item 8. Financial Statements and Supplementary Data – Note 4 for further discussion of MPLX.
- Cash used in common stock repurchases totaled \$2.37 billion in 2017, \$197 million in 2016 and \$965 million in 2015 associated with the share repurchase plans authorized by our board of directors. See the “Capital Requirements” section for further discussion of our stock repurchases.
- Cash used in dividend payments totaled \$773 million in 2017, \$719 million in 2016 and \$613 million in 2015. The increases were primarily due to increases in our base dividend, partially offset by decreases in the number of outstanding shares of our common stock as a result of share repurchases. Dividends per share were \$1.52 in 2017, \$1.36 in 2016 and \$1.14 in 2015.
- Cash used in financing activities in all three years included a portion of the payments to the seller of the Galveston Bay refinery under the contingent earnout provisions of the purchase and sale agreement.

Derivative Instruments

See Item 7A. Quantitative and Qualitative Disclosures about Market Risk for a discussion of derivative instruments and associated market risk.

Capital Resources

Our liquidity totaled \$7.3 billion at December 31, 2017 consisting of:

(In millions)	December 31, 2017		
	Total Capacity	Outstanding Borrowings	Available Capacity
Bank revolving credit facility ^(a)	\$ 2,500	\$ —	\$ 2,500
364 day bank revolving credit facility	1,000	—	1,000
Trade receivables facility	750	—	750
Total	\$ 4,250	\$ —	\$ 4,250
Cash and cash equivalents ^(b)			3,006
Total liquidity			\$ 7,256

^(a) Excludes MPLX's \$2.25 billion bank revolving credit facility, which had \$505 million borrowings and \$3 million of letters of credit outstanding as of December 31, 2017.

^(b) Excludes \$5 million of MPLX cash and cash equivalents.

Because of the alternatives available to us, including internally generated cash flow and access to capital markets, including a commercial paper program, we believe that our short-term and long-term liquidity is adequate to fund not only our current operations, but also our near-term and long-term funding requirements, including capital spending programs, the repurchase of shares of our common stock, dividend payments, defined benefit plan contributions, repayment of debt maturities and other amounts that may ultimately be paid in connection with contingencies.

As discussed in the “Strategic Actions to Enhance Shareholder Value” section in the Corporate Overview, MPLX financed the dropdown transactions in the aggregate with debt and equity in approximately equal proportions. The equity financing was funded through MPLX common units and general partner units issued to us. These actions were designed to provide a clear valuation of our midstream platform and to provide an ongoing return of capital to shareholders in a manner consistent with maintaining an investment-grade credit profile. In connection with the final dropdown, on January 2, 2018, MPLX entered into a \$4.1 billion 364-day term-loan facility to fund the cash portion of the dropdown consideration.

On February 8, 2018, MPLX issued \$5.5 billion in aggregate principal amount of senior notes in a public offering, consisting of \$500 million aggregate principal amount of 3.375 percent unsecured senior notes due March 2023, \$1.25 billion aggregate principal amount of 4.000 percent unsecured senior notes due March 2028, \$1.75 billion aggregate principal amount of 4.500 percent unsecured senior notes due April 2038, \$1.5 billion aggregate principal amount of 4.700 percent unsecured senior notes due April 2048, and \$500 million aggregate principal amount of 4.900 percent unsecured senior notes due April 2058.

On February 8, 2018, \$4.1 billion of the net proceeds were used to repay the 364-day term-loan facility, which was drawn on February 1, 2018 to fund the cash portion of the consideration MPLX paid MPC for the dropdown of assets on February 1,

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2018. The remaining proceeds will be used to repay outstanding borrowings under MPLX's revolving credit facility and intercompany loan agreement with us and for general partnership purposes.

Commercial Paper – We established a commercial paper program that allows us to have a maximum of \$2 billion in commercial paper outstanding, with maturities up to 397 days from the date of issuance. We do not intend to have outstanding commercial paper borrowings in excess of available capacity under our bank revolving credit facilities. At December 31, 2017, we had no amounts outstanding under the commercial paper program.

MPC Bank Revolving Credit Facility – On July 21, 2017, we entered into credit agreements with a syndicate of lenders to replace our previous \$2.5 billion four-year revolving credit facility due in 2020 and our previous \$1 billion 364-day credit agreement, dated as of July 20, 2016, which expired on July 19, 2017. The new agreements provide for a five-year \$2.5 billion bank revolving credit agreement (“MPC five-year credit agreement”) maturing on July 21, 2022 and a 364-day \$1 billion bank revolving credit agreement (“MPC 364-day credit agreement”) and together with the MPC five-year credit agreement, the “MPC credit agreements”) maturing on July 20, 2018. There were no borrowings or letters of credit outstanding under these facilities at December 31, 2017.

Trade receivables facility – Our trade receivables facility has a borrowing capacity of \$750 million (depending on the amount of our eligible domestic trade accounts receivable) and a maturity date of July 19, 2019. As of December 31, 2017, eligible trade receivables supported borrowings of \$750 million. There were no borrowings outstanding at December 31, 2017. Availability under our trade receivables facility is primarily a function of refined product selling prices.

MPLX Credit Agreement – On July 21, 2017, MPLX entered into a credit agreement with a syndicate of lenders to replace the existing \$2 billion five-year bank revolving credit facility with a \$2.25 billion five-year bank revolving credit facility with a maturity date of July 21, 2022 (“MPLX credit agreement”). At December 31, 2017, MPLX had \$505 million borrowings and \$3 million of letters of credit outstanding under the bank revolving credit facility, resulting in total unused loan availability of approximately \$1.74 billion.

See Item 8. Financial Statements and Supplementary Data – Note 19 for further discussion of our debt.

The MPC credit agreements contain representations and warranties, affirmative and negative covenants and events of default that we consider usual and customary for agreements of these types. The financial covenant included in the MPC credit agreements requires us to maintain, as of the last day of each fiscal quarter, a ratio of Consolidated Net Debt to Total Capitalization (as defined in the MPC credit agreements) of no greater than 0.65 to 1.00. Other covenants restrict us and/or certain of our subsidiaries from incurring debt, creating liens on assets and entering into transactions with affiliates. As of December 31, 2017, we were in compliance with this debt covenant with a ratio of Consolidated Net Debt to Total Capitalization of 0.20 to 1.00, as well as the other covenants contained in the MPC credit agreements.

The MPLX credit agreement contains certain representations and warranties, affirmative and restrictive covenants and events of default that we consider to be usual and customary for an agreement of this type. The MPLX credit agreement includes a financial covenant that requires MPLX to maintain a ratio of Consolidated Total Debt as of the end of each fiscal quarter to Consolidated EBITDA (both as defined in the MPLX credit agreement) for the prior four fiscal quarters of no greater than 5.0 to 1.0 (or 5.5 to 1.0 for up to two fiscal quarters following certain acquisitions). Consolidated EBITDA is subject to adjustments for certain acquisitions completed and capital projects undertaken during the relevant period. Other covenants restrict MPLX and/or certain of its subsidiaries from incurring debt, creating liens on assets and entering into transactions with affiliates. As of December 31, 2017, MPLX was in compliance with the covenants contained in the MPLX credit agreement, including a ratio of Consolidated Total Debt to Consolidated EBITDA of 3.23 to 1.0.

As disclosed in Item 8. Financial Statements and Supplementary Data – Note 3 to our audited consolidated financial statements, we expect the adoption of the lease accounting standard update to result in the recognition of a significant lease obligation. The MPC bank revolving credit facility and the MPLX credit agreement both contain provisions under which the effects of the new accounting standard are not recognized for purposes of financial covenant calculations.

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Our intention is to maintain an investment-grade credit profile. As of January 31, 2018, the credit ratings on our and MPLX's senior unsecured debt were at or above investment-grade level as follows.

<u>Company</u>	<u>Rating Agency</u>	<u>Rating</u>
MPC	Moody's	Baa2 (stable outlook)
	Standard & Poor's	BBB (stable outlook)
	Fitch	BBB (stable outlook)
MPLX	Moody's	Baa3 (stable outlook)
	Standard & Poor's	BBB (stable outlook)
	Fitch	BBB- (stable outlook)

The ratings reflect the respective views of the rating agencies. Although it is our intention to maintain a credit profile that supports an investment-grade rating, there is no assurance that these ratings will continue for any given period of time. The ratings may be revised or withdrawn entirely by the rating agencies if, in their respective judgments, circumstances so warrant.

None of the MPC credit agreements, the MPLX credit agreement or our trade receivables facility contains credit rating triggers that would result in the acceleration of interest, principal or other payments in the event that our credit ratings are downgraded. However, any downgrades of our senior unsecured debt would increase the applicable interest rates, yields and other fees payable under the revolving credit facility and our trade receivables facility. In addition, a downgrade of our senior unsecured debt rating to below investment-grade levels could, under certain circumstances, decrease the amount of trade receivables that are eligible to be sold under our trade receivables facility, impact our ability to purchase crude oil on an unsecured basis and could result in us having to post letters of credit under existing transportation services agreements.

Capital Requirements

For information about our capital expenditures and investments, see the "Capital Spending" section.

During the second quarter of 2017, we paid BP \$131 million for the fourth year's contingent earnout related to our 2013 acquisition of the Galveston Bay refinery. This second quarter payment represents the final payment under the agreement. See Item 8. Financial Statements and Supplementary Data – Note 17.

In 2017, we made pension contributions totaling \$128 million. We have no required funding for 2018, but may make voluntary contributions at our discretion.

On January 29, 2018, we announced our board of directors approved a \$0.46 per share dividend, payable March 12, 2018 to shareholders of record at the close of business on February 21, 2018.

On February 5, 2018, we announced our intent to redeem all of the \$600 million outstanding aggregate principal amount of our 2.700 percent senior notes due on December 14, 2018. The 2018 senior notes will be redeemed from available cash on March 15, 2018, at a price equal to par plus a make whole premium, plus accrued and unpaid interest. The make whole premium will be calculated based on the market yield of the applicable treasury issue as of the redemption date as determined in accordance with the indenture governing the 2018 senior notes. Based on current treasury yields, we expect the make whole premium on the 2018 senior notes, excluding accrued and unpaid interest, to be less than \$3.0 million or 0.50 percent of the face value of the notes.

We may, from time to time, repurchase notes in the open market, in privately-negotiated transactions or otherwise in such volumes, at such prices and upon such other terms as we deem appropriate.

Share Repurchases

Since January 1, 2012, our board of directors has approved \$13.0 billion in total share repurchase authorizations and we have repurchased a total of \$9.81 billion of our common stock, leaving \$3.19 billion available for repurchases as of December 31, 2017. Under these authorizations, we have acquired 246 million shares at an average cost per share of \$39.82. As part of our strategic actions to enhance shareholder value, for the year ended December 31, 2017, cash proceeds received from dropdowns to MPLX during the year were used in part to repurchase \$2.37 billion of our common stock. Additionally, we expect to continue repurchasing our common stock in 2018 with cash received from the dropdown of our refining logistics assets and fuels distribution services on February 1, 2018. The table below summarizes our total share repurchases. See Item 8. Financial Statements and Supplementary Data – Note 9 for further discussion of the share repurchase plans.

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<i>(In millions, except per share data)</i>	2017	2016	2015
Number of shares repurchased	44	4	19
Cash paid for shares repurchased	\$ 2,372	\$ 197	\$ 965
Average cost per share	\$ 53.85	\$ 41.84	\$ 50.31

We may utilize various methods to effect the repurchases, which could include open market repurchases, negotiated block transactions, accelerated share repurchases or open market solicitations for shares, some of which may be effected through Rule 10b5-1 plans. The timing and amount of future repurchases, if any, will depend upon several factors, including market and business conditions, and such repurchases may be discontinued at any time.

Contractual Cash Obligations

The table below provides aggregated information on our consolidated obligations to make future payments under existing contracts as of December 31, 2017. The contractual obligations detailed below do not include our contractual obligations to MPLX under various fee-based commercial agreements as these transactions are eliminated in the consolidated financial statements.

<i>(In millions)</i>	Total	2018	2019-2020	2021-2022	Later Years
Long-term debt ^(a)	\$ 21,204	\$ 1,222	\$ 1,855	\$ 2,577	\$ 15,550
Capital lease obligations ^(b)	457	46	93	88	230
Operating lease obligations	1,476	255	429	329	463
Purchase obligations: ^(c)					
Crude oil, feedstock, refined product and renewable fuel contracts ^(d)	9,680	8,967	435	152	126
Transportation and related contracts	2,670	400	692	705	873
Contracts to acquire property, plant and equipment	484	482	2		
Service, materials and other contracts ^(e)	1,998	419	558	418	603
Total purchase obligations	14,832	10,268	1,687	1,275	1,602
Other long-term liabilities reported in the consolidated balance sheet ^(f)	2,084	225	438	402	1,019
Total contractual cash obligations	\$ 40,053	\$ 12,016	\$ 4,502	\$ 4,671	\$ 18,864

^(a) Includes interest payments for our senior notes and the MPLX credit agreement and commitment and administrative fees for our credit agreement, the MPLX credit agreement and our trade receivables facility.

^(b) Capital lease obligations represent future minimum payments.

^(c) Includes both short- and long-term purchases obligations.

^(d) These contracts include variable price arrangements. For purposes of this disclosure we have estimated prices to be paid primarily based on futures curves for the commodities to the extent available.

^(e) Primarily includes contracts to purchase services such as utilities, supplies and various other maintenance and operating services.

^(f) Primarily includes obligations for pension and other postretirement benefits including medical and life insurance, which we have estimated through 2027. See Item 8. Financial Statements and Supplementary Data – Note 22.

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Capital Spending

MPC's capital investment plan, excluding MPLX, totals approximately \$1.6 billion in 2018 for capital projects and investments, excluding capitalized interest and acquisitions. We continuously evaluate our capital plan and make changes as conditions warrant. Capital expenditures and investments for each of the last three years are summarized by segment below.

<i>(In millions)</i>	2018 Plan	2017	2016	2015
Capital expenditures and investments: ^(a)				
Refining & Marketing	\$ 950	\$ 832	\$ 1,054	\$ 1,045
Speedway	530	381	303	501
Midstream ^(b)	2,405	2,505	1,568	14,545
Corporate and Other ^(c)	85	138	144	192
Total	<u>\$ 3,970</u>	<u>\$ 3,856</u>	<u>\$ 3,069</u>	<u>\$ 16,283</u>

^(a) Capital expenditures include changes in capital accruals.

^(b) Includes \$220 million for the acquisition of the Ozark pipeline and an investment of \$500 million in MarEn Bakken related to the Bakken Pipeline in 2017, \$10 million in 2016 for purchase price adjustments related to the MarkWest Merger and \$13.85 billion in 2015 for the MarkWest Merger. See Item 8. Financial Statements and Supplementary Data – Note 5.

^(c) Includes capitalized interest of \$55 million, \$63 million and \$37 million for 2017, 2016 and 2015, respectively.

Refining & Marketing

The Refining & Marketing segment's forecasted 2018 capital spending and investments is approximately \$950 million. This amount includes approximately \$400 million of growth capital focused on optimizing the Galveston Bay Refinery, upgrading residual fuel oils to higher-value products, maximizing distillate production and expanding light product placement flexibility including exports. Sustaining capital is approximately \$550 million, which includes approximately \$210 million related to regulatory spending for Tier 3 gasoline. A number of these projects span multiple years.

Major projects completed over last three years have prepared us to meet the upcoming transportation fuel regulatory mandate (Tier 3 fuel standards), increase our diesel production, process light crude oil and increase our export capabilities. In addition, the transformational STAR investment project at our Galveston Bay refinery is progressing according to plan and is scheduled to complete in 2022.

Speedway

The Speedway segment's 2018 capital forecast of approximately \$530 million is focused on the construction of new store locations as well as remodeling and rebuilding existing locations, consistent with our commitment to aggressively grow the business and build upon its industry-leading position.

Major projects over last three years included building new store locations, remodeling and rebuilding existing locations in core markets and building out our network of commercial fueling lane locations to capitalize on diesel demand growth. We also invested in the conversion, remodel and maintenance of stores acquired in 2014.

Midstream

MPLX's capital investment plan includes \$2.2 billion of organic growth capital and approximately \$190 million of maintenance capital. This growth plan includes the addition of eight processing plants representing nearly 1.5 bcf/d of incremental processing capacity as well as 100,000 barrels per day of additional fractionation capacity in the Marcellus, Utica and Permian basins. The remaining growth capital is planned for the development of various crude oil and refined petroleum products infrastructure projects, including the export-capacity expansion project at our Galveston Bay refinery.

Major projects over last three years included investments for the development of natural gas and gas liquids infrastructure to support MPLX's producer customers, primarily in the Marcellus and Utica shale regions, development of various crude oil and refined petroleum products infrastructure projects, including a build-out of Utica Shale infrastructure in connection with the Comerstone Pipeline, a butane cavern in Robinson, Illinois, and a tank farm expansion in Texas City, Texas. The MarkWest Merger comprised 85 percent of our total capital expenditures and investments in 2015.

The Midstream segment's forecasted 2018 capital spend, excluding MPLX, is approximately \$15 million.

Corporate and Other

The 2018 capital forecast includes approximately \$85 million to support corporate activities. Major projects over the last three years included an expansion project for our corporate headquarters and upgrades to information technology systems.

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Off-Balance Sheet Arrangements

Off-balance sheet arrangements comprise those arrangements that may potentially impact our liquidity, capital resources and results of operations, even though such arrangements are not recorded as liabilities under accounting principles generally accepted in the United States. Our off-balance sheet arrangements are limited to indemnities and guarantees that are described below. Although these arrangements serve a variety of our business purposes, we are not dependent on them to maintain our liquidity and capital resources, and we are not aware of any circumstances that are reasonably likely to cause the off-balance sheet arrangements to have a material adverse effect on liquidity and capital resources.

We have provided various guarantees related to equity method investees. In conjunction with the Spinoff, we entered into various indemnities and guarantees to Marathon Oil. These arrangements are described in Item 8. Financial Statements and Supplementary Data – Note 25.

Our opinions concerning liquidity and capital resources and our ability to avail ourselves in the future of the financing options mentioned in the above forward-looking statements are based on currently available information. If this information proves to be inaccurate, future availability of financing may be adversely affected. Factors that affect the availability of financing include our performance (as measured by various factors, including cash provided by operating activities), the state of worldwide debt and equity markets, investor perceptions and expectations of past and future performance, the global financial climate, and, in particular, with respect to borrowings, the levels of our outstanding debt and credit ratings by rating agencies. The discussion of liquidity and capital resources above also contains forward-looking statements regarding expected capital requirements and investment spending, costs for projects under construction, project completion dates and expectations or projections about strategies and goals for growth, upgrades and expansion. The forward-looking statements about our capital and investment budget are based on current expectations, estimates and projections and are not guarantees of future performance. Actual results may differ materially from these expectations, estimates and projections and are subject to certain risks, uncertainties and other factors, some of which are beyond our control and are difficult to predict. Some factors that could cause actual results to differ materially include our ability to achieve the objectives related to the strategic initiatives discussed herein; adverse changes in laws including with respect to tax and regulatory matters; our ability to generate sufficient income and cash flow to effect the intended share repurchases, including within the expected timeframe; our ability to manage disruptions in credit markets or changes to our credit rating; the potential impact on our share price if we are unable to effect the intended share repurchases; the impact of adverse market conditions affecting MPC's and MPLX's midstream businesses; changes to the expected construction costs and timing of projects; continued/further volatility in and/or degradation of market and industry conditions; the availability and pricing of crude oil and other feedstocks; slower growth in domestic and Canadian crude supply; the effects of the lifting of the U.S. crude oil export ban; completion of pipeline capacity to areas outside the U.S. Midwest; consumer demand for refined products; transportation logistics; the reliability of processing units and other equipment; MPC's ability to successfully implement growth opportunities; modifications to MPLX earnings and distribution growth objectives; compliance with federal and state environmental, economic, health and safety, energy and other policies and regulations, including the cost of compliance with the Renewable Fuel Standard, and/or enforcement actions initiated thereunder; adverse results in litigation; changes to MPC's capital budget; other risk factors inherent to MPC's industry; These factors, among others, could cause actual results to differ materially from those set forth in the forward-looking statements. For additional information on forward-looking statements and risks that can affect our business, see "Disclosures Regarding Forward-Looking Statements" and Item 1A. Risk Factors in this Annual Report on Form 10-K.

Transactions with Related Parties

We believe that transactions with related parties were conducted under terms comparable to those with unrelated parties. See Item 8. Financial Statements and Supplementary Data – Note 7 for discussion of activity with related parties.

Environmental Matters and Compliance Costs

We have incurred and may continue to incur substantial capital, operating and maintenance, and remediation expenditures as a result of environmental laws and regulations. If these expenditures, as with all costs, are not ultimately reflected in the prices of our products and services, our operating results will be adversely affected. We believe that substantially all of our competitors must comply with similar environmental laws and regulations. However, the specific impact on each competitor may vary depending on a number of factors, including the age and location of its operating facilities, marketing areas, production processes and whether it is also engaged in the petrochemical business or the marine transportation of crude oil and refined products.

Legislation and regulations pertaining to fuel specifications, climate change and greenhouse gas emissions have the potential to materially adversely impact our business, financial condition, results of operations and cash flows, including costs of compliance and permitting delays. The extent and magnitude of these adverse impacts cannot be reliably or accurately estimated at this time because specific regulatory and legislative requirements have not been finalized and uncertainty exists

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with respect to the measures being considered, the costs and the time frames for compliance, and our ability to pass compliance costs on to our customers. For additional information see Item 1A. Risk Factors.

Our environmental expenditures, including non-regulatory expenditures, for each of the last three years were:

<i>(In millions)</i>	2017	2016	2015
Capital	\$ 343	\$ 302	\$ 222
Compliance: ^(a)			
Operating and maintenance	413	541	355
Remediation ^(b)	36	40	53
Total	\$ 792	\$ 883	\$ 630

^(a) Based on the American Petroleum Institute's definition of environmental expenditures.

^(b) These amounts include spending charged against remediation reserves, where permissible, but exclude non-cash provisions recorded for environmental remediation.

We accrue for environmental remediation activities when the responsibility to remediate is probable and the amount of associated costs can be reasonably estimated. As environmental remediation matters proceed toward ultimate resolution or as additional remediation obligations arise, charges in excess of those previously accrued may be required.

New or expanded environmental requirements, which could increase our environmental costs, may arise in the future. We believe we comply with all legal requirements regarding the environment, but since not all of them are fixed or presently determinable (even under existing legislation) and may be affected by future legislation or regulations, it is not possible to predict all of the ultimate costs of compliance, including remediation costs that may be incurred and penalties that may be imposed.

Our environmental capital expenditures accounted for ten percent, ten percent and nine percent of capital expenditures, for 2017, 2016 and 2015, respectively, excluding the acquisition of the Ozark pipeline in 2017 and the MarkWest Merger in 2015. Our environmental capital expenditures are expected to approximate \$370 million, or 9 percent, of total planned capital expenditures in 2018. Predictions beyond 2018 can only be broad-based estimates, which have varied, and will continue to vary, due to the ongoing evolution of specific regulatory requirements, the possible imposition of more stringent requirements and the availability of new technologies, among other matters. Based on currently identified projects, we anticipate that environmental capital expenditures will be approximately \$290 million in 2019; however, actual expenditures may vary as the number and scope of environmental projects are revised as a result of improved technology or changes in regulatory requirements and could increase if additional projects are identified or additional requirements are imposed.

For more information on environmental regulations that impact us, or could impact us, see Item 1. Business – Environmental Matters, Item 1A. Risk Factors and Item 3. Legal Proceedings.

Critical Accounting Estimates

The preparation of financial statements in accordance with US GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of revenues and expenses during the respective reporting periods. Accounting estimates are considered to be critical if (1) the nature of the estimates and assumptions is material due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change; and (2) the impact of the estimates and assumptions on financial condition or operating performance is material. Actual results could differ from the estimates and assumptions used.

Fair Value Estimates

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. There are three approaches for measuring the fair value of assets and liabilities: the market approach, the income approach and the cost approach, each of which includes multiple valuation techniques. The market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities. The income approach uses valuation techniques to measure fair value by converting future amounts, such as cash flows or earnings, into a single present value amount using current market expectations about those future amounts. The cost approach is based on the amount that would currently be required to replace the service capacity of an asset. This is often referred to as current replacement cost. The cost approach assumes that the fair value would not exceed what it would cost a market participant to acquire or construct a substitute asset of comparable utility, adjusted for obsolescence.

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The fair value accounting standards do not prescribe which valuation technique should be used when measuring fair value and does not prioritize among the techniques. These standards establish a fair value hierarchy that prioritizes the inputs used in applying the various valuation techniques. Inputs broadly refer to the assumptions that market participants use to make pricing decisions, including assumptions about risk. Level 1 inputs are given the highest priority in the fair value hierarchy while Level 3 inputs are given the lowest priority. The three levels of the fair value hierarchy are as follows:

- Level 1 – Observable inputs that reflect unadjusted quoted prices for identical assets or liabilities in active markets as of the measurement date. Active markets are those in which transactions for the asset or liability occur in sufficient frequency and volume to provide pricing information on an ongoing basis.
- Level 2 – Observable market-based inputs or unobservable inputs that are corroborated by market data. These are inputs other than quoted prices in active markets included in Level 1, which are either directly or indirectly observable as of the measurement date.
- Level 3 – Unobservable inputs that are not corroborated by market data and may be used with internally developed methodologies that result in management’s best estimate of fair value.

Valuation techniques that maximize the use of observable inputs are favored. Assets and liabilities are classified in their entirety based on the lowest priority level of input that is significant to the fair value measurement. The assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the placement of assets and liabilities within the levels of the fair value hierarchy. We use an income or market approach for recurring fair value measurements and endeavor to use the best information available. See Item 8. Financial Statements and Supplementary Data – Note 17 for disclosures regarding our fair value measurements.

Significant uses of fair value measurements include:

- assessment of impairment of long-lived assets;
- assessment of impairment of intangible assets;
- assessment of impairment of goodwill;
- assessment of impairment of equity method investments;
- recorded values for assets acquired and liabilities assumed in connection with acquisitions; and
- recorded values of derivative instruments.

Impairment Assessments of Long-Lived Assets, Intangible Assets, Goodwill and Equity Method Investments

Fair value calculated for the purpose of testing our long-lived assets, intangible assets, goodwill and equity method investments for impairment is estimated using the expected present value of future cash flows method and comparative market prices when appropriate. Significant judgment is involved in performing these fair value estimates since the results are based on forecasted assumptions. Significant assumptions include:

- *Future margins on products produced and sold.* Our estimates of future product margins are based on our analysis of various supply and demand factors, which include, among other things, industry-wide capacity, our planned utilization rate, end-user demand, capital expenditures and economic conditions. Such estimates are consistent with those used in our planning and capital investment reviews.
- *Future volumes.* Our estimates of future refinery, retail, pipeline throughput and natural gas and NGL processing volumes are based on internal forecasts prepared by our Refining & Marketing, Speedway and Midstream segments operations personnel.
- *Discount rate commensurate with the risks involved.* We apply a discount rate to our cash flows based on a variety of factors, including market and economic conditions, operational risk, regulatory risk and political risk. This discount rate is also compared to recent observable market transactions, if possible. A higher discount rate decreases the net present value of cash flows.
- *Future capital requirements.* These are based on authorized spending and internal forecasts.

We base our fair value estimates on projected financial information which we believe to be reasonable. However, actual results may differ from these projections.

The need to test for impairment can be based on several indicators, including a significant reduction in prices of or demand for products produced, a poor outlook for profitability, a significant reduction in pipeline throughput volumes, a significant reduction in natural gas or NGLs processed, a significant reduction in refining margins, other changes to contracts or changes in the regulatory environment in which the asset or equity method investment is located.

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Long-lived assets used in operations are assessed for impairment whenever changes in facts and circumstances indicate that the carrying value of the assets may not be recoverable based on the expected undiscounted future cash flow of an asset group. For purposes of impairment evaluation, long-lived assets must be grouped at the lowest level for which independent cash flows can be identified, which generally is the refinery and associated distribution system level for Refining & Marketing segment assets, site level for Speedway segment convenience stores, and the plant level or pipeline system level for Midstream segment assets. If the sum of the undiscounted estimated pretax cash flows is less than the carrying value of an asset group, fair value is calculated, and the carrying value is written down if greater than the calculated fair value.

We own a 33 percent undivided joint interest in the Capline Pipeline System (“Capline”), which currently transports crude oil from St. James, Louisiana to Patoka, Illinois. Competing pipelines and changing oil transport routes in the U.S. may result in a decline in volumes on Capline in future years to levels that cannot sustain operations. The owners of Capline are considering various alternatives for the use of the pipeline system, including an assessment of the commercial potential to reverse the pipeline direction within the next several years. A non-binding open season started in October 2017, and results indicated shipper interest in the reversal of Capline. As a result, in December 2017, Marathon Pipe Line LLC, a wholly owned subsidiary of MPLX, and operator of Capline, announced that the pipeline’s owners are proceeding with planning for the potential reversal of the pipeline, including a plan to evaluate next steps required for a potential binding open season. Pending agreement among the owners, southbound service is estimated to commence by the second half of 2022. Developments in the commercial outlook for Capline could result in incurring costs associated with retiring certain assets or an impairment of the carrying value of our interest which was \$159 million as of December 31, 2017.

Unlike long-lived assets, goodwill must be tested for impairment at least annually, and between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. Goodwill is tested for impairment at the reporting unit level. We have thirteen reporting units, nine of which have goodwill allocated to them. At December 31, 2017, we had a total of \$3.59 billion of goodwill recorded on our consolidated balance sheet. The fair value of our reporting units exceeded book value for each of our reporting units in 2017.

MPC has nine reporting units with goodwill totaling approximately \$3.59 billion as of November 30, 2017. Step 1 of the annual impairment analysis resulted in the fair value of the reporting units exceeding their carrying value by percentages ranging from approximately 22 percent to 406 percent. The reporting unit with fair value exceeding its carrying value by approximately 22 percent has goodwill of \$228 million at December 31, 2017. An increase of 1.50 percent to the discount rate used to estimate the fair value of the reporting units would not have resulted in a goodwill impairment charge as of November 30, 2017. Significant assumptions used to estimate the reporting units’ fair value included estimates of future cash flows. If estimates for future cash flows, which are impacted by commodity prices and producers’ production plans, were to decline, the overall reporting units’ fair value would decrease, resulting in potential goodwill impairment charges. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the impairment tests will prove to be an accurate prediction of the future.

Equity method investments are assessed for impairment whenever factors indicate an other than temporary loss in value. Factors providing evidence of such a loss include the fair value of an investment that is less than its carrying value, absence of an ability to recover the carrying value or the investee’s inability to generate income sufficient to justify our carrying value. At December 31, 2017, we had \$4.79 billion of investments in equity method investments recorded on our consolidated balance sheet.

Centennial is a refined products pipeline which experienced a significant reduction in shipment volumes in the second half of 2011 that has continued through 2017. At December 31, 2017, Centennial was not shipping product. As a result, we continued to evaluate the carrying value of our equity investment in Centennial. We concluded that no impairment was required given our assessment of its fair value based on market participant assumptions for various potential uses and future cash flows of Centennial’s assets. If market conditions were to change and the owners of Centennial are unable to find an alternative use for the assets, there could be a future impairment of our Centennial interest. As of December 31, 2017, our equity investment in Centennial was \$35 million and we had a \$25 million guarantee associated with 50 percent of Centennial’s outstanding debt. See Item 8. Financial Statements and Supplementary Data – Note 25 for additional information on the debt guarantee.

An estimate of the sensitivity to net income resulting from impairment calculations is not practicable, given the numerous assumptions (e.g., pricing, volumes and discount rates) that can materially affect our estimates. That is, unfavorable adjustments to some of the above listed assumptions may be offset by favorable adjustments in other assumptions.

The above discussion contains forward-looking statements with respect to the carrying value of our Centennial equity investment and our undivided joint interest in Capline. Factors that could affect the carrying value of these assets include, but are not limited to, a change in business conditions, a further decline or improvement in the long-term outlook of the potential

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uses of these assets and the pursuit of different strategic alternatives for such assets. These factors, among others, could cause actual results to differ materially from those set forth in the forward-looking statements.

Acquisitions

In accounting for business combinations, acquired assets, assumed liabilities and contingent consideration are recorded based on estimated fair values as of the date of acquisition. The excess or shortfall of the purchase price when compared to the fair value of the net tangible and identifiable intangible assets acquired, if any, is recorded as goodwill or a bargain purchase gain, respectively. A significant amount of judgment is involved in estimating the individual fair values of property, plant and equipment, intangible assets, contingent consideration and other assets and liabilities. We use all available information to make these fair value determinations and, for certain acquisitions, engage third-party consultants for assistance.

The fair value of assets and liabilities, including contingent consideration, as of the acquisition date are often estimated using a combination of approaches, including the income approach, which requires us to project related future cash inflows and outflows and apply an appropriate discount rate; the cost approach, which requires estimates of replacement costs and depreciation and obsolescence estimates; and the market approach which uses market data and adjusts for entity-specific differences. The estimates used in determining fair values are based on assumptions believed to be reasonable but which are inherently uncertain. Accordingly, actual results may differ from the projected results used to determine fair value.

See Item 8. Financial Statements and Supplementary Data – Note 5 for additional information on our acquisitions. See Item 8. Financial Statements and Supplementary Data – Note 17 for additional information on fair value measurements.

Derivatives

We record all derivative instruments at fair value. Substantially all of our commodity derivatives are cleared through exchanges which provide active trading information for identical derivatives and do not require any assumptions in arriving at fair value. Fair value estimation for all our derivative instruments is discussed in Item 8. Financial Statements and Supplementary Data – Note 17. Additional information about derivatives and their valuation may be found in Item 7A. Quantitative and Qualitative Disclosures about Market Risk.

Variable Interest Entities

We evaluate all legal entities in which we hold an ownership or other pecuniary interest to determine if the entity is a VIE. Our interests in a VIE are referred to as variable interests. Variable interests can be contractual, ownership or other pecuniary interests in an entity that change with changes in the fair value of the VIE's assets. When we conclude that we hold an interest in a VIE we must determine if we are the entity's primary beneficiary. A primary beneficiary is deemed to have a controlling financial interest in a VIE. This controlling financial interest is evidenced by both (a) the power to direct the activities of the VIE that most significantly impact the VIE's economic performance and (b) the obligation to absorb losses that could potentially be significant to the VIE or the right to receive benefits that could potentially be significant to the VIE. We consolidate any VIE when we determine that we are the primary beneficiary. We must disclose the nature of any interests in a VIE that is not consolidated.

Significant judgment is exercised in determining that a legal entity is a VIE and in evaluating our interest in a VIE. We use primarily a qualitative analysis to determine if an entity is a VIE. We evaluate the entity's need for continuing financial support; the equity holder's lack of a controlling financial interest; and/or if an equity holder's voting interests are disproportionate to its obligation to absorb expected losses or receive residual returns. We evaluate our interests in a VIE to determine whether we are the primary beneficiary. We use a primarily qualitative analysis to determine if we are deemed to have a controlling financial interest in the VIE, either on a standalone basis or as part of a related party group. We continually monitor our interests in legal entities for changes in the design or activities of an entity and changes in our interests, including our status as the primary beneficiary to determine if the changes require us to revise our previous conclusions.

Changes in the design or nature of the activities of a VIE, or our involvement with a VIE, may require us to reconsider our conclusions on the entity's status as a VIE and/or our status as the primary beneficiary. Such reconsideration requires significant judgment and understanding of the organization. This could result in the deconsolidation or consolidation of the affected subsidiary, which would have a significant impact on our financial statements.

Variable Interest Entities are discussed in Item 8. Financial Statements and Supplementary Data – Note 6 .

Pension and Other Postretirement Benefit Obligations

Accounting for pension and other postretirement benefit obligations involves numerous assumptions, the most significant of which relate to the following:

- the discount rate for measuring the present value of future plan obligations;

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- the expected long-term return on plan assets;
- the rate of future increases in compensation levels;
- health care cost projections; and
- the mortality table used in determining future plan obligations.

We utilize the work of third-party actuaries to assist in the measurement of these obligations. We have selected different discount rates for our funded pension plans and our unfunded retiree health care plans due to the different projected benefit payment patterns. The selected rates are compared to various similar bond indexes for reasonableness. In determining the assumed discount rates, we use our third-party actuary's discount rate model. This model calculates an equivalent single discount rate for the projected benefit plan cash flows using a yield curve derived from AA bond yields. The yield curve represents a series of annualized individual spot discount rates from 0.5 to 99 years. The bonds used have an average rating of AA or higher by a recognized rating agency and generally only non-callable bonds are included. Outlier bonds that have a yield to maturity that deviate significantly from the average yield within each maturity grouping are not included. Each issue is required to have at least \$250 million par value outstanding.

Of the assumptions used to measure the year-end obligations and estimated annual net periodic benefit cost, the discount rate has the most significant effect on the periodic benefit cost reported for the plans. Decreasing the discount rates of 3.55 percent for our pension plans and 3.70 percent for our other postretirement benefit plans by 0.25 percent would increase pension obligations and other postretirement benefit plan obligations by \$53 million and \$31 million, respectively, and would increase defined benefit pension expense and other postretirement benefit plan expense by \$5 million and \$3 million, respectively.

The long-term asset rate of return assumption considers the asset mix of the plans (currently targeted at approximately 51 percent equity securities and 49 percent fixed income securities for the primary funded pension plan), past performance and other factors. Certain components of the asset mix are modeled with various assumptions regarding inflation and returns. In addition, our long-term asset rate of return assumption is compared to those of other companies and to historical returns for reasonableness. We used the 6.50 percent long-term rate of return to determine our 2017 defined benefit pension expense. After evaluating activity in the capital markets, along with the current and projected plan investments, we did not change the asset rate of return for our primary plan from 6.50 percent effective for 2018. Decreasing the 6.50 percent asset rate of return assumption by 0.25 percent would increase our defined benefit pension expense by \$4 million.

Compensation change assumptions are based on historical experience, anticipated future management actions and demographics of the benefit plans.

Health care cost trend assumptions are developed based on historical cost data, the near-term outlook and an assessment of likely long-term trends.

We utilized the 2017 mortality tables from the U.S. Society of Actuaries.

Item 8. Financial Statements and Supplementary Data – Note 22 includes detailed information about the assumptions used to calculate the components of our annual defined benefit pension and other postretirement plan expense, as well as the obligations and accumulated other comprehensive loss reported on the year-end balance sheets.

Contingent Liabilities

We accrue contingent liabilities for legal actions, claims, litigation, environmental remediation, tax deficiencies related to operating taxes and third-party indemnities for specified tax matters when such contingencies are both probable and estimable. We regularly assess these estimates in consultation with legal counsel to consider resolved and new matters, material developments in court proceedings or settlement discussions, new information obtained as a result of ongoing discovery and past experience in defending and settling similar matters. Actual costs can differ from estimates for many reasons. For instance, settlement costs for claims and litigation can vary from estimates based on differing interpretations of laws, opinions on degree of responsibility and assessments of the amount of damages. Similarly, liabilities for environmental remediation may vary from estimates because of changes in laws, regulations and their interpretation, additional information on the extent and nature of site contamination and improvements in technology.

We generally record losses related to these types of contingencies as cost of revenues or selling, general and administrative expenses in the consolidated statements of income, except for tax deficiencies unrelated to income taxes, which are recorded as other taxes. For additional information on contingent liabilities, see Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Environmental Matters and Compliance Costs.

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An estimate of the sensitivity to net income if other assumptions had been used in recording these liabilities is not practical because of the number of contingencies that must be assessed, the number of underlying assumptions and the wide range of reasonably possible outcomes, in terms of both the probability of loss and the estimates of such loss.

Accounting Standards Not Yet Adopted

As discussed in Item 8. Financial Statements and Supplementary Data – Note 3 to our audited consolidated financial statements, certain new financial accounting pronouncements will be effective for our financial statements in the future.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

General

We are exposed to market risks related to the volatility of crude oil and refined product prices. We employ various strategies, including the use of commodity derivative instruments, to hedge the risks related to these price fluctuations. We are also exposed to market risks related to changes in interest rates and foreign currency exchange rates. As of December 31, 2017, we did not have any financial derivative instruments to hedge the risks related to interest rate fluctuations; however, we have used them in the past, and we continually monitor the market and our exposure and may enter into these agreements again in the future. We are at risk for changes in fair value of all of our derivative instruments; however, such risk should be mitigated by price or rate changes related to the underlying commodity or financial transaction.

We believe that our use of derivative instruments, along with our risk assessment procedures and internal controls, does not expose us to material adverse consequences. While the use of derivative instruments could materially affect our results of operations in particular quarterly or annual periods, we believe that the use of these instruments will not have a material adverse effect on our financial position or liquidity.

See Item 8. Financial Statements and Supplementary Data – Notes 17 and 18 for more information about the fair value measurement of our derivatives, as well as the amounts recorded in our consolidated balance sheets and statements of income. We do not designate any of our commodity derivative instruments as hedges for accounting purposes.

Commodity Price Risk

Refining & Marketing

Our strategy is to obtain competitive prices for our products and allow operating results to reflect market price movements dictated by supply and demand. We use a variety of commodity derivative instruments, including futures and options, as part of an overall program to hedge commodity price risk. We also authorize the use of the market knowledge gained from these activities to do a limited amount of trading not directly related to our physical transactions.

We use commodity derivative instruments on crude oil and refined product inventories to hedge price risk associated with inventories above or below LIFO inventory targets. We also use derivative instruments related to the acquisition of foreign-sourced crude oil and ethanol blended with refined petroleum products to hedge price risk associated with market volatility between the time we purchase the product and when we use it in the refinery production process or it is blended. In addition, we may use commodity derivative instruments on fixed price contracts for the sale of refined products to hedge risk by converting the refined product sales to market-based prices. The majority of these derivatives are exchange-traded contracts. We closely monitor and hedge our exposure to market risk on a daily basis in accordance with policies approved by our board of directors. Our positions are monitored daily by a risk control group to ensure compliance with our stated risk management policy.

Midstream

NGL and natural gas prices are volatile and are impacted by changes in fundamental supply and demand, as well as market uncertainty, availability of NGL transportation and fractionation capacity and a variety of additional factors that are beyond MPLX's control. A portion of MPLX's profitability is directly affected by prevailing commodity prices primarily as a result of processing or conditioning at its own or third-party processing plants, purchasing and selling or gathering and transporting volumes of natural gas at index-related prices and the cost of third-party transportation and fractionation services. To the extent that commodity prices influence the level of natural gas drilling by MPLX's producer customers, such prices also indirectly affect profitability. MPLX has a committee comprised of senior management that oversees risk management activities, continually monitors the risk management program and adjusts its strategy as conditions warrant. Derivative contracts utilized for crude oil, natural gas and NGLs are swaps and options traded on the OTC market and fixed price forward contracts. As a result of MPLX's current derivative positions, it believes that it has mitigated a portion of its expected commodity price risk through the fourth quarter of 2018. MPLX would be exposed to additional commodity risk in certain situations such as if producers under-deliver or over-deliver products or if processing facilities are operated in different recovery modes. In the event that MPLX has derivative positions in excess of the product delivered or expected to be delivered, the excess derivative positions may be terminated.

MPLX management conducts a standard credit review on counterparties to derivative contracts, and it has provided the counterparties with a guaranty as credit support for its obligations. A separate agreement with certain counterparties allows MarkWest Liberty Midstream to enter into derivative positions without posting cash collateral. MPLX uses standardized agreements that allow for offset of certain positive and negative exposures in the event of default or other terminating events, including bankruptcy.

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Open Derivative Positions and Sensitivity Analysis

The table below sets forth information relating to our significant open commodity derivative contracts as of December 31, 2017.

December 31, 2017				
	Position	Total Barrels (In thousands)	Weighted Average Price (Per barrel)	Benchmark
Crude Oil^(a)				
Exchange-traded	Long	23,299	\$56.96	CME and ICE Crude ^{(c)(d)}
Exchange-traded	Short	(25,199)	\$55.94	CME and ICE Crude ^{(c)(d)}
Natural Gas				
	Position	MMBtu	Weighted Average Price (Per MMBtu)	
OTC	Long	928,003	\$2.78	
Refined Products^(b)				
	Position	Total Gallons (In thousands)	Weighted Average Price (Per gallon)	Benchmark
Exchange-traded	Long	257,460	\$1.91	CME ULSD and RBOB ^{(c)(e)}
Exchange-traded	Short	(236,460)	\$1.91	CME ULSD and RBOB ^{(c)(e)}
OTC	Short	(9,587)	\$0.73	

^(a) 99.8 percent of exchange-traded contracts expire in the first quarter of 2018.

^(b) 100 percent of exchange-traded contracts expire in the first quarter of 2018.

^(c) Chicago Mercantile Exchange ("CME").

^(d) Intercontinental Exchange ("ICE").

^(e) Reformulated gasoline Blendstock for Oxygenate Blending ("RBOB").

Sensitivity analysis of the incremental effects on income from operations ("IFO") of hypothetical 10 percent and 25 percent increases and decreases in commodity prices for open commodity derivative instruments as of December 31, 2017 is provided in the following table.

<i>(In millions)</i>	Change in IFO from a Hypothetical Price Increase of		Change in IFO from a Hypothetical Price Decrease of	
	10%	25%	10%	25%
As of December 31, 2017				
Crude	\$ (9)	\$ (23)	\$ 10	\$ 26
Refined products	6	14	(6)	(14)
Embedded derivatives	(6)	(16)	6	16

We remain at risk for possible changes in the market value of commodity derivative instruments; however, such risk should be mitigated by price changes in the underlying physical commodity. Effects of these offsets are not reflected in the above sensitivity analysis.

We evaluate our portfolio of commodity derivative instruments on an ongoing basis and add or revise strategies in anticipation of changes in market conditions and in risk profiles. Changes to the portfolio after December 31, 2017 would cause future IFO effects to differ from those presented above.

Interest Rate Risk

We are impacted by interest rate fluctuations related to our debt obligations. At December 31, 2017, our debt was primarily comprised of the \$2.25 billion aggregate principal amount of fixed rate senior notes issued February 1, 2011, the \$1.95 billion aggregate principal amount of fixed rate senior notes issued September 5, 2014, the \$500 million aggregate principal amount of fixed rate MPLX senior notes issued February 12, 2015, the \$1.50 billion aggregate principal amount of fixed rate senior notes

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issued December 15, 2015, the \$4.04 billion aggregate principal amount of fixed rate MPLX senior notes issued December 22, 2015 and the \$2.25 billion aggregate principal amount MPLX senior notes issued February 10, 2017. Additionally, we have \$505 million of variable rate term debt.

Sensitivity analysis of the effect of a hypothetical 100-basis-point change in interest rates on long-term debt, including the portion classified as current and excluding capital leases, as of December 31, 2017 is provided in the following table. Fair value of cash and cash equivalents, receivables, accounts payable and accrued interest approximate carrying value and are relatively insensitive to changes in interest rates due to the short-term maturity of the instruments. Accordingly, these instruments are excluded from the table.

<i>(In millions)</i>	Fair Value ^(a)	Change in Fair Value ^(b)	Change in Net Income for the Twelve Months Ended December 31, 2017 ^(c)
Long-term debt			
Fixed-rate	\$ 13,388	\$ 1,161	n/a
Variable-rate	505	n/a	4

^(a) Fair value was based on market prices, where available, or current borrowing rates for financings with similar terms and maturities.

^(b) Assumes a 100-basis point decrease in the weighted average yield-to-maturity at December 31, 2017.

^(c) Assumes a 100-basis-point change in interest rates. The change in net income was based on the weighted average balance of debt outstanding for the year ended December 31, 2017.

At December 31, 2017, our portfolio of long-term debt was comprised of fixed-rate instruments and variable-rate borrowings under the MPLX bank revolving credit facility. The fair value of our fixed-rate debt is relatively sensitive to interest rate fluctuations. Our sensitivity to interest rate declines and corresponding increases in the fair value of our debt portfolio unfavorably affects our results of operations and cash flows only when we elect to repurchase or otherwise retire fixed-rate debt at prices above carrying value. Interest rate fluctuations generally do not impact the fair value of borrowings under the MPLX bank revolving credit facility, but may affect our results of operations and cash flows.

Foreign Currency Exchange Rate Risk

We are impacted by foreign exchange rate fluctuations related to some of our purchases of crude oil denominated in Canadian dollars. We did not utilize derivatives to hedge our market risk exposure to these foreign exchange rate fluctuations in 2017.

Counterparty Risk

We are subject to risk of loss resulting from nonpayment by our customers to whom we provide services or sell natural gas or NGLs. We believe that certain contracts would allow us to pass those losses through to our customers, thus reducing our risk, when we are selling NGLs and acting as our producer customers' agent. Our credit exposure related to these customers is represented by the value of our trade receivables. Where exposed to credit risk, we analyze the customer's financial condition prior to entering into a transaction or agreement, establish credit terms and monitor the appropriateness of these terms on an ongoing basis. In the event of a customer default, we may sustain a loss and our cash receipts could be negatively impacted.

We are subject to risk of loss resulting from nonpayment or nonperformance by counterparties or future commission merchants. Our credit exposure related to commodity derivative instruments is represented by the fair value of contracts with a net positive fair value at the reporting date. These outstanding instruments expose us to credit loss in the event of nonperformance by the counterparties to the agreements. Should the creditworthiness of one or more of our counterparties decline, our ability to mitigate nonperformance risk is limited to a counterparty agreeing to either a voluntary termination and subsequent cash settlement or a novation of the derivative contract to a third party. In the event of a counterparty default, we may sustain a loss and our cash receipts could be negatively impacted. This counterparty credit risk does not apply to our embedded derivative as the overall value is a liability. We regularly review the creditworthiness of counterparties and futures commission merchants and enter into master netting agreements when appropriate.

Forward-Looking Statements

These quantitative and qualitative disclosures about market risk include forward-looking statements with respect to management's opinion about risks associated with the use of derivative instruments. These statements are based on certain assumptions with respect to interest rates as well as market prices and industry supply of and demand for crude oil, other refinery feedstocks, refined products, natural gas, NGLs and ethanol. If these assumptions prove to be inaccurate, future outcomes with respect to our use of derivative instruments may differ materially from those discussed in the forward-looking statements.

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Item 8. Financial Statements and Supplementary Data

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Management’s Responsibilities for Financial Statements

The accompanying consolidated financial statements of Marathon Petroleum Corporation and its subsidiaries (“MPC”) are the responsibility of management and have been prepared in conformity with accounting principles generally accepted in the United States of America. They necessarily include some amounts that are based on best judgments and estimates. The financial information displayed in other sections of this Annual Report on Form 10-K is consistent with these consolidated financial statements.

MPC seeks to assure the objectivity and integrity of its financial records by careful selection of its managers, by organizational arrangements that provide an appropriate division of responsibility and by communications programs aimed at assuring that its policies and methods are understood throughout the organization.

The board of directors pursues its oversight role in the area of financial reporting and internal control over financial reporting through its Audit Committee. This committee, composed solely of independent directors, regularly meets (jointly and separately) with the independent registered public accounting firm, management and internal auditors to monitor the proper discharge by each of their responsibilities relative to internal accounting controls and the consolidated financial statements.

<u>/s/ Gary R. Heminger</u> <i>Gary R. Heminger</i> <i>Chairman of the Board and</i> <i>Chief Executive Officer</i>	<u>/s/ Timothy T. Griffith</u> <i>Timothy T. Griffith</i> <i>Senior Vice President and</i> <i>Chief Financial Officer</i>	<u>/s/ John J. Quaid</u> <i>John J. Quaid</i> <i>Vice President and</i> <i>Controller</i>
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Management’s Report on Internal Control over Financial Reporting

MPC’s management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934). An evaluation of the design and effectiveness of our internal control over financial reporting, based on the framework in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, was conducted under the supervision and with the participation of management, including our chief executive officer and chief financial officer. Based on the results of this evaluation, MPC’s management concluded that its internal control over financial reporting was effective as of December 31, 2017.

The effectiveness of MPC’s internal control over financial reporting as of December 31, 2017 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein.

<u>/s/ Gary R. Heminger</u> <i>Gary R. Heminger</i> <i>Chairman of the Board and</i> <i>Chief Executive Officer</i>	<u>/s/ Timothy T. Griffith</u> <i>Timothy T. Griffith</i> <i>Senior Vice President and</i> <i>Chief Financial Officer</i>
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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Marathon Petroleum Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Marathon Petroleum Corporation and its subsidiaries as of December 31, 2017 and 2016, and the related consolidated statements of income, of comprehensive income, of equity and redeemable noncontrolling interest, and of cash flows for each of the three years in the period ended December 31, 2017, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2017 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/PricewaterhouseCoopers LLP
Toledo, Ohio
February 28, 2018

We have served as the Company's auditor since 2010.

Marathon Petroleum Corporation
Consolidated Statements of Income

<i>(In millions, except per share data)</i>	2017	2016	2015
Revenues and other income:			
Sales and other operating revenues (including consumer excise taxes)	\$ 74,104	\$ 63,277	\$ 72,045
Sales to related parties	629	62	6
Income (loss) from equity method investments	306	(185)	88
Net gain on disposal of assets	10	32	7
Other income	320	178	112
Total revenues and other income	<u>75,369</u>	<u>63,364</u>	<u>72,258</u>
Costs and expenses:			
Cost of revenues (excludes items below)	58,760	49,170	55,583
Purchases from related parties	570	509	308
Inventory market valuation adjustment	—	(370)	370
Consumer excise taxes	7,759	7,506	7,692
Impairment expense	—	130	144
Depreciation and amortization	2,114	2,001	1,502
Selling, general and administrative expenses	1,743	1,605	1,576
Other taxes	454	435	391
Total costs and expenses	<u>71,400</u>	<u>60,986</u>	<u>67,566</u>
Income from operations	3,969	2,378	4,692
Net interest and other financial income (costs)	(625)	(556)	(318)
Income before income taxes	3,344	1,822	4,374
(Benefit) provision for income taxes	(460)	609	1,506
Net income	3,804	1,213	2,868
Less net income (loss) attributable to:			
Redeemable noncontrolling interest	65	41	—
Noncontrolling interests	307	(2)	16
Net income attributable to MPC	<u>\$ 3,432</u>	<u>\$ 1,174</u>	<u>\$ 2,852</u>
Per Share Data (See Note 8)			
Basic:			
Net income attributable to MPC per share	\$ 6.76	\$ 2.22	\$ 5.29
Weighted average shares outstanding	507	528	538
Diluted:			
Net income attributable to MPC per share	\$ 6.70	\$ 2.21	\$ 5.26
Weighted average shares outstanding	512	530	542
Dividends paid	\$ 1.52	\$ 1.36	\$ 1.14

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

Marathon Petroleum Corporation
Consolidated Statements of Comprehensive Income

<i>(In millions)</i>	2017	2016	2015
Net income	\$ 3,804	\$ 1,213	\$ 2,868
Other comprehensive income (loss):			
Defined benefit postretirement and post-employment plans:			
Actuarial changes, net of tax of \$17, \$69 and \$21	29	115	34
Prior service costs, net of tax of (\$16), (\$18) and (\$24)	(26)	(31)	(39)
Other comprehensive income (loss)	3	84	(5)
Comprehensive income	3,807	1,297	2,863
Less comprehensive income (loss) attributable to:			
Redeemable noncontrolling interest	65	41	—
Noncontrolling interests	307	(2)	16
Comprehensive income attributable to MPC	<u>\$ 3,435</u>	<u>\$ 1,258</u>	<u>\$ 2,847</u>

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

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Marathon Petroleum Corporation
Consolidated Balance Sheets

<i>(In millions, except share data)</i>	December 31,	
	2017	2016
Assets		
Current assets:		
Cash and cash equivalents (MPLX: \$5 and \$234, respectively)	\$ 3,011	\$ 887
Receivables, less allowance for doubtful accounts of \$11 and \$12 (MPLX: \$299 and \$304, respectively)	4,695	3,617
Inventories (MPLX: \$65 and \$55, respectively)	5,550	5,656
Other current assets (MPLX: \$29 and \$33, respectively)	145	241
Total current assets	13,401	10,401
Equity method investments (MPLX: \$4,010 and \$2,471, respectively)	4,787	3,827
Property, plant and equipment, net (MPLX: \$12,187 and \$11,408, respectively)	26,443	25,765
Goodwill (MPLX: \$2,245 and \$2,245, respectively)	3,586	3,587
Other noncurrent assets (MPLX: \$479 and \$506, respectively)	830	833
Total assets	\$ 49,047	\$ 44,413
Liabilities		
Current liabilities:		
Accounts payable (MPLX: \$621 and \$541, respectively)	\$ 8,297	\$ 5,593
Payroll and benefits payable (MPLX: \$1 and \$1, respectively)	591	530
Consumer excise taxes payable (MPLX: \$3 and \$3, respectively)	501	464
Accrued taxes (MPLX: \$35 and \$35, respectively)	169	153
Debt due within one year (MPLX: \$1 and \$1, respectively)	624	28
Other current liabilities (MPLX: \$130 and \$81, respectively)	296	378
Total current liabilities	10,478	7,146
Long-term debt (MPLX: \$6,945 and \$4,422, respectively)	12,322	10,544
Deferred income taxes (MPLX: \$5 and \$6, respectively)	2,654	3,861
Defined benefit postretirement plan obligations	1,099	1,055
Deferred credits and other liabilities (MPLX: \$230 and \$189, respectively)	666	604
Total liabilities	27,219	23,210
Commitments and contingencies (see Note 25)		
Redeemable noncontrolling interest	1,000	1,000
Equity		
MPC stockholders' equity:		
Preferred stock, no shares issued and outstanding (par value 0.01 per share, 30 million shares authorized)	—	—
Common stock:		
Issued – 734 million and 731 million shares (par value 0.01 per share, 1 billion shares authorized)	7	7
Held in treasury, at cost – 248 million and 203 million shares	(9,869)	(7,482)
Additional paid-in capital	11,262	11,060
Retained earnings	12,864	10,206
Accumulated other comprehensive loss	(231)	(234)
Total MPC stockholders' equity	14,033	13,557
Noncontrolling interests	6,795	6,646
Total equity	20,828	20,203
Total liabilities, redeemable noncontrolling interest and equity	\$ 49,047	\$ 44,413

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

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Marathon Petroleum Corporation
Consolidated Statements of Cash Flows

<i>(In millions)</i>	2017	2016	2015
Increase (decrease) in cash and cash equivalents			
Operating activities:			
Net income	\$ 3,804	\$ 1,213	\$ 2,868
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of deferred financing costs and debt discount	64	61	16
Impairment expense	—	130	144
Depreciation and amortization	2,114	2,001	1,502
Inventory market valuation adjustment	—	(370)	370
Pension and other postretirement benefits, net	47	9	80
Deferred income taxes	(1,233)	394	134
Net gain on disposal of assets	(10)	(32)	(7)
(Income) loss from equity method investments	(306)	185	(88)
Distributions from equity method investments	388	291	113
Changes in the fair value of derivative instruments	116	(41)	4
Changes in:			
Current receivables	(1,093)	(674)	1,292
Inventories	106	(70)	80
Current accounts payable and accrued liabilities	2,814	985	(2,400)
All other, net	(202)	(87)	(35)
Net cash provided by operating activities	<u>6,609</u>	<u>3,995</u>	<u>4,073</u>
Investing activities:			
Additions to property, plant and equipment	(2,732)	(2,892)	(1,998)
Acquisitions, net of cash acquired	(249)	—	(1,218)
Disposal of assets	79	101	21
Investments – acquisitions, loans and contributions	(805)	(288)	(331)
– redemptions, repayments and return of capital	65	26	4
All other, net	248	112	81
Net cash used in investing activities	<u>(3,394)</u>	<u>(2,941)</u>	<u>(3,441)</u>
Financing activities:			
Commercial paper – issued	300	1,263	—
– repayments	(300)	(1,263)	—
Long-term debt – borrowings	2,911	864	2,993
– repayments	(642)	(2,269)	(2,226)
Debt issuance costs	(33)	(11)	(21)
Issuance of common stock	46	11	33
Common stock repurchased	(2,372)	(197)	(965)
Dividends paid	(773)	(719)	(613)
Issuance of MPLX LP common units	473	776	—
Issuance of MPLX LP redeemable preferred units	—	984	—
Distributions to noncontrolling interests	(694)	(542)	(40)
Contributions from noncontrolling interests	129	6	—
Contingent consideration payment	(89)	(164)	(175)
All other, net	(47)	(33)	15
Net cash used in financing activities	<u>(1,091)</u>	<u>(1,294)</u>	<u>(999)</u>
Net increase (decrease) in cash and cash equivalents	<u>2,124</u>	<u>(240)</u>	<u>(367)</u>
Cash and cash equivalents at beginning of period	<u>887</u>	<u>1,127</u>	<u>1,494</u>
Cash and cash equivalents at end of period	<u>\$ 3,011</u>	<u>\$ 887</u>	<u>\$ 1,127</u>

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

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Marathon Petroleum Corporation
Consolidated Statements of Equity and Redeemable Noncontrolling Interest

<i>(In millions)</i>	MPC Stockholders' Equity						Total Equity	Redeemable Non- controlling Interest
	Common Stock	Treasury Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Non- controlling Interests		
Balance as of December 31, 2014	\$ 7	\$ (6,299)	\$ 9,841	\$ 7,515	\$ (313)	\$ 639	\$11,390	
Net income	—	—	—	2,852	—	16	2,868	
Dividends declared	—	—	—	(615)	—	—	(615)	
Distributions to noncontrolling interests	—	—	—	—	—	(40)	(40)	
Other comprehensive loss	—	—	—	—	(5)	—	(5)	
Shares repurchased	—	(965)	—	—	—	—	(965)	
Shares issued (returned) – stock-based compensation	—	(11)	33	—	—	—	22	
Stock-based compensation	—	—	69	—	—	16	85	
Impact from equity transactions of MPLX LP	—	—	1,128	—	—	5,795	6,923	
Noncontrolling interest - MarkWest Merger	—	—	—	—	—	13	13	
Other	—	—	—	—	—	(1)	(1)	
Balance as of December 31, 2015	\$ 7	\$ (7,275)	\$ 11,071	\$ 9,752	\$ (318)	\$ 6,438	\$19,675	\$ —
Net income (loss)	—	—	—	1,174	—	(2)	1,172	41
Dividends declared	—	—	—	(720)	—	—	(720)	—
Distributions to noncontrolling interests	—	—	—	—	—	(517)	(517)	(25)
Contributions from noncontrolling interests	—	—	—	—	—	6	6	—
Other comprehensive income	—	—	—	—	84	—	84	—
Shares repurchased	—	(197)	—	—	—	—	(197)	—
Shares issued (returned) – stock-based compensation	—	(10)	11	—	—	—	1	—
Stock-based compensation	—	—	35	—	—	6	41	—
Impact from equity transactions of MPLX LP	—	—	(57)	—	—	715	658	—
Issuance of MPLX LP redeemable preferred units	—	—	—	—	—	—	—	984
Balance as of December 31, 2016	\$ 7	\$ (7,482)	\$ 11,060	\$ 10,206	\$ (234)	\$ 6,646	\$20,203	\$ 1,000
Net income	—	—	—	3,432	—	307	3,739	65
Dividends declared	—	—	—	(774)	—	—	(774)	—
Distributions to noncontrolling interests	—	—	—	—	—	(629)	(629)	(65)
Contributions from noncontrolling interests	—	—	—	—	—	129	129	—
Other comprehensive loss	—	—	—	—	3	—	3	—
Shares repurchased	—	(2,372)	—	—	—	—	(2,372)	—
Shares issued (returned) – stock-based compensation	—	(15)	46	—	—	—	31	—
Stock-based compensation	—	—	46	—	—	8	54	—
Impact from equity transactions of MPLX LP	—	—	110	—	—	334	444	—
Balance as of December 31, 2017	\$ 7	\$ (9,869)	\$ 11,262	\$ 12,864	\$ (231)	\$ 6,795	\$20,828	\$ 1,000

(Shares in millions)

	Common Stock	Treasury Stock
Balance as of December 31, 2014	726	(179)
Shares repurchased	—	(19)
Shares issued – stock-based compensation	3	—
Balance as of December 31, 2015	729	(198)
Shares repurchased	—	(4)
Shares issued (returned) – stock-based compensation	2	(1)
Balance as of December 31, 2016	731	(203)
Shares repurchased	—	(44)
Shares issued (returned) - stock-based compensation	3	(1)
Balance as of December 31, 2017	734	(248)

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

Notes to Consolidated Financial Statements

1. Description of the Business and Basis of Presentation

Description of the Business – Our business consists of refining and marketing, retail and midstream services conducted primarily in the Midwest, Gulf Coast, East Coast, Northeast and Southeast regions of the United States, through subsidiaries, including Marathon Petroleum Company LP (“MPC LP”), Speedway LLC and its subsidiaries (“Speedway”) and MPLX LP and its subsidiaries (“MPLX”).

See Note 10 for additional information about our operations.

Spinoff – On May 25, 2011, the Marathon Oil board of directors approved the spinoff of its Refining, Marketing & Transportation Business (“RM&T Business”) into an independent, publicly traded company, MPC, through the distribution of MPC common stock to the stockholders of Marathon Oil common stock (the “Spinoff”). MPC became an independent, publicly traded company on July 1, 2011.

Basis of Presentation – Our results of operations and cash flows consist of consolidated MPC activities. All significant intercompany transactions and accounts have been eliminated.

Certain prior period financial statement amounts have been reclassified to conform to current period presentation.

In the first quarter of 2017, we revised our segment reporting in connection with the contribution of certain terminal, pipeline and storage assets to MPLX. See Note 4 for additional information. The operating results for these assets are now reported in our Midstream segment. Previously, they were reported as part of our Refining & Marketing segment. Comparable prior period information has been recast to reflect our revised presentation. The results from pipeline and storage assets were recast effective January 1, 2015, and the results from the terminal assets were recast effective April 1, 2016. Prior to these dates, these assets were not considered businesses for accounting purposes and, therefore, there are no financial results from which to recast segment results. Additionally, the MPLX asset and liability balances as of December 31, 2016, reported in parentheses on our consolidated balance sheets, have also been recast to reflect this transaction. See Note 10 and Note 15 for additional information.

2. Summary of Principal Accounting Policies

Principles applied in consolidation – These consolidated financial statements include the accounts of our majority-owned, controlled subsidiaries and MPLX. Changes in ownership interest in consolidated subsidiaries that do not result in a change in control are recorded as an equity transaction. As of December 31, 2017, we owned a 30.4 percent interest in MPLX, including a two percent general partner interest. Due to our 100 percent ownership of the general partner interest, we have determined that we control MPLX and therefore we consolidate MPLX and record a noncontrolling interest for the 69.6 percent interest owned by the public.

Investments in entities over which we have significant influence, but not control, are accounted for using the equity method of accounting. This includes entities in which we hold majority ownership but the minority shareholders have substantive participating rights. Income from equity method investments represents our proportionate share of net income generated by the equity method investees.

Differences in the basis of the investments and the separate net asset values of the investees, if any, are amortized into net income over the remaining useful lives of the underlying assets and liabilities, except for the excess related to goodwill. Equity method investments are evaluated for impairment whenever changes in the facts and circumstances indicate an other than temporary loss in value has occurred. When the loss is deemed to be other than temporary, the carrying value of the equity method investment is written down to fair value.

Use of estimates – The preparation of financial statements in accordance with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of revenues and expenses during the respective reporting periods.

Revenue recognition – Revenues are recognized when products are shipped or services are provided to customers, title is transferred, the sales price is fixed or determinable and collectability is reasonably assured. Costs associated with revenues are recorded in cost of revenues. Shipping and other transportation costs billed to our customers are presented on a gross basis in revenues and cost of revenues.

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Rebates from vendors are recognized as a reduction of cost of revenues when the initiating transaction occurs. Incentives that are derived from contractual provisions are accrued based on past experience and recognized in cost of revenues. Rebates to customers are reflected as a reduction of revenue and are accrued for in "Accounts payable" on the consolidated balance sheets.

Crude oil and refined product exchanges and matching buy/sell transactions – We enter into exchange contracts and matching buy/sell arrangements whereby we agree to deliver a particular quantity and quality of crude oil or refined products at a specified location and date to a particular counterparty and to receive from the same counterparty the same commodity at a specified location on the same or another specified date. The exchange receipts and deliveries are nonmonetary transactions, with the exception of associated grade or location differentials that are settled in cash. The matching buy/sell purchase and sale transactions are settled in cash. Both exchange and matching buy/sell transactions are accounted for as exchanges of inventory and no revenues are recorded. The exchange transactions are recognized at the carrying amount of the inventory transferred.

Consumer excise taxes – We are required by various governmental authorities, including countries, states and municipalities, to collect and remit taxes on certain consumer products. Such taxes are presented on a gross basis in revenues and costs and expenses in the consolidated statements of income.

Cash and cash equivalents – Cash and cash equivalents include cash on hand and on deposit and investments in highly liquid debt instruments with maturities of three months or less.

Restricted cash – Restricted cash consists of cash and investments that must be maintained as collateral for letters of credit issued to certain third party producer customers. The balances will be outstanding until certain capital projects are completed and the third party releases the restriction. Restricted cash also consists of cash advances to be used for the operation and maintenance of an operated pipeline system. At December 31, 2017 and 2016, the amount of restricted cash included in "Other current assets" on the consolidated balance sheets were \$4 million and \$5 million, respectively, which is currently reflected in our Midstream segment.

Accounts receivable and allowance for doubtful accounts – Our receivables primarily consist of customer accounts receivable. Customer receivables are recorded at the invoiced amounts and generally do not bear interest. Allowances for doubtful accounts are generally recorded when it becomes probable the receivable will not be collected and are booked to bad debt expense. The allowance for doubtful accounts is the best estimate of the amount of probable credit losses in customer accounts receivable. We review the allowance quarterly and past-due balances over 180 days are reviewed individually for collectability.

Approximately 23 percent of our accounts receivable balances at both December 31, 2017 and 2016 are related to sales of crude oil or refinery feedstocks to customers with whom we have master netting agreements. We have master netting agreements with more than 100 companies engaged in the crude oil or refinery feedstock trading and supply business or the petroleum refining industry. A master netting agreement generally provides for a once per month net cash settlement of the accounts receivable from and the accounts payable to a particular counterparty.

Inventories – Inventories are carried at the lower of cost or market value. Cost of inventories is determined primarily under the LIFO method. Costs for crude oil, refinery feedstocks and refined product inventories are aggregated on a consolidated basis for purposes of assessing if the LIFO cost basis of these inventories may have to be written down to market value.

Derivative instruments – We use derivatives to economically hedge a portion of our exposure to commodity price risk and, historically, to interest rate risk. We also have limited authority to use selective derivative instruments that assume market risk. All derivative instruments (including derivative instruments embedded in other contracts) are recorded at fair value. Certain commodity derivatives are reflected on the consolidated balance sheets on a net basis by counterparty as they are governed by master netting agreements. Cash flows related to derivatives used to hedge commodity price risk and interest rate risk are classified in operating activities with the underlying transactions.

Derivatives not designated as accounting hedges – Derivatives that are not designated as accounting hedges may include commodity derivatives used to hedge price risk on (1) inventories, (2) fixed price sales of refined products, (3) the acquisition of foreign-sourced crude oil, (4) the acquisition of ethanol for blending with refined products, (5) the sale of NGLs and (6) the purchase of natural gas. Changes in the fair value of derivatives not designated as accounting hedges are recognized immediately in net income.

Concentrations of credit risk – All of our financial instruments, including derivatives, involve elements of credit and market risk. The most significant portion of our credit risk relates to nonperformance by counterparties. The counterparties to our financial instruments consist primarily of major financial institutions and companies within the energy industry. To manage counterparty risk associated with financial instruments, we select and monitor counterparties based on an assessment of their financial strength and on credit ratings, if available. Additionally, we limit the level of exposure with any single counterparty.

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Property, plant and equipment – Property, plant and equipment are recorded at cost and depreciated on a straight-line basis over the estimated useful lives of the assets, which range from three to 49 years. Such assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If the sum of the expected undiscounted future cash flows from the use of the asset and its eventual disposition is less than the carrying amount of the asset, an impairment assessment is performed and the excess of the book value over the fair value of the asset is recorded as an impairment loss.

When items of property, plant and equipment are sold or otherwise disposed of, any gains or losses are reported in net income. Gains on the disposal of property, plant and equipment are recognized when earned, which is generally at the time of closing. If a loss on disposal is expected, such losses are recognized when the assets are classified as held for sale.

Interest expense is capitalized for qualifying assets under construction. Capitalized interest costs are included in property, plant and equipment and are depreciated over the useful life of the related asset.

Goodwill and intangible assets – Goodwill represents the excess of the purchase price over the estimated fair value of the net assets acquired in the acquisition of a business. Goodwill is not amortized, but rather is tested for impairment annually and when events or changes in circumstances indicate that the fair value of a reporting unit with goodwill has been reduced below 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 carrying value of the reporting unit. If the fair value of the reporting unit is less than the carrying value, including goodwill, the implied fair value of goodwill is calculated. The excess, if any, of the book value over the implied fair value of goodwill is charged to net income as an impairment expense.

Amortization of intangibles with definite lives is calculated using the straight-line method which is reflective of the benefit pattern in which the estimated economic benefit is expected to be received over the estimated useful life of the intangible asset. Intangibles subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the intangible may not be recoverable. If the sum of the expected undiscounted future cash flows related to the asset is less than the carrying amount of the asset, an impairment loss is recognized based on the fair value of the asset. Intangibles not subject to amortization are tested for impairment annually and when circumstances indicate that the fair value is less than the carrying amount of the intangible. If the fair value is less than the carrying value, an impairment is recorded for the difference.

Major maintenance activities – Costs for planned turnaround, major maintenance and engineered project activities are expensed in the period incurred. These types of costs include contractor repair services, materials and supplies, equipment rentals and our labor costs.

Environmental costs – Environmental expenditures are capitalized for additional equipment that mitigates or prevents future contamination or improves environmental safety or efficiency of the existing assets. We recognize remediation costs and penalties when the responsibility to remediate is probable and the amount of associated costs can be reasonably estimated. The timing of remediation accruals coincides with completion of a feasibility study or the commitment to a formal plan of action. Remediation liabilities are accrued based on estimates of known environmental exposure and are discounted when the estimated amounts are reasonably fixed and determinable. If recoveries of remediation costs from third parties are probable, a receivable is recorded and is discounted when the estimated amount is reasonably fixed and determinable.

Asset retirement obligations – The fair value of asset retirement obligations is recognized in the period in which the obligations are incurred if a reasonable estimate of fair value can be made. The majority of our recognized asset retirement liability relates to conditional asset retirement obligations for removal and disposal of fire-retardant material from certain refining facilities. The remaining recognized asset retirement liability relates to other refining assets, the removal of underground storage tanks at our leased convenience stores, certain pipelines and processing facilities and other related pipeline assets. The fair values recorded for such obligations are based on the most probable current cost projections. The recorded asset retirement obligations are not material to the consolidated financial statements.

Asset retirement obligations have not been recognized for some assets because the fair value cannot be reasonably estimated since the settlement dates of the obligations are indeterminate. Such obligations will be recognized in the period when sufficient information becomes available to estimate a range of potential settlement dates. The asset retirement obligations principally include the hazardous material disposal and removal or dismantlement requirements associated with the closure of certain refining, terminal, retail, pipeline and processing assets.

Our practice is to keep our assets in good operating condition through routine repair and maintenance of component parts in the ordinary course of business and by continuing to make improvements based on technological advances. As a result, we believe that generally these assets have no expected settlement date for purposes of estimating asset retirement obligations since the dates or ranges of dates upon which we would retire these assets cannot be reasonably estimated at this time.

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Income taxes – Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of assets and liabilities and their tax bases. Deferred tax assets are recorded when it is more likely than not that they will be realized. The realization of deferred tax assets is assessed periodically based on several factors, primarily our expectation to generate sufficient future taxable income.

Stock-based compensation arrangements – The fair value of stock options granted to our employees is estimated on the date of grant using the Black-Scholes option pricing model. The model employs various assumptions, based on management’s estimates at the time of grant, which impact the calculation of fair value and ultimately, the amount of expense that is recognized over the vesting period of the stock option award. Of the required assumptions, the expected life of the stock option award and the expected volatility of our stock price have the most significant impact on the fair value calculation. The average expected life is based on our historical employee exercise behavior. The assumption for expected volatility of our stock price reflects a weighting of 50 percent of our common stock implied volatility and 50 percent of our common stock historical volatility.

The fair value of restricted stock awards granted to our employees is determined based on the fair market value of our common stock on the date of grant. The fair value of performance unit awards granted to our employees is estimated on the date of grant using a Monte Carlo valuation model.

Our stock-based compensation expense is recognized based on management’s estimate of the awards that are expected to vest, using the straight-line attribution method for all service-based awards with a graded vesting feature. If actual forfeiture results are different than expected, adjustments to recognized compensation expense may be required in future periods. Unearned stock-based compensation is charged to equity when restricted stock awards are granted. Compensation expense is recognized over the vesting period and is adjusted if conditions of the restricted stock award are not met.

Business combinations - We recognize and measure the assets acquired and liabilities assumed in a business combination based on their estimated fair values at the acquisition date, with any remaining difference versus the purchase consideration recorded as goodwill or gain from a bargain purchase. For all material acquisitions, management engages an independent valuation specialist to assist with the determination of fair value of the assets acquired, liabilities assumed, noncontrolling interest, if any, and goodwill, based on recognized business valuation methodologies. If the initial accounting for the business combination is incomplete by the end of the reporting period in which the acquisition occurs, an estimate will be recorded. Subsequent to the acquisition, and not later than one year from the acquisition date, we will record any material adjustments to the initial estimate based on new information obtained about facts and circumstances that existed as of the acquisition date. An income, market or cost valuation method may be utilized to estimate the fair value of the assets acquired, liabilities assumed, and noncontrolling interest, if any, in a business combination. The income valuation method represents the present value of future cash flows over the life of the asset using: (i) discrete financial forecasts, which rely on management’s estimates of revenue and operating expenses; (ii) long-term growth rates; and (iii) appropriate discount rates. The market valuation method uses prices paid for a reasonably similar asset by other purchasers in the market, with adjustments relating to any differences between the assets. The cost valuation method is based on the replacement cost of a comparable asset at prices at the time of the acquisition reduced for depreciation of the asset. Acquisition-related costs are expensed as incurred in connection with each business combination.

Renewable fuel identification numbers – We purchase RINs to satisfy a portion of our RFS2 compliance. We record a short-term intangible asset, included in “Other current assets” on the balance sheet, for RINs owned in excess of our anticipated current period compliance requirements. The asset value is based on the product of the excess RINs as of the balance sheet date, if any, and the weighted average cost of our RINs. We record a current liability, included in “Other current liabilities” on the balance sheet, when we are deficient RINs based on the product of the deficient RINs as of the balance sheet date, if any, and the market price of the RINs at the balance sheet date. The cost of RINs used for compliance is reflected in “Cost of revenues” on the income statement. Any gains or losses on the sale or expiration of RINs are classified as “Other income” on the income statement. Proceeds from RIN sales are included in investing activities - “All other, net” on the cash flow statement.

3. Accounting Standards

Recently Adopted

In October 2016, the FASB issued an accounting standards update to amend the consolidation guidance issued in February 2015 to require that a decision maker consider, in the determination of the primary beneficiary, its indirect interest in a VIE held by a related party that is under common control on a proportionate basis only. The change was effective for our financial statements for fiscal years beginning after December 15, 2016, and interim periods within those fiscal years. We were required to apply the standard retrospective to January 1, 2016, the date on which we adopted the consolidation guidance issued in February 2015. Adoption of this accounting standards update in the first quarter of 2017 did not have an impact on our consolidated financial statements.

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In March 2016, the FASB issued an accounting standards update to simplify some provisions in stock compensation accounting. The areas for simplification involve the accounting for share-based payment transactions, including income tax consequences, classifications of awards as either equity or liabilities and classification within the statement of cash flows. The changes were effective for fiscal years beginning after December 15, 2016, and interim periods within those fiscal years. Adoption of this accounting standards update in the first quarter of 2017 did not have a material impact on our consolidated financial statements.

In March 2016, the FASB issued an accounting standards update eliminating the requirement that an investor retrospectively apply equity method accounting when an investment that it had accounted for by another method initially qualifies for the equity method. This change was effective for fiscal years beginning after December 15, 2016, and interim periods within those fiscal years. Adoption of this accounting standards update in the first quarter of 2017 did not have an impact on our consolidated financial statements.

Not Yet Adopted

In August 2017, the FASB issued an accounting standards update to amend the hedge accounting rules to simplify the application of hedge accounting guidance and better portray the economic results of risk management activities in the financial statements. The guidance expands the ability to hedge nonfinancial and financial risk components, reduces complexity in fair value hedges of interest rate risk, eliminates the requirement to separately measure and report hedge ineffectiveness, as well as eases certain hedge effectiveness assessment requirements. The guidance is effective beginning in 2019 with early adoption permitted. We are currently evaluating the impact of this guidance, including transition elections and required disclosures, on our financial statements and the timing of adoption. However, since we have not historically designated our commodity derivatives as hedges, we do not expect the adoption of this accounting standards update to have a material impact on our consolidated financial statements.

In May 2017, the FASB issued an accounting standards update to provide guidance about when changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting. An entity should account for the effects of a modification unless the fair value, vesting conditions and balance sheet classification of the modified award is the same as the original award immediately before the original award is modified. We will adopt this accounting standards update on a prospective basis beginning on January 1, 2018. We do not expect the application of this accounting standards update to have a material impact on our consolidated financial statements.

In March 2017, the FASB issued an accounting standards update requiring that the service cost component of pension and postretirement benefit costs be presented in the same line item as other current employee compensation costs and other components of those benefit costs be presented separately from the service cost component and outside a subtotal of income from operations, if presented. The update also states that only the service cost component of pension and postretirement benefit cost is eligible for capitalization. We will adopt this accounting standards update January 1, 2018. Application is retrospective for the presentation of the components of these benefit costs and prospective for the capitalization of only service costs. We do not expect the application of this accounting standards update to have a material impact on our consolidated financial statements.

In February 2017, the FASB issued an accounting standards update addressing the derecognition of nonfinancial assets. The guidance defines in substance nonfinancial assets, and states that the derecognition of business activities should be evaluated under the consolidation guidance, with limited exceptions related to conveyances of oil and gas mineral rights or contracts with customers. The standard eliminates the previous exclusion for businesses that are in-substance real estate, and eliminates some differences based on whether a transferred set is that of assets or a business and whether the transfer is to a joint venture. The standard must be adopted in conjunction with the adoption date of the revenue recognition accounting standards update, which we will adopt on January 1, 2018. We plan to adopt the new standard using the modified retrospective method and do not expect the application of this accounting standards update to have a material impact on our consolidated financial statements.

In January 2017, the FASB issued an accounting standards update which simplifies the subsequent measurement of goodwill by eliminating Step 2 from the goodwill impairment test. Under the new guidance, the recognition of an impairment charge is calculated based on the amount by which the carrying amount exceeds the reporting unit's fair value, which could be different from the amount calculated under the current method using the implied fair value of the goodwill; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. The guidance should be applied on a prospective basis, and is effective for annual or any interim goodwill impairment tests in fiscal years beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017.

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In January 2017, the FASB issued an accounting standards update to clarify the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The standard is intended to narrow the definition of a business by specifying the minimum inputs and processes and by narrowing the definition of outputs. The change is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. The guidance will be applied prospectively.

In November 2016, the FASB issued an accounting standards update requiring that the statement of cash flows explain the change during the period in the total of cash, cash equivalents and amounts generally described as restricted cash or restricted cash equivalents. The change is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Retrospective application is required. We do not expect application of this accounting standards update to have a material impact on our statements of cash flows.

In October 2016, the FASB issued an accounting standards update that requires recognition of the income tax consequences of intra-entity transfers of assets other than inventory when the transfer occurs. The change is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. The amendments in this accounting standards update should be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. We do not expect application of this accounting standards update to have a material impact on our consolidated financial statements.

In August 2016, the FASB issued an accounting standards update related to the classification of certain cash flows. The accounting standards update provides specific guidance on eight cash flow classification issues, including debt prepayment or debt extinguishment costs, contingent consideration payments made after a business combination and distributions received from equity method investees, to reduce diversity in practice. The change is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Retrospective application is required. We do not expect application of this accounting standards update to have a material impact on our statements of cash flows.

In June 2016, the FASB issued an accounting standards update related to the accounting for credit losses on certain financial instruments. The guidance requires that for most financial assets, losses be based on an expected loss approach which includes estimates of losses over the life of exposure that considers historical, current and forecasted information. Expanded disclosures related to the methods used to estimate the losses as well as a specific disaggregation of balances for financial assets are also required. The change is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years, with early adoption permitted for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. We do not expect application of this accounting standards update to have a material impact on our consolidated financial statements.

In February 2016, the FASB issued an accounting standards update requiring lessees to record virtually all leases on their balance sheets. The accounting standards update also requires expanded disclosures to help financial statement users better understand the amount, timing and uncertainty of cash flows arising from leases. For lessors, this amended guidance modifies the classification criteria and the accounting for sales-type and direct financing leases. The change will be effective on a modified retrospective basis for fiscal years beginning after December 15, 2018, and interim periods within those years, with early adoption permitted. We are currently evaluating the impact of this standard on our financial statements and disclosures, internal controls and accounting policies. This evaluation process includes reviewing all forms of leases, performing a completeness assessment over the lease population and analyzing the practical expedients in order to determine the best path of implementing changes to existing processes and controls along with necessary system implementations. We completed our system implementation evaluation during the fourth quarter of 2017, and concluded we will implement a third-party supported lease accounting information system solution to account for our leases. We have begun a project to implement this system and are currently collecting the necessary information on our lease population, establishing a new lease accounting process and designing new internal controls for the new process. We do not plan to early adopt the standard. We believe the impact will be material on the consolidated financial statements as all leases will be recognized as a right of use asset and lease obligation. Based on results of our evaluation process to date, we also believe the impact on our existing processes, controls and information systems may be material.

In January 2016, the FASB issued an accounting standards update requiring unconsolidated equity investments, not accounted for under the equity method, to be measured at fair value with changes in fair value recognized in net income. The accounting standards update also amends the presentation and disclosure of financial instruments. The changes are effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2017. We do not expect application of this accounting standards update to have a material impact on our consolidated financial statements.

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In May 2014, the FASB issued an accounting standards update for revenue recognition for contracts with customers. The guidance in the accounting standards update states that revenue is recognized when a customer obtains control of a good or service. Recognition of the revenue will involve a multiple step approach including identifying the contract, identifying the separate performance obligations, determining the transaction price, allocating the price to the performance obligations and recognizing the revenue as the obligations are satisfied. Additional disclosures will be required to provide adequate information to understand the nature, amount, timing and uncertainty of reported revenues and revenues expected to be recognized. We completed the evaluation of the impact of this standard on our financial statements and disclosures, internal controls and accounting policies in the fourth quarter of 2017. We will adopt the standard effective January 1, 2018, using the modified retrospective method, resulting in an immaterial cumulative effect adjustment as of the date of adoption. For most contract types, we do not believe revenue recognition patterns will change materially. We do expect certain provisions of the contracts in our Midstream segment to be presented on a gross revenue recognition basis as a result of implementation. In addition, we expect to elect to change our presentation of consumer excise taxes incurred concurrently with revenue producing transactions and collected on behalf of our customers from gross to net upon the adoption of this accounting standards update. Based on the results of our evaluation process, we do not expect our existing revenue recognition processes, controls and information systems to materially change.

4. MPLX LP

MPLX is a diversified, growth-oriented publicly traded master limited partnership formed by us in 2012 to own, operate, develop and acquire midstream energy infrastructure assets. On December 4, 2015, MPLX and MarkWest Energy Partners, L.P. (“MarkWest”) completed a merger, whereby MarkWest became a wholly-owned subsidiary of MPLX (the “MarkWest Merger”). MarkWest’s operations include: natural gas gathering, processing and transportation; and NGL gathering, transportation, fractionation, storage and marketing. MPLX owns or has an interest in a network of private and common carrier crude oil and product pipeline systems and associated storage assets in the Midwest and Gulf Coast regions of the United States, a butane cavern in Neal, West Virginia, and NGL storage caverns in Woodhaven, Michigan. MPLX owns an inland marine business, comprised of tow boats and barges, which transport crude oil and refined products principally for MPC in the Midwest and Gulf Coast regions of the United States. MPLX also owns a light-product terminal business, which provides terminalling services principally for MPC in the Midwest and Southeast regions of the United States.

See Note 5 for information on MPLX’s acquisition of the Ozark pipeline, its investment in the Bakken Pipeline system and the formation of a joint venture with Antero Midstream Partners LP (“Antero Midstream”) during the first quarter of 2017.

As of December 31, 2017, we owned a 30.4 percent interest in MPLX, including a two percent general partner interest. MPLX is a VIE because the limited partners of MPLX do not have substantive kick-out or substantive participating rights over the general partner. We are the primary beneficiary of MPLX because in addition to our significant economic interest, we also have the power, through our 100 percent ownership of the general partner, to control the decisions that most significantly impact MPLX. We therefore consolidate MPLX and record a noncontrolling interest for the 69.6 percent interest owned by the public. The components of our noncontrolling interest consist of equity-based noncontrolling interest and redeemable noncontrolling interest. The redeemable noncontrolling interest relates to MPLX’s preferred units, discussed below.

The creditors of MPLX do not have recourse to MPC’s general credit through guarantees or other financial arrangements. The assets of MPLX are the property of MPLX and cannot be used to satisfy the obligations of MPC. MPC has effectively guaranteed certain indebtedness of LOOP LLC (“LOOP”) and LOCAP LLC (“LOCAP”), in which MPLX holds an interest. See Note 25 for more information.

Reorganization Transactions

On September 1, 2016, MPC, MPLX and various affiliates initiated a series of reorganization transactions in order to simplify MPLX’s ownership structure and its financial and tax reporting. In connection with these transactions, MPC contributed \$225 million to MPLX and all of the issued and outstanding MPLX Class A Units, all of which were held by MarkWest Hydrocarbon L.L.C. (“MarkWest Hydrocarbon”), a subsidiary of MPLX, were exchanged for newly issued common units representing limited partner interests in MPLX. The simple average of the NYSE closing price of MPLX common units for the 10 trading days preceding September 1, 2016 was used for purposes of these transactions. As a result of these transactions, MPC increased its ownership interest in MPLX by 7 million MPLX common units, or approximately 1 percent.

Private Placement of Preferred Units

On May 13, 2016, MPLX completed the private placement of approximately 30.8 million 6.5 percent Series A Convertible Preferred Units (the “MPLX Preferred Units”) at a cash price of \$32.50 per unit. The aggregate net proceeds of approximately \$984 million from the sale of the MPLX Preferred Units was used by MPLX for capital expenditures, repayment of debt and general partnership purposes.

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The MPLX Preferred Units rank senior to all MPLX common units with respect to distributions and rights upon liquidation. The holders of the MPLX Preferred Units are entitled to receive quarterly distributions equal to \$0.528125 per unit commencing for the quarter ended June 30, 2016, with a prorated amount from the date of issuance. Following the second anniversary of the issuance of the MPLX Preferred Units, the holders of the MPLX Preferred Units will receive as a distribution the greater of \$0.528125 per unit or the amount of per unit distributions paid to holders of MPLX common unitholders. The MPLX Preferred Units are convertible into MPLX common units on a one for one basis after three years, at the purchasers' option, and after four years at MPLX's option, subject to certain conditions.

The MPLX Preferred Units are considered redeemable securities due to the existence of redemption provisions upon a deemed liquidation event which is considered outside MPLX's control. Therefore, they are presented as temporary equity in the mezzanine section of the consolidated balance sheets. We have recorded the MPLX Preferred Units at their issuance date fair value, net of issuance costs. Since the MPLX Preferred Units are not currently redeemable and not probable of becoming redeemable in the future, adjustment to the initial carrying amount is not necessary and would only be required if it becomes probable that the security would become redeemable.

Dropdowns to MPLX

On September 1, 2017, we contributed our joint-interest ownership in certain pipelines and storage facilities to MPLX in exchange for total consideration of \$1.05 billion. This consideration consisted of MPLX equity and \$420 million in cash. We received approximately 19 million MPLX common units and 378 thousand general partner units from MPLX, which was determined by dividing \$630 million by the simple average of the 10 day trading volume weighted average NYSE price of an MPLX common unit for the 10 trading days ending at market close on August 31, 2017, pursuant to a Membership Interests and Shares Contributions Agreement. We also agreed to waive approximately two-thirds of the third quarter 2017 common unit distributions, IDRs and general partner distributions with respect to the common units issued in this transaction. The contributions of these assets were accounted for as transactions between entities under common control and we did not record a gain or loss.

On March 1, 2017, we contributed certain terminal, pipeline and storage assets to MPLX in exchange total consideration of \$2.0 billion. This consideration consisted of MPLX equity and \$1.5 billion in cash. We received approximately 13 million common units and 264 thousand general partner units from MPLX, which was determined by dividing \$504 million by the simple average of the volume weighted average NYSE price of an MPLX common unit for the 10 trading days preceding February 28, 2017, pursuant to a Membership Interests Contributions Agreement. We also agreed to waive two-thirds of the first quarter 2017 common unit distributions, IDRs and general partner distributions with respect to the common units issued in the transaction. The contributions of these assets were accounted for as transactions between entities under common control and we did not record a gain or loss.

On March 31, 2016, we contributed our inland marine business to MPLX in exchange for 23 million MPLX common units and 460 thousand MPLX general partner units. The number of units we received from MPLX was determined by dividing \$600 million by the simple average of the volume weighted average NYSE price of an MPLX common unit for the 10 trading days preceding March 14, 2016, pursuant to a Membership Interests Contribution Agreement. We also agreed to waive first-quarter 2016 common unit distributions, IDRs and general partner distributions with respect to the common units issued in this transaction. The contribution of our inland marine business was accounted for as a transaction between entities under common control and therefore, we did not record a gain or loss.

On December 4, 2015, we sold our remaining 0.5 percent interest in Pipe Line Holdings to MPLX for \$12 million. As a result, MPLX now owns 100 percent of Pipe Line Holdings.

The sales and contribution of our interests in Pipe Line Holdings to MPLX resulted in a change of our ownership in Pipe Line Holdings, but not a change in control. We accounted for these sales as transactions between entities under common control and did not record a gain or loss.

Public Offerings

On February 10, 2017, MPLX completed a public offering of \$1.25 billion aggregate principal amount of 4.125 percent unsecured senior notes due March 2027 and \$1.0 billion aggregate principal amount of 5.200 percent unsecured senior notes due March 2047. MPLX used the net proceeds from this offering to fund the \$1.5 billion cash portion of the consideration MPLX paid MPC for the dropdown of assets on March 1, 2017, as well as for general partnership purposes. See Note 19 for more information.

ATM Program

On August 4, 2016, MPLX entered into a Second Amended and Restated Distribution Agreement (the "Distribution Agreement") providing for at-the-market issuances of common units, in amounts, at prices and on terms determined by market

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conditions and other factors at the time of the offerings (such as the ATM Program, referred to as the “ATM Program”). During 2017, MPLX issued an aggregate of 14 million MPLX common units under the ATM Program, generating net proceeds of approximately \$473 million. MPLX used the net proceeds from sales under the ATM Program for general partnership purposes including repayment of debt and funding for acquisitions, working capital requirements and capital expenditures

Noncontrolling Interest

As a result of equity transactions of MPLX, we are required to adjust non-controlling interest and additional paid-in capital. Changes in MPC’s equity resulting from changes in its ownership interest in MPLX were as follows:

<i>(In millions)</i>	2017	2016	2015
Transfers (to) from noncontrolling interest			
Changes due to the issuance of MPLX LP common units to the public	\$ 25	\$ (60)	\$ 1,532
Changes due to the issuance of MPLX LP common units and general partner units to MPC	114	121	—
Net transfers (to) from noncontrolling interests	139	61	1,532
Tax impact	(29)	(118)	(404)
Increase (decrease) in MPC’s additional paid-in capital, net of tax	<u>\$ 110</u>	<u>\$ (57)</u>	<u>1,128</u>

Agreements

We have various long-term, fee-based transportation, terminal and storage services agreements with MPLX. Under these agreements, MPLX provides transportation, terminal and storage services to us, and we commit to provide MPLX with minimum quarterly throughput volumes on crude oil and refined products systems and minimum storage volumes of crude oil, refined products and butane. We also have agreements with MPLX which establish fees for operational and management services provided between us and MPLX and for executive management services and certain general and administrative services provided by us to MPLX. These transactions are eliminated in consolidation.

5. Acquisitions and Investments

Acquisition of Ozark Pipeline

On March 1, 2017, MPLX acquired the Ozark pipeline from Enbridge Pipelines (Ozark) LLC for approximately \$219 million, including purchase price adjustments made in the second quarter of 2017. Based on the fair value of assets acquired and liabilities assumed at the acquisition date, the final purchase price was primarily allocated to property, plant and equipment. The Ozark pipeline is a 433-mile, 22-inch crude oil pipeline originating in Cushing, Oklahoma, and terminating in Wood River, Illinois, capable of transporting approximately 230 mbpd. We account for the Ozark pipeline within the Midstream segment.

The amounts of revenue and income from operations associated with the acquisition included in our consolidated statements of income, since the March 1, 2017 acquisition date, are as follows:

<i>(In millions)</i>	2017
Sales and other operating revenues (including consumer excise taxes)	\$ 38
Income from operations	20

Assuming the acquisition of the Ozark pipeline had occurred on January 1, 2016, the consolidated pro forma results would not have been materially different from reported results.

Investment in Pipeline Company

On February 15, 2017, MPLX closed on the previously announced transaction to acquire a partial, indirect equity interest in the Dakota Access Pipeline (“DAPL”) and Energy Transfer Crude Oil Company Pipeline (“ETCOP”) projects, collectively referred to as the Bakken Pipeline system, through a joint venture with Enbridge Energy Partners L.P. (“Enbridge Energy Partners”). The Bakken Pipeline system is capable of transporting more 520 mbpd of crude oil from the Bakken/Three Forks production area in North Dakota to the Midwest through Patoka, Illinois and ultimately to the Gulf Coast. MPLX contributed \$500 million of the \$2 billion purchase price paid by the joint venture, MarEn Bakken Company LLC (“MarEn Bakken”), to acquire a 36.75 percent indirect equity interest in the Bakken Pipeline system from Energy Transfer Partners, L.P. (“ETP”) and Sunoco Logistics Partners, L.P. (“SXL”). MPLX holds, through a subsidiary, a 25 percent interest in MarEn Bakken, which equates to an approximate 9.2 percent indirect equity interest in the Bakken Pipeline system. In connection with this investment by MPLX, we have agreed to waive our right to receive IDRs of approximately \$1.6 million per quarter for twelve consecutive quarters beginning with distributions declared by MPLX in the first quarter of 2017 and paid to us in the second quarter, which

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has been prorated to \$0.8 million from the acquisition date. This waiver is no longer applicable as a result of the IDR exchange on February 1, 2018. We account for the investment in MarEn Bakken as part of our Midstream segment using the equity method of accounting.

In connection with closing the transaction with ETP and SXL and the previous decision to indefinitely suspend the Sandpiper project, Enbridge Energy Partners canceled MPC's transportation services agreement with respect to the Sandpiper pipeline and released MPC from paying any termination fee per that agreement. See Note 17 for information regarding the impairment of our investment in the Sandpiper pipeline project.

Formation of Gathering and Processing Joint Venture

Effective January 1, 2017, MPLX and Antero Midstream formed a joint venture, Sherwood Midstream LLC ("Sherwood Midstream"), to support the development of Antero Resources Corporation's Marcellus Shale acreage in West Virginia. MPLX has a 50 percent ownership interest in Sherwood Midstream. In connection with this transaction, MPLX contributed certain gas processing plants currently under construction at the Sherwood Complex with a fair value of approximately \$134 million and cash of approximately \$20 million. Antero Midstream made an initial capital contribution of approximately \$154 million.

Also effective January 1, 2017, MPLX converted all of its ownership interests in MarkWest Ohio Fractionation Company, L.L.C. ("Ohio Fractionation"), a previously wholly-owned subsidiary, to Class A Interests and amended its LLC Agreement to create Class B-3 Interests, which were sold to Sherwood Midstream for \$126 million in cash. The Class B-3 Interests provide Sherwood Midstream with the right to fractionation revenue and the obligation to pay expenses related to 20 mbpd of capacity in the Hopedale 3 fractionator.

Effective January 1, 2017, MPLX and Sherwood Midstream formed a joint venture, Sherwood Midstream Holdings LLC ("Sherwood Midstream Holdings"), for the purpose of owning, operating and maintaining all of the shared assets for the benefit of and use in the operation of the gas plants and other assets owned by Sherwood Midstream and the gas plants and deethanization facilities owned by MPLX. MPLX contributed certain real property, equipment and facilities with a fair value of approximately \$209 million to Sherwood Midstream Holdings in exchange for a 79 percent initial ownership interest. Sherwood Midstream contributed cash of approximately \$44 million to Sherwood Midstream Holdings in exchange for a 21 percent ownership interest. MPLX has a 10.5 percent indirect interest in Sherwood Midstream Holdings through its ownership in Sherwood Midstream. The net book value of the contributed assets was approximately \$203 million. The contribution was determined to be an in-substance sale of real estate. As such, MPLX only recognized a gain for the portion attributable to Antero Midstream's indirect interest of approximately \$2 million.

We account for our direct interests in Sherwood Midstream and Sherwood Midstream Holdings as part of our Midstream segment using the equity method of accounting. We continue to consolidate Ohio Fractionation and have recognized a noncontrolling interest for Sherwood Midstream's interest in that entity.

See Note 6 for additional information related to the investments in Sherwood Midstream, Ohio Fractionation and Sherwood Midstream Holdings.

Formation of Travel Plaza Joint Venture

In the fourth quarter of 2016, Speedway and Pilot Flying J finalized the formation of a joint venture consisting of travel plazas, primarily in the Southeast United States. The new entity, PFJ Southeast LLC ("PFJ Southeast"), originally consisted of 41 existing locations contributed by Speedway and 82 locations contributed by Pilot Flying J, all of which carry either the Pilot or Flying J brand and are operated by Pilot Flying J. We did not recognize a gain on the \$273 million non-cash contribution of our travel plazas to the joint venture since the contribution was that of in-substance real estate. Our non-cash contribution consisted of \$203 million of property, plant and equipment, \$62 million of goodwill and \$8 million of inventory.

Marine Investments

We currently have indirect ownership interests in two ocean vessel joint ventures with Crowley Maritime Corporation ("Crowley"), which were established to own and operate Jones Act vessels in petroleum product service. We have invested a total of \$189 million in these two ventures as described further below.

In September 2015, we acquired a 50 percent ownership interest in a joint venture, Crowley Ocean Partners LLC ("Crowley Ocean Partners"), with Crowley. The joint venture owns and operates four new Jones Act product tankers, three of which are leased to MPC. Two of the vessels were delivered in 2015 and the remaining two were delivered in 2016. We contributed a total of \$141 million for the four vessels.

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In May 2016, MPC and Crowley formed a new ocean vessel joint venture, Crowley Coastal Partners LLC (“Crowley Coastal Partners”), in which MPC has a 50 percent ownership interest. MPC and Crowley each contributed their 50 percent ownership in Crowley Ocean Partners, discussed above, into Crowley Coastal Partners. In addition, we contributed \$48 million in cash and Crowley contributed its 100 percent ownership interest in Crowley Blue Water Partners LLC (“Crowley Blue Water Partners”) to Crowley Coastal Partners. Crowley Blue Water Partners is an entity that owns and operates three 750 Series ATB vessels that are leased to MPC. We account for our 50 percent interest in Crowley Coastal Partners as part of our Midstream segment using the equity method of accounting.

See Note 6 for information on Crowley Coastal Partners as a VIE and Note 25 for information on our conditional guarantee of the indebtedness of Crowley Ocean Partners and Crowley Blue Water Partners.

Merger with MarkWest Energy Partners, L.P.

On December 4, 2015, MPLX completed the MarkWest Merger. Each common unit of MarkWest issued and outstanding immediately prior to the effective time of the MarkWest Merger was converted into a right to receive 1.09 common units of MPLX representing limited partner interests in MPLX, plus a one-time cash payment of \$6.20 per unit. We contributed approximately \$1.28 billion of cash to MPLX to pay the aggregate cash consideration to MarkWest unitholders, without receiving any new equity from MPLX in exchange. At closing, we made a payment of \$1.23 billion to MarkWest common unitholders and the remaining \$50 million was paid in equal amounts, the first \$25 million was paid in July 2016 and the second \$25 million was paid in July 2017, in connection with the conversion of the MPLX Class B Units to MPLX common units. Our financial results and operating statistics reflect the results of MarkWest from the date of the MarkWest Merger.

The components of the fair value of consideration transferred are as follows:

(In millions)

Fair value of MPLX units issued	\$	7,326
Cash payment to MarkWest unitholders		1,230
Payable to MarkWest Class B unitholders		50
Total fair value of consideration transferred	\$	<u>8,606</u>

The net fair value of the assets acquired and liabilities assumed in connection with the MarkWest Merger was less than the fair value of the total consideration resulting in the recognition of \$2.21 billion of goodwill in three reporting units within our Midstream segment, substantially all of which is not deductible for tax purposes. Goodwill represents the complimentary aspects of the highly diverse asset base of MarkWest and MPLX that will provide significant additional opportunities across the hydrocarbon value chain.

As further discussed in Note 16, we recorded a goodwill impairment charge of \$129 million based on the implied fair value of goodwill as of the interim impairment analysis in the first quarter of 2016. During the second quarter of 2016, we finalized the analysis of the purchase price allocation. The completion of the purchase price allocation resulted in an additional \$1 million of impairment expense, as more fully discussed in Note 16.

We recognized \$36 million of transaction costs related to the MarkWest Merger. These costs were expensed and \$30 million is included in selling, general and administrative expenses and \$6 million is in net interest and other financial income (costs).

The amounts of revenue and income from operations associated with the MarkWest Merger included in our consolidated statements of income for 2015 are as follows:

(In millions)

	2015
Sales and other operating revenues (including consumer excise taxes)	\$ 120
Income from operations	32

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Unaudited Pro Forma Financial Information

The following unaudited pro forma financial information presents consolidated results assuming the MarkWest Merger occurred on January 1, 2014.

<i>(In millions, except per share data)</i>	2015	
Sales and other operating revenues (including consumer excise taxes)	\$	73,760
Net income attributable to MPC		2,825
Net income attributable to MPC per share – basic	\$	5.25
Net income attributable to MPC per share – diluted		5.21

The unaudited pro forma financial information includes adjustments to align accounting policies, increased depreciation expense to reflect the fair value of property, plant and equipment, increased amortization expense related to identifiable intangible assets, adjustments to amortize the difference between the fair value and the principal amount of the MarkWest debt assumed by MPLX, adjustments to reflect the change in our limited partner interest in MPLX resulting from the MarkWest Merger, as well as the related income tax effects. The unaudited pro forma financial information does not give effect to potential synergies that could result from the transactions and is not necessarily indicative of the results of future operations.

6. Variable Interest Entities

In addition to MPLX, as described in Note 4, the following entities are also VIEs.

Crowley Coastal Partners

In May 2016, Crowley Coastal Partners was formed to own an interest in both Crowley Ocean Partners and Crowley Blue Water Partners. We have determined that Crowley Coastal Partners is a VIE based on the terms of the existing financing arrangements for Crowley Blue Water Partners and Crowley Ocean Partners and the associated debt guarantees by MPC and Crowley. Our maximum exposure to loss at December 31, 2017 was \$486 million, which includes our equity method investment in Crowley Coastal Partners and the debt guarantees provided to each of the lenders to Crowley Blue Water Partners and Crowley Ocean Partners. We are not the primary beneficiary of this VIE because we do not have the power to control the activities that significantly influence the economic outcomes of the entity and, therefore, do not consolidate the entity.

MarkWest Utica EMG

On January 1, 2012, MarkWest Utica Operating Company, LLC (“Utica Operating”), a wholly-owned and consolidated subsidiary of MarkWest, and EMG Utica, LLC (“EMG Utica”) (together the “Members”), executed agreements to form a joint venture, MarkWest Utica EMG LLC (“MarkWest Utica EMG”), to develop significant natural gas gathering, processing and NGL fractionation, transportation and marketing infrastructure in eastern Ohio.

As of December 31, 2017, MarkWest had a 56 percent legal ownership interest in MarkWest Utica EMG. MarkWest Utica EMG's inability to fund its planned activities without subordinated financial support qualify it as a VIE. Utica Operating is not deemed to be the primary beneficiary due to EMG Utica's voting rights on significant matters. We account for our ownership interest in MarkWest Utica EMG as an equity method investment. MPLX receives engineering and construction and administrative management fee revenue and reimbursement for other direct personnel costs for operating MarkWest Utica EMG. Our maximum exposure to loss as a result of our involvement with MarkWest Utica EMG includes our equity investment, any additional capital contribution commitments and any operating expenses incurred by the subsidiary operator in excess of compensation received for the performance of the operating services. Our equity investment in MarkWest Utica EMG at December 31, 2017 was \$2.1 billion.

Ohio Gathering

Ohio Gathering Company, L.L.C. (“Ohio Gathering”) is a subsidiary of MarkWest Utica EMG and is engaged in providing natural gas gathering services in the Utica Shale in eastern Ohio. Ohio Gathering is a joint venture between MarkWest Utica EMG and Summit Midstream Partners, LLC. As of December 31, 2017, we had a 34 percent indirect ownership interest in Ohio Gathering. As this entity is a subsidiary of MarkWest Utica EMG, which is accounted for as an equity method investment, MPLX reports its portion of Ohio Gathering's net assets as a component of its investment in MarkWest Utica EMG. MPLX receives engineering and construction and administrative management fee revenue and reimbursement for other direct personnel costs for operating Ohio Gathering.

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Sherwood Midstream

As described in Note 5, MPLX and Antero Midstream formed a joint venture, Sherwood Midstream, to support the development of Antero Resources Corporation's Marcellus Shale acreage in West Virginia. As of December 31, 2017, MPLX had a 50 percent ownership interest in Sherwood Midstream. Sherwood Midstream's inability to fund its planned activities without additional subordinated financial support qualify it as a VIE. MPLX is not deemed to be the primary beneficiary, due to Antero Midstream's voting rights on significant matters. We account for our ownership interest in Sherwood Midstream using the equity method of accounting. Our maximum exposure to loss as a result of our involvement with Sherwood Midstream includes our equity investment, any additional capital contribution commitments and any operating expenses incurred by the subsidiary operator in excess of compensation received for the performance of the operating services. Our equity investment in Sherwood Midstream at December 31, 2017 was \$236 million.

Ohio Fractionation

As described in Note 5, MPLX converted all of its ownership interests in Ohio Fractionation to Class A Interests and amended its LLC Agreement to create Class B-3 Interests, which were sold to Sherwood Midstream, providing it with the right to fractionation revenue and the obligation to pay expenses related to 20 mbpd of capacity in the Hopedale 3 fractionator. Ohio Fractionation's inability to fund its operations without additional subordinated financial support qualify it as a VIE. MPLX has been deemed to be the primary beneficiary of Ohio Fractionation because it has control over decisions that could significantly impact its financial performance, and as a result, consolidates Ohio Fractionation.

Sherwood Midstream Holdings

As described in Note 5, MPLX and Sherwood Midstream entered into a joint venture, Sherwood Midstream Holdings, for the purpose of owning, operating and maintaining all of the shared assets for the benefit of and use in the operation of the gas plants and other assets owned by Sherwood Midstream and the gas plants and deethanization facilities owned by MPLX. MPLX had an initial 79 percent direct ownership in Sherwood Midstream Holdings, in addition to a 10.5 percent indirect interest through its ownership in Sherwood Midstream. Sherwood Midstream Holdings' inability to fund its operations without additional subordinated financial support qualify it as a VIE. We account for our ownership interest in Sherwood Midstream Holdings using the equity method of accounting as Sherwood Midstream is considered to be the general partner and controls all decisions related to Sherwood Midstream Holdings. Our maximum exposure to loss as a result of our involvement with Sherwood Midstream Holdings includes our equity investment, any additional capital contribution commitments and any operating expenses incurred by the subsidiary operator in excess of compensation received for the performance of the operating services. Our equity investment in Sherwood Midstream Holdings at December 31, 2017 was \$165 million.

7. Related Party Transactions

Our related parties included:

- Crowley Blue Water Partners, in which we have a 50 percent indirect noncontrolling interest. Crowley Blue Water Partners owns and operates three Jones Act ATB vessels.
- Crowley Ocean Partners, in which we have a 50 percent indirect noncontrolling interest. Crowley Ocean Partners owns and operates Jones Act product tankers.
- Illinois Extension Pipeline Company, LLC ("Illinois Extension Pipeline"), in which we have a 35 percent noncontrolling interest. Illinois Extension Pipeline owns and operates the Southern Access Extension ("SAX") crude oil pipeline.
- LOCAP, in which we have a 59 percent noncontrolling interest. LOCAP owns and operates a crude oil pipeline.
- LOOP, in which we have a 51 percent noncontrolling interest. LOOP owns and operates the only U.S. deepwater crude oil port.
- MarkWest Utica EMG, in which we have a 56 percent noncontrolling interest. MarkWest Utica EMG is engaged in natural gas processing and NGL fractionation, transportation and marketing in Ohio.
- Ohio Gathering, in which we have a 34 percent indirect noncontrolling interest. Ohio Gathering is a subsidiary of MarkWest Utica EMG providing natural gas gathering service in the Utica Shale region of eastern Ohio.
- PFJ Southeast, in which we have a 29 percent noncontrolling interest. PFJ Southeast owns and operates travel plazas primarily in the Southeast region of the United States.
- Sherwood Midstream, in which we have a 50 percent noncontrolling interest. Sherwood Midstream supports the development of Antero Resources Corporation's Marcellus Shale acreage in West Virginia.
- The Andersons Albion Ethanol LLC ("TAAE"), in which we have a 45 percent noncontrolling interest, The Andersons Clymers Ethanol LLC ("TACE"), in which we have a 61 percent noncontrolling interest and The

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Andersons Marathon Ethanol LLC (“TAME”), in which we have a 67 percent noncontrolling interest. These companies each own and operate an ethanol production facility.

- Other equity method investees.

We believe that transactions with related parties were conducted on terms comparable to those with unaffiliated parties.

Sales to related parties were as follows:

<i>(In millions)</i>	2017	2016	2015
PFJ Southeast	\$ 619	\$ 56	\$ —
Other equity method investees	10	6	6
Total	<u>\$ 629</u>	<u>\$ 62</u>	<u>\$ 6</u>

Sales to related parties consists primarily of sales of refined products.

Other income from related parties, which is included in “Other income” on the accompanying consolidated statements of income, were as follows:

<i>(In millions)</i>	2017	2016	2015
MarkWest Utica EMG	\$ 17	\$ 16	\$ —
Ohio Gathering	16	15	2
Sherwood Midstream	8	—	—
Other equity method investees	11	10	2
Total	<u>\$ 52</u>	<u>\$ 41</u>	<u>\$ 4</u>

Other income from related parties consists primarily of fees received for operating transportation assets for our related parties.

Purchases from related parties were as follows:

<i>(In millions)</i>	2017	2016	2015
Crowley Blue Water Partners	\$ 60	\$ 37	\$ —
Crowley Ocean Partners	79	52	6
Illinois Extension Pipeline	100	110	4
LOCAP	22	23	23
LOOP	71	59	52
TAAE	72	41	52
TACE	44	59	54
TAME	76	93	87
Other equity method investees	46	35	30
Total	<u>\$ 570</u>	<u>\$ 509</u>	<u>\$ 308</u>

Related party purchases from Crowley Blue Water Partners and Crowley Ocean Partners consist of leasing marine equipment primarily used to transport refined products. Related party purchases from Illinois Extension Pipeline, LOCAP, LOOP and other equity method investees consist primarily of crude oil transportation costs. Related party purchases from TAAE, TACE and TAME consist of ethanol purchases.

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Receivables from related parties, which are included in “Receivables, less allowance for doubtful accounts” on the accompanying consolidated balance sheets, were as follows:

<i>(In millions)</i>	December 31,	
	2017	2016
PFJ Southeast	\$ 28	\$ 40
Other equity method investees	8	5
Total	\$ 36	\$ 45

The long-term receivable from related parties, which is included in “Other noncurrent assets” on the accompanying consolidated balance sheet, was \$1 million at December 31, 2017 and \$1 million at December 31, 2016.

Payables to related parties, which are included in “Accounts payable” on the accompanying consolidated balance sheets, were as follows:

<i>(In millions)</i>	December 31,	
	2017	2016
Illinois Extension Pipeline	\$ 8	\$ 9
LOOP	3	6
Mark West Utica EMG	29	24
Ohio Gathering	9	—
Sherwood Midstream	8	—
Other equity method investees	12	14
Total	\$ 69	\$ 53

8. Income per Common Share

We compute basic earnings per share by dividing net income attributable to MPC by the weighted average number of shares of common stock outstanding. The average number of shares of common stock and per share amounts have been retroactively restated to reflect the two-for-one stock split completed in June 2015. Diluted income per share assumes exercise of certain stock based compensation awards, provided the effect is not anti-dilutive.

MPC grants certain incentive compensation awards to employees and non-employee directors that are considered to be participating securities. Due to the presence of participating securities, we have calculated our earnings per share using the two-class method.

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<i>(In millions, except per share data)</i>	2017	2016	2015
Basic earnings per share:			
Allocation of earnings:			
Net income attributable to MPC	\$ 3,432	\$ 1,174	\$ 2,852
Income allocated to participating securities	2	1	4
Income available to common stockholders – basic	\$ 3,430	\$ 1,173	\$ 2,848
Weighted average common shares outstanding	507	528	538
Basic earnings per share	\$ 6.76	\$ 2.22	\$ 5.29
Diluted earnings per share:			
Allocation of earnings:			
Net income attributable to MPC	\$ 3,432	\$ 1,174	\$ 2,852
Income allocated to participating securities	2	1	4
Income available to common stockholders – diluted	\$ 3,430	\$ 1,173	\$ 2,848
Weighted average common shares outstanding	507	528	538
Effect of dilutive securities	5	2	4
Weighted average common shares, including dilutive effect	512	530	542
Diluted earnings per share	\$ 6.70	\$ 2.21	\$ 5.26

The following table summarizes the shares that were anti-dilutive, and therefore, were excluded from the diluted share calculation.

<i>(In millions)</i>	2017	2016	2015
Shares issued under stock-based compensation plans	1	3	1

9. Equity

On May 31, 2017, our board of directors approved an additional \$3.0 billion share repurchase authorization. This authorization is in addition to its previous authorization, both of which have no expiration date.

As of December 31, 2017, we had \$3.19 billion of remaining share repurchase authorizations from our board of directors. We may utilize various methods to effect the repurchases, which could include open market repurchases, negotiated block transactions, accelerated share repurchases or open market solicitations for shares, some of which may be affected through Rule 10b5-1 plans. The timing and amount of future repurchases, if any, will depend upon several factors, including market and business conditions, and such repurchases may be discontinued at any time.

Total share repurchases were as follows for the respective periods:

<i>(In millions, except per share data)</i>	2017	2016	2015
Number of shares repurchased	44	4	19
Cash paid for shares repurchased	\$ 2,372	\$ 197	\$ 965
Average cost per share	\$ 53.85	\$ 41.84	\$ 50.31

10. Segment Information

In the first quarter of 2017, we revised our segment reporting in connection with the contribution of certain terminal, pipeline and storage assets to MPLX. The operating results for these assets are now reported in our Midstream segment. Previously, they were reported as part of our Refining & Marketing segment. Comparable prior period information has been recast to reflect our revised presentation. The results for the pipeline and storage assets were recast effective January 1, 2015, and the results for the terminal assets were recast effective April 1, 2016. Prior to these dates, these assets were not considered businesses and, therefore, there are no financial results from which to recast segment results.

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We have three reportable segments: Refining & Marketing; Speedway; and Midstream. Each of these segments is organized and managed based upon the nature of the products and services it offers.

- Refining & Marketing – refines crude oil and other feedstocks at our six refineries in the Gulf Coast and Midwest regions of the United States, purchases refined products and ethanol for resale and distributes refined products through various means, including pipeline and marine transportation, terminal and storage services provided by our Midstream segment. We sell refined products to wholesale marketing customers domestically and internationally, to buyers on the spot market, to our Speedway segment and to independent entrepreneurs who operate Marathon® retail outlets.
- Speedway – sells transportation fuels and convenience merchandise in retail markets in the Midwest, East Coast and Southeast regions of the United States.
- Midstream – gathers, processes and transports natural gas; gathers, transports, fractionates, stores and markets NGLs; and transports and stores crude oil and refined products principally for the Refining & Marketing segment via pipelines, terminals, towboats and barges. The Midstream segment primarily reflects the results of MPLX, our sponsored master limited partnership.

On December 4, 2015, MPLX completed a merger with MarkWest and its results are included in the Midstream segment. Segment information for periods prior to the merger does not include amounts for these operations. See Note 5.

Segment income represents income from operations attributable to the reportable segments. Corporate administrative expenses, except for those attributable to MPLX, and costs related to certain non-operating assets are not allocated to the reportable segments. In addition, certain items that affect comparability (as determined by the chief operating decision maker) are not allocated to the reportable segments.

<i>(In millions)</i>	Refining & Marketing	Speedway	Midstream	Total
Year Ended December 31, 2017				
Revenues:				
Third party	\$ 52,761	\$ 19,021	\$ 2,322	\$ 74,104
Intersegment ^(a)	11,309	4	1,443	12,756
Related party	621	8	—	629
Segment revenues	\$ 64,691	\$ 19,033	\$ 3,765	\$ 87,489
Segment income from operations	\$ 2,321	\$ 732	\$ 1,339	\$ 4,392
Income from equity method investments ^(b)	17	69	197	283
Depreciation and amortization ^(b)	1,082	275	699	2,056
Capital expenditures and investments ^{(c)(d)}	832	381	2,505	3,718

<i>(In millions)</i>	Refining & Marketing	Speedway	Midstream	Total
Year Ended December 31, 2016				
Revenues:				
Third party	\$ 43,167	\$ 18,282	\$ 1,828	\$ 63,277
Intersegment ^(a)	10,589	3	1,262	11,854
Related party	61	1	—	62
Segment revenues	\$ 53,817	\$ 18,286	\$ 3,090	\$ 75,193
Segment income from operations ^(c)	\$ 1,357	\$ 734	\$ 1,048	\$ 3,139
Income from equity method investments ^(b)	24	5	142	171
Depreciation and amortization ^(b)	1,063	273	605	1,941
Capital expenditures and investments ^(c)	1,054	303	1,568	2,925

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<i>(In millions)</i>	Refining & Marketing	Speedway	Midstream	Total
Year Ended December 31, 2015				
Revenues:				
Third party	\$ 52,168	\$ 19,690	\$ 187	\$ 72,045
Intersegment ^(a)	12,024	3	930	12,957
Related party	6	—	—	6
Segment revenues	<u>\$ 64,198</u>	<u>\$ 19,693</u>	<u>\$ 1,117</u>	<u>\$ 85,008</u>
Segment income from operations ^{(e)(f)}	\$ 3,997	\$ 673	\$ 463	\$ 5,133
Income from equity method investments	26	—	62	88
Depreciation and amortization ^(b)	1,052	254	144	1,450
Capital expenditures and investments ^{(c)(g)}	1,045	501	14,545	16,091

^(a) Management believes intersegment transactions were conducted under terms comparable to those with unaffiliated parties.

^(b) Differences between segment totals and MPC totals represent amounts related to unallocated items and are included in "Items not allocated to segments" in the reconciliation below.

^(c) Capital expenditures include changes in capital accruals, acquisitions and investments in affiliates.

^(d) In 2017, the Midstream segment includes \$220 million for the acquisition of the Ozark pipeline and an investment of \$500 million in MarEn Bakken related to the Bakken Pipeline system. See Note 5.

^(e) In 2016, the Refining & Marketing and Speedway segments include an inventory LCM benefit of \$345 million and \$25 million, respectively. In 2015, the Refining & Marketing and Speedway segments include an inventory LCM charge of \$345 million and \$25 million, respectively.

^(f) Included in the Midstream segment for 2015 are \$36 million of transaction costs related to the MarkWest Merger.

^(g) The Midstream segment includes \$13.85 billion for the MarkWest Merger.

The following reconciles segment income from operations to income before income taxes as reported in the consolidated statements of income:

<i>(In millions)</i>	2017	2016	2015
Segment income from operations	\$ 4,392	\$ 3,139	\$ 5,133
Items not allocated to segments:			
Corporate and other unallocated items ^(a)	(365)	(268)	(293)
Pension settlement expenses ^(b)	(52)	(7)	(4)
Litigation	(29)	—	—
Impairments ^(c)	23	(486)	(144)
Net interest and other financial income (costs)	(625)	(556)	(318)
Income before income taxes	<u>\$ 3,344</u>	<u>\$ 1,822</u>	<u>\$ 4,374</u>

^(a) Corporate and other unallocated items consists primarily of MPC's corporate administrative expenses and costs related to certain non-operating assets, except for corporate overhead expenses attributable to MPLX, which are included in the Midstream segment. Corporate overhead expenses are not allocated to the Refining & Marketing and Speedway segments.

^(b) See Note 22 for further information.

^(c) 2017 includes MPC's share of gains related to the sale of assets remaining from the Sandpiper pipeline project. 2016 includes impairments of goodwill and equity method investments. 2015 relates to the cancellation of the ROUX project at our Garyville refinery. See Notes 16 and 17.

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The following reconciles segment capital expenditures and investments to total capital expenditures:

<i>(In millions)</i>	2017	2016	2015
Segment capital expenditures and investments	\$ 3,718	\$ 2,925	\$ 16,091
Less investments in equity method investees ^(a)	805	431	2,788
Plus items not allocated to segments:			
Corporate and Other	83	81	155
Capitalized interest	55	63	37
Total capital expenditures ^(b)	\$ 3,051	\$ 2,638	\$ 13,495

^(a) 2017 includes an investment of \$500 million in MarEn Bakken related to the Bakken Pipeline system. 2016 includes an adjustment of \$143 million to the fair value of equity method investments acquired in connection with the MarkWest Merger. 2015 includes \$2.46 billion related to the MarkWest Merger. See Note 5.

^(b) Capital expenditures include changes in capital accruals. See Note 20 for a reconciliation of total capital expenditures to additions to property, plant and equipment as reported in the consolidated statements of cash flows.

Revenues by product line were:

<i>(In millions)</i>	2017	2016	2015
Refined products	\$ 63,846	\$ 54,450	\$ 63,738
Merchandise	5,174	5,297	5,188
Crude oil and refinery feedstocks	3,403	2,038	2,718
Service, transportation and other	1,681	1,492	401
Sales and other operating revenues (including consumer excise taxes)	\$ 74,104	\$ 63,277	\$ 72,045

No single customer accounted for more than 10 percent of annual revenues for the years ended December 31, 2017, 2016 and 2015.

We do not have significant operations in foreign countries. Therefore, revenues in foreign countries and long-lived assets located in foreign countries, including property, plant and equipment and investments, are not material to our operations.

Total assets by reportable segment were:

<i>(In millions)</i>	December 31,	
	2017	2016
Refining & Marketing	\$ 17,537	\$ 17,601
Speedway	5,563	5,426
Midstream	19,937	18,516
Corporate and Other	6,010	2,870
Total consolidated assets	\$ 49,047	\$ 44,413

11. Other Items

Net interest and other financial income (costs) was:

<i>(In millions)</i>	2017	2016	2015
Interest income	\$ 27	\$ 6	\$ 6
Interest expense ^(a)	(688)	(602)	(325)
Interest capitalized	63	64	37
Loss on extinguishment of debt	—	—	(5)
Other financial costs ^(b)	(27)	(24)	(31)
Net interest and other financial income (costs)	\$ (625)	\$ (556)	\$ (318)

^(a) Includes \$46 million, \$44 million and \$1 million for 2017, 2016 and 2015, respectively, for the amortization of the discount related to the difference between the fair value and the principal amount of assumed MarkWest debt.

^(b) 2015 includes \$6 million of transaction costs related to the MarkWest Merger.

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12. Income Taxes

The TCJA was signed into law on December 22, 2017. The TCJA provided several key changes to U.S. tax law, including a federal corporate tax rate of 21 percent replacing the current rate applicable to MPC of 35 percent. MPC was required to calculate the effect of the TCJA on its deferred tax balances as of the enactment date. The effect of the federal corporate income tax rate change reduced net deferred tax liabilities by \$1.5 billion in 2017. Any subsequent effect of a change in estimate affecting deferred taxes as of December 31, 2017 is expected to be immaterial, but could have an impact on the effective tax rate due to the permanent nature of applying differing tax rates to such a change in estimate.

Income tax provisions (benefits) were:

<i>(In millions)</i>	2017			2016			2015		
	Current	Deferred	Total	Current	Deferred	Total	Current	Deferred	Total
Federal	\$ 681	\$ (1,270)	\$ (589)	\$ 189	\$ 336	\$ 525	\$ 1,210	\$ 134	\$ 1,344
State and local	98	33	131	27	57	84	152	9	161
Foreign	(6)	4	(2)	(1)	1	—	10	(9)	1
Total	\$ 773	\$ (1,233)	\$ (460)	\$ 215	\$ 394	\$ 609	\$ 1,372	\$ 134	\$ 1,506

A reconciliation of the federal statutory income tax rate (35 percent) applied to income before income taxes to the provision for income taxes follows:

	2017	2016	2015
Statutory rate applied to income before income taxes	35 %	35 %	35 %
State and local income taxes, net of federal income tax effects	2	3	2
Domestic manufacturing deduction	(1)	(1)	(2)
Noncontrolling interests	(4)	(1)	—
Biodiesel excise tax credit	—	(1)	(1)
TCJA legislation	(45)	—	—
Other	(1)	(2)	—
Provision for income taxes	(14)%	33 %	34 %

Deferred tax assets and liabilities resulted from the following:

<i>(In millions)</i>	December 31,	
	2017	2016
Deferred tax assets:		
Employee benefits	\$ 348	\$ 578
Environmental	16	34
Deferred revenue	21	31
Net operating loss carryforwards	12	23
Other	23	27
Total deferred tax assets	420	693
Deferred tax liabilities:		
Property, plant and equipment	1,603	2,591
Inventories	473	707
Investments in subsidiaries and affiliates	912	1,145
Other	73	94
Total deferred tax liabilities	3,061	4,537
Net deferred tax liabilities	\$ 2,641	\$ 3,844

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Net deferred tax liabilities were classified in the consolidated balance sheets as follows:

<i>(In millions)</i>	December 31,	
	2017	2016
Assets:		
Other noncurrent assets	\$ 13	\$ 17
Liabilities:		
Deferred income taxes	2,654	3,861
Net deferred tax liabilities	<u>\$ 2,641</u>	<u>\$ 3,844</u>

Tax carryforwards – At December 31, 2017 and 2016, federal operating loss carryforwards were \$5 million and \$18 million, respectively, which expire in 2022 through 2036. As of December 31, 2017 and 2016, state and local operating loss carryforwards were \$8 million, which expire in 2017 through 2036. The decrease in both the federal and state loss carryforwards was due to the utilization of loss carryforwards made available to MPC as a result of the reorganization transactions which simplified the MPLX ownership structure as discussed in Note 4.

Valuation allowances – As of December 31, 2017 and 2016, \$11 million and \$10 million of valuation allowances have been recorded against foreign tax credits and state net operating losses due to the expectation that these deferred tax assets are not likely to be realized.

MPC is continuously undergoing examination of its U.S. federal income tax returns by the Internal Revenue Service (“IRS”). Since 2012, we have continued to participate in the Compliance Assurance Process (“CAP”). CAP is a real-time audit of the U.S. Federal income tax return that allows the IRS, working in conjunction with MPC, to determine tax return compliance with the U.S. Federal tax law prior to filing the return. This program provides us with greater certainty about our tax liability for years under examination by the IRS.

IRS audits have been completed through the 2009 tax year. We believe adequate provision has been established for potential tax in periods not closed to examination. Further, we are routinely involved in U.S. state income tax audits. We believe all other audits will be resolved with the amounts provided for these liabilities. As of December 31, 2017, our income tax returns remain subject to examination in the following major tax jurisdictions for the tax years indicated:

United States Federal	2010	-	2016
States	2008	-	2016

The following table summarizes the activity in unrecognized tax benefits:

<i>(In millions)</i>	2017	2016	2015
January 1 balance	\$ 7	\$ 12	\$ 12
Additions for tax positions of prior years	13	6	—
Reductions for tax positions of prior years	—	(10)	—
Settlements	(1)	(1)	—
December 31 balance	<u>\$ 19</u>	<u>\$ 7</u>	<u>\$ 12</u>

If the unrecognized tax benefits as of December 31, 2017 were recognized, \$10 million would affect our effective income tax rate. There were \$10 million of uncertain tax positions as of December 31, 2017 for which it is reasonably possible that the amount of unrecognized tax benefits would significantly decrease during the next twelve months.

Prior to its spin-off on June 30, 2011, Marathon Petroleum Corporation was included in the Marathon Oil Corporation (“Marathon Oil”) federal income tax returns for all applicable years. During the third quarter 2017, Marathon Oil received a notice of Final Partnership Administrative Adjustment (“FPAA”) from the IRS for taxable year 2010, relating to certain partnership transactions. Marathon Oil filed a U.S. Tax Court petition disputing these adjustments during the fourth quarter of 2017. We received an FPAA for taxable years 2011-2014 for items resulting from the Marathon Oil IRS dispute discussed above. We filed a U.S. Tax Court petition in the fourth quarter of 2017 for tax years 2011-2014 to dispute these corollary

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adjustments. We continue to believe that the issue in dispute is more likely than not to be fully sustained and therefore, no liability has been accrued for this matter.

Pursuant to our tax sharing agreement with Marathon Oil, the unrecognized tax benefits related to pre-spinoff operations for which Marathon Oil was the taxpayer remain the responsibility of Marathon Oil and we have indemnified Marathon Oil accordingly. See Note 25 for indemnification information.

Interest and penalties related to income taxes are recorded as part of the provision for income taxes. Such interest and penalties were net expenses (benefits) of \$3 million, \$(5) million and \$3 million in 2017, 2016 and 2015, respectively. As of December 31, 2017 and 2016, \$17 million and \$13 million of interest and penalties were accrued related to income taxes.

13. Inventories

<i>(In millions)</i>	December 31,	
	2017	2016
Crude oil and refinery feedstocks	\$ 2,056	\$ 2,208
Refined products	2,839	2,810
Materials and supplies	494	485
Merchandise	161	153
Total	<u>\$ 5,550</u>	<u>\$ 5,656</u>

The LIFO method accounted for 90 percent and 91 percent of total inventory value at December 31, 2017 and 2016, respectively. Current acquisition costs of inventories were estimated to exceed the LIFO inventory value at December 31, 2017 and 2016 by \$1.21 billion and \$308 million, respectively.

During 2017, we recorded LIFO liquidations caused primarily by permanently decreased levels in our crude oil inventory. Cost of revenues increased and income from operations decreased by \$7 million for the year ended December 31, 2017 due to LIFO liquidations. There were no material liquidations of LIFO inventories in 2016. During 2015, we recorded LIFO liquidations caused by permanently decreased levels in crude oil and refined products inventory levels. Cost of revenues increased and income from operations decreased by \$78 million for the year ended December 31, 2015 due to these LIFO liquidations.

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14. Equity Method Investments

<i>(In millions)</i>	Ownership as of December 31,	Carrying value at December 31,	
		2017	2016
Centennial	50%	\$ 35	\$ 35
Centrahoma Processing LLC ^(a)	40%	121	104
Crowley Coastal Partners	50%	188	184
Explorer ^(a)	25%	89	94
Illinois Extension Pipeline ^(a)	35%	284	293
LOOP ^(b)	51%	282	277
MarEn Bakken Company LLC ^(a)	25%	520	—
MarkWest EMG Jefferson Dry Gas Gathering Company, L.L.C. ^(a)	67%	164	67
MarkWest Utica EMG ^(a)	56%	2,139	2,224
PFJ Southeast	29%	328	283
Sherwood Midstream ^(a)	50%	236	—
Sherwood Midstream Holdings LLC ^{(a)(c)}	69%	165	—
TAAE	45%	39	33
TACE	61%	32	33
TAEI ^(d)	—%	—	15
TAME ^(d)	67%	33	18
Other MPLX investments ^(a)		67	76
Other		65	91
Total		\$ 4,787	\$ 3,827

^(a) Ownership interest held by MPLX as of December 31, 2017.

^(b) MPLX held a 41 percent ownership interest as of December 31, 2017.

^(c) Excludes Sherwood Midstream LLC's investment in Sherwood Midstream Holdings LLC.

^(d) On January 1, 2017, we contributed our 34 percent interest in TAEI to TAME in exchange for a 17 percent in TAME.

Summarized financial information for equity method investees is as follows:

<i>(In millions)</i>	2017	2016	2015
Income statement data:			
Revenues and other income	\$ 6,235	\$ 2,421	\$ 1,390
Income (loss) from operations	1,075	(116)	332
Net income (loss)	922	(250)	239
Balance sheet data – December 31:			
Current assets	\$ 860	\$ 711	
Noncurrent assets	10,854	8,170	
Current liabilities	547	884	
Noncurrent liabilities	1,714	1,462	

As of December 31, 2017, the carrying value of our equity method investments was \$1.17 billion higher than the underlying net assets of investees. This basis difference is being amortized or accreted into net income over the remaining estimated useful lives of the underlying net assets, except for \$509 million of excess related to goodwill and other assets.

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Centennial experienced a significant reduction in shipment volumes in the second half of 2011 that has continued through 2017. At December 31, 2017, Centennial was not shipping product. As a result, we continued to evaluate the carrying value of our equity investment in Centennial. We concluded that no impairment was required given our assessment of its fair value based on market participant assumptions for various potential uses and future cash flows of Centennial's assets. If market conditions were to change and the owners of Centennial are unable to find an alternative use for the assets, there could be a future impairment of our Centennial interest. As of December 31, 2017, our equity investment in Centennial was \$35 million and we had a \$25 million guarantee associated with 50 percent of Centennial's outstanding debt. See Note 25 for additional information on the debt guarantee.

Dividends and partnership distributions received from equity method investees (excluding distributions that represented a return of capital previously contributed) were \$388 million, \$291 million and \$113 million in 2017, 2016 and 2015.

15. Property, Plant and Equipment

<i>(In millions)</i>	Estimated Useful Lives	December 31,	
		2017	2016 ^(a)
Refining & Marketing	4 - 30 years	\$ 19,490	\$ 18,590
Speedway	4 - 25 years	5,358	5,078
Midstream	3 - 49 years	14,898	13,521
Corporate and Other	4 - 40 years	792	817
Total		40,538	38,006
Less accumulated depreciation		14,095	12,241
Property, plant and equipment, net		\$ 26,443	\$ 25,765

^(a) Prior period balances have been recast in connection with the March 1, 2017 contribution of assets to MPLX. See Note 1 for additional information.

Property, plant and equipment includes gross assets acquired under capital leases of \$576 million and \$505 million at December 31, 2017 and 2016, respectively, with related amounts in accumulated depreciation of \$237 million and \$202 million at December 31, 2017 and 2016. Property, plant and equipment includes construction in progress of \$2.20 billion and \$2.02 billion at December 31, 2017 and 2016, respectively, which primarily relates to capital projects at our refineries and midstream facilities.

16. Goodwill and Intangibles

Goodwill

Goodwill is tested for impairment on an annual basis and when events or changes in circumstances indicate the fair value of a reporting unit with goodwill has been reduced below the carrying value of the net assets of the reporting unit. In 2017, no impairment was required based on our annual test. In 2016, we recorded an impairment of goodwill as outlined below based on an interim impairment analysis.

During the first quarter of 2016, MPLX, our consolidated subsidiary, determined that an interim impairment analysis of the goodwill recorded in connection with the MarkWest Merger was necessary based on consideration of a number of first quarter events and circumstances, including i) continued deterioration of near-term commodity prices as well as longer term pricing trends, ii) recent guidance on reductions to forecasted capital spending, the slowing of drilling activity and the resulting reduced production growth forecasts released or communicated by MPLX's producer customers and iii) increases in the cost of capital. The combination of these factors was considered to be a triggering event requiring an interim impairment test. Based on the first step of the interim goodwill impairment analysis, the fair value for three of the reporting units to which goodwill was assigned in connection with the MarkWest Merger was less than their respective carrying value. In step two of the impairment analysis, the implied fair values of the goodwill were compared to the carrying values within those reporting units. Based on this assessment, it was determined that goodwill was impaired in two of the reporting units. Accordingly, MPLX recorded an impairment charge of approximately \$129 million in the first quarter of 2016. In the second quarter of 2016, MPLX completed its purchase price allocation, which resulted in an additional \$1 million of impairment expense that would have been recorded in the first quarter of 2016 had the purchase price allocation been completed as of that date. This adjustment to the impairment expense was the result of completing an evaluation of the deferred tax liabilities associated with the MarkWest Merger and their impact on the resulting goodwill that was recognized.

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The fair value of the reporting units for the 2016 interim goodwill impairment analysis was determined based on applying the discounted cash flow method, which is an income approach, and the guideline public company method, which is a market approach. The discounted cash flow fair value estimate was based on known or knowable information at the interim measurement date. The significant assumptions that were used to develop the estimates of the fair values under the discounted cash flow method include management's best estimates of the expected future results and discount rates, which ranged from 10.5 percent to 11.5 percent. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the 2016 interim goodwill impairment test will prove to be an accurate prediction of the future.

The changes in the carrying amount of goodwill for 2016 and 2017 were as follows:

<i>(In millions)</i>	Refining & Marketing	Speedway	Midstream	Total
Balance at January 1, 2016	\$ 539	\$ 853	\$ 2,627	\$ 4,019
Purchase price allocation adjustments	—	—	(241)	(241)
Disposition ^(a)	—	(61)	—	(61)
Impairment	—	—	(130)	(130)
Transfer of assets related to dropdowns ^(b)	(20)	—	20	—
Balance at December 31, 2016	\$ 519	\$ 792	\$ 2,276	\$ 3,587
Disposition ^(a)	—	(1)	—	(1)
Balance at December 31, 2017	\$ 519	\$ 791	\$ 2,276	\$ 3,586

^(a) Goodwill associated with our former Speedway travel plaza locations that are now part of the PFJ Southeast joint venture. The amount was included in the initial basis for our equity method investment in the joint venture.

^(b) Prior period balances have been recast in connection with the March 1, 2017 contribution of assets to MPLX. See Note 1 for additional information.

Intangible Assets

Our intangible assets as of December 31, 2017 and 2016 are as follows:

<i>(In millions)</i>	Refining & Marketing	Speedway	Midstream	Total
<i>Balance at December 31, 2017</i>				
Customer contracts and relationships	\$ 120	\$ 1	\$ 533	\$ 654
Royalty agreements	129	—	—	129
Favorable lease contract terms	—	56	—	56
Other ^(a)	73	75	—	148
Gross	\$ 322	\$ 132	\$ 533	\$ 987
Accumulated amortization	(143)	(39)	(79)	(261)
Net	\$ 179	\$ 93	\$ 454	\$ 726

Balance at December 31, 2016

Customer contracts and relationships	\$ 102	\$ 1	\$ 533	\$ 636
Royalty agreements	128	—	—	128
Favorable lease contract terms	1	57	—	58
Other ^(a)	27	75	—	102
Gross	\$ 258	\$ 133	\$ 533	\$ 924
Accumulated amortization	(123)	(35)	(41)	(199)
Net	\$ 135	\$ 98	\$ 492	\$ 725

^(a) The Refining & Marketing and Speedway segments include unamortized intangible assets of \$48 million and \$46 million, respectively, which are primarily emission allowance credits and trademarks.

In December 2017, we accepted non-cash consideration as part of a litigation settlement agreement. The non-cash consideration consisted of emission allowance credits with an estimated fair value of \$45 million. The emission allowance credits received in the settlement are classified as indefinite lived intangible assets, but can become finite lived intangible assets once retired and assigned to a permit for a capital project. The fair value was determined using an income approach and is classified as Level 3.

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Amortization expense for 2017 and 2016 was \$52 million and \$55 million, respectively. Estimated future amortization expense related to the intangible assets at December 31, 2017 is as follows:

(In millions)

2018	\$	52
2019		52
2020		50
2021		49
2022		48

17. Fair Value Measurements

Fair Values – Recurring

The following tables present assets and liabilities accounted for at fair value on a recurring basis as of December 31, 2017 and 2016 by fair value hierarchy level. We have elected to offset the fair value amounts recognized for multiple derivative contracts executed with the same counterparty, including any related cash collateral as shown below; however, fair value amounts by hierarchy level are presented on a gross basis in the following tables.

(In millions)	December 31, 2017					
	Fair Value Hierarchy			Netting and Collateral ^(a)	Net Carrying Value on Balance Sheet ^(b)	Collateral Pledged Not Offset
	Level 1	Level 2	Level 3			
Commodity derivative instruments, assets	\$ 127	\$ —	\$ —	\$ (118)	\$ 9	\$ 8
Other assets	3	—	—	N/A	3	—
Total assets at fair value	<u>\$ 130</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (118)</u>	<u>\$ 12</u>	<u>\$ 8</u>
Commodity derivative instruments, liabilities	\$ 126	\$ —	\$ 2	\$ (126)	\$ 2	\$ —
Embedded derivatives in commodity contracts ^(c)	—	—	64	—	64	—
Total liabilities at fair value	<u>\$ 126</u>	<u>\$ —</u>	<u>\$ 66</u>	<u>\$ (126)</u>	<u>\$ 66</u>	<u>\$ —</u>

(In millions)	December 31, 2016					
	Fair Value Hierarchy			Netting and Collateral ^(a)	Net Carrying Value on Balance Sheet ^(b)	Collateral Pledged Not Offset
	Level 1	Level 2	Level 3			
Commodity derivative instruments, assets	\$ 688	\$ —	\$ —	\$ (688)	\$ —	\$ 126
Other assets	2	—	—	N/A	2	—
Total assets at fair value	<u>\$ 690</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (688)</u>	<u>\$ 2</u>	<u>\$ 126</u>
Commodity derivative instruments, liabilities	\$ 712	\$ —	\$ 6	\$ (712)	\$ 6	\$ —
Embedded derivatives in commodity contracts ^(c)	—	—	54	\$ —	54	—
Contingent consideration, liability ^(d)	—	—	130	N/A	130	—
Total liabilities at fair value	<u>\$ 712</u>	<u>\$ —</u>	<u>\$ 190</u>	<u>\$ (712)</u>	<u>\$ 190</u>	<u>\$ —</u>

^(a) Represents the impact of netting assets, liabilities and cash collateral when a legal right of offset exists. As of December 31, 2017, cash collateral of \$8 million was netted with mark-to-market derivative liabilities. As of December 31, 2016, cash collateral of \$24 million was netted with mark-to-market derivative liabilities.

^(b) We have no derivative contracts which are subject to master netting arrangements reflected gross on the balance sheet.

^(c) Includes \$12 million and \$13 million classified as current as of December 31, 2017 and 2016, respectively.

^(d) Includes \$130 million classified as current as of December 31, 2016.

Commodity derivatives in Level 1 are exchange-traded contracts for crude oil and refined products measured at fair value with a market approach using the close-of-day settlement prices for the market. Commodity derivatives are covered under master netting agreements with an unconditional right to offset. Collateral deposits in futures commission merchant accounts covered by master netting agreements related to Level 1 commodity derivatives are classified as Level 1 in the fair value hierarchy.

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Level 3 instruments include OTC NGL contracts and embedded derivatives in commodity contracts. The embedded derivative liability relates to a natural gas purchase agreement embedded in a keep-whole processing agreement. The fair value calculation for these Level 3 instruments at December 31, 2017 used significant unobservable inputs including: (1) NGL prices interpolated and extrapolated due to inactive markets ranging from \$0.24 to \$1.45 per gallon and (2) the probability of renewal of 60 percent for the first five-year term and 80 percent for the second five-year term of the gas purchase agreement and the related keep-whole processing agreement. For these contracts, increases in forward NGL prices result in a decrease in the fair value of the derivative assets and an increase in the fair value of the derivative liabilities. The forward prices for the individual NGL products generally increase or decrease in a positive correlation with one another. Increases or decreases in forward NGL prices result in an increase or decrease in the fair value of the embedded derivative. An increase in the probability of renewal would result in an increase in the fair value of the related embedded derivative liability.

The contingent consideration as of December 31, 2016 represents the fair value of the remaining amount we expected to pay to BP related to the earnout provision associated with our 2013 acquisition of BP's refinery in Texas City, Texas and related logistics and marketing assets. The fair value of the remaining contingent consideration as of December 31, 2016 was estimated using an income approach and is therefore a Level 3 liability. The fair value calculation used significant unobservable inputs including: (1) an estimate of forecasted monthly refinery throughput volumes; (2) an internal and external monthly crack spread forecast; and (3) a range of risk-adjusted discount rates. The fair value of the contingent consideration liability was reassessed each quarter, with changes in fair value recorded in cost of revenues. The final contingent consideration payment was calculated using actual crack spread and refinery throughput data resulting in a value of \$131 million when capped by the maximum total payout of \$700 million. The balance of \$131 million was paid on April 12, 2017.

The following is a reconciliation of the net beginning and ending balances recorded for net assets and liabilities classified as Level 3 in the fair value hierarchy.

<i>(In millions)</i>	2017	2016	2015
Beginning balance	\$ 190	\$ 342	\$ 478
Contingent consideration payment ^(a)	(131)	(200)	(189)
Net derivative positions assumed - MarkWest Merger	—	—	31
Unrealized and realized losses included in net income	25	55	20
Settlements of derivative instruments	(18)	(7)	2
Ending balance	<u>\$ 66</u>	<u>\$ 190</u>	<u>\$ 342</u>

The amount of total (gains) losses for the period included in earnings attributable to the change in unrealized (gains) losses relating to assets still held at the end of period:

Derivative instruments	\$ 8	\$ 32	\$ (7)
Contingent consideration agreement	1	13	28
Total	<u>\$ 9</u>	<u>\$ 45</u>	<u>\$ 21</u>

^(a) On the consolidated statements of cash flows for 2017, 2016, and 2015, \$89 million, \$164 million and \$175 million, respectively, of the contingent earnout payment to BP was included as a financing activity with the remainder included as an operating activity.

See Note 18 for the income statement impacts of our derivative instruments.

Fair Values – Nonrecurring

The following table shows the values of assets, by major category, measured at fair value on a nonrecurring basis in periods subsequent to their initial recognition.

<i>(In millions)</i>	Year Ended December 31,					
	2017		2016		2015	
	Fair Value	Impairment	Fair Value	Impairment	Fair Value	Impairment
Equity method investments	\$ —	\$ —	\$ 42	\$ 356	\$ —	\$ —
Goodwill	—	—	—	130	—	—
Property, plant and equipment, net	—	—	—	—	—	144

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During the third quarter of 2016, Enbridge Energy Partners announced that its affiliate, North Dakota Pipeline, would withdraw certain pending regulatory applications for the Sandpiper pipeline project and that the project would be deferred indefinitely. These decisions were considered to indicate an impairment of the costs capitalized to date on the project. As the operator of North Dakota Pipeline and the entity responsible for maintaining its financial records, Enbridge completed a fixed asset impairment analysis as of August 31, 2016, in accordance with ASC Topic 360. Based on the estimated liquidation value of the fixed assets, an impairment charge was recorded by North Dakota Pipeline. Based on our 37.5 percent ownership of North Dakota Pipeline, we recognized approximately \$267 million of this charge in the third quarter of 2016 through “Income (loss) from equity method investments” on the accompanying consolidated statements of income, which impaired virtually all of our \$301 million investment in the project. Also, in accordance with ASC Topic 323, we completed an assessment to determine any additional equity method impairment charge to be recorded on our consolidated financial statements resulting from an other-than-temporary impairment. The result of this analysis indicated no additional charge was required to be recorded.

The fixed assets of North Dakota Pipeline related to the Sandpiper pipeline project consist primarily of project management and engineering costs, pipe, valves, motors and other equipment, land and easements. The fair value of fixed assets was estimated based on a market approach using the estimated price that would be received to sell pipe, land and other related equipment in its current condition, considering the current market conditions for sale of these assets and length of disposal period. The valuation considered a range of potential selling prices from various alternatives that could be used to dispose of these assets. As such, the fair value of the North Dakota Pipeline equity method investment and its underlying assets represents a Level 3 measurement. As a result, actual results may differ from the estimates and assumptions made for purposes of this impairment analysis. North Dakota Pipeline is in the process of disposing of these assets.

During the second quarter of 2016, forecasts for Ohio Condensate, an equity method investment, were reduced in line with updated forecasts for customer requirements. As the operator of that entity responsible for maintaining its financial records, we completed a fixed asset impairment analysis as of June 30, 2016, in accordance with ASC Topic 360, to determine the potential fixed asset impairment charge. The resulting fixed asset impairment charge recorded within Ohio Condensate’s financial statements was \$96 million. Based on our 60 percent ownership of Ohio Condensate, approximately \$58 million was recorded in the second quarter of 2016 in “Income (loss) from equity method investments” on the accompanying consolidated statements of income.

Our investment in Ohio Condensate, which was established at fair value in connection with the MarkWest Merger, exceeded its proportionate share of the underlying net assets. Therefore, in conjunction with the ASC Topic 360 impairment analysis, we completed an equity method impairment analysis in accordance with ASC Topic 323 to determine the potential additional equity method impairment charge to be recorded on our consolidated financial statements resulting from an other-than-temporary impairment. As a result, an additional impairment charge of approximately \$31 million was recorded in the second quarter of 2016 in “Income (loss) from equity method investments” on the accompanying consolidated statements of income, which eliminated the basis differential established in connection with the MarkWest Merger.

The fair value of Ohio Condensate and its underlying assets was determined based upon applying the discounted cash flow method, which is an income approach, and the guideline public company method, which is a market approach. The discounted cash flow fair value estimate is based on known or knowable information at the interim measurement date. The significant assumptions that were used to develop the estimate of the fair value under the discounted cash flow method include management’s best estimates of the expected future results using a probability weighted average set of cash flow forecasts and a discount rate of 11.2 percent. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As such, the fair value of the Ohio Condensate equity method investment and its underlying assets represents a Level 3 measurement. As a result, actual results may differ from the estimates and assumptions made for purposes of this impairment analysis.

See Note 16 for additional information on the goodwill impairment.

In the third quarter of 2015, we decided to cancel the ROUX project at our Garyville refinery. The work completed on the project through September 30, 2015 had no alternate use or net salvage value; therefore, we fully impaired the \$144 million of cost capitalized for the project through that date. The fair value of our investment in the project was determined using an income approach and is classified as Level 3.

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Fair Values – Reported

The following table summarizes financial instruments on the basis of their nature, characteristics and risk at December 31, 2017 and 2016, excluding the derivative financial instruments and contingent consideration reported above.

<i>(In millions)</i>	December 31,			
	2017		2016	
	Fair Value	Carrying Value	Fair Value	Carrying Value
Financial assets:				
Investments	\$ 29	\$ 2	\$ 25	\$ 2
Other	17	17	21	21
Total financial assets	\$ 46	\$ 19	\$ 46	\$ 23
Financial liabilities:				
Long-term debt ^(a)	\$ 13,893	\$ 12,642	\$ 10,892	\$ 10,297
Deferred credits and other liabilities	122	109	121	109
Total financial liabilities	\$ 14,015	\$ 12,751	\$ 11,013	\$ 10,406

^(a) Excludes capital leases and debt issuance costs, however, includes amount classified as debt due within one year.

Our current assets and liabilities include financial instruments, the most significant of which are trade accounts receivable and payables. We believe the carrying values of our current assets and liabilities approximate fair value. Our fair value assessment incorporates a variety of considerations, including (1) the short-term duration of the instruments, (2) our investment-grade credit rating and (3) our historical incurrence of and expected future insignificance of bad debt expense, which includes an evaluation of counterparty credit risk.

Fair values of our financial assets included in investments and other financial assets and of our financial liabilities included in deferred credits and other liabilities are measured primarily using an income approach and most inputs are internally generated, which results in a Level 3 classification. Estimated future cash flows are discounted using a rate deemed appropriate to obtain the fair value. Other financial assets primarily consist of environmental remediation receivables. Deferred credits and other liabilities primarily consist of a liability resulting from a financing arrangement for the construction of MPLX's steam methane reformer ("SMR") at the Javelina gas processing and fractionation complex in Corpus Christi, Texas, insurance liabilities and environmental remediation liabilities.

Fair value of fixed-rate long-term debt is measured using a market approach, based upon the average of quotes for our debt from major financial institutions and a third-party valuation service. Because these quotes cannot be independently verified to the market, they are considered Level 3 inputs. Fair value of variable-rate long-term debt approximates the carrying value.

18. Derivatives

For further information regarding the fair value measurement of derivative instruments, including any effect of master netting agreements or collateral, see Note 17. See Note 2 for a discussion of the types of derivatives we use and the reasons for them. We do not designate any of our commodity derivative instruments as hedges for accounting purposes.

The following table presents the gross fair values of derivative instruments, excluding cash collateral, and where they appear on the consolidated balance sheets as of December 31, 2017 and 2016:

<i>(In millions)</i>	December 31, 2017	
	Asset	Liability
Balance Sheet Location		
Commodity derivatives		
Other current assets	\$ 127	\$ 126
Other current liabilities ^(a)	—	14
Deferred credits and other liabilities ^(a)	—	52

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(In millions)

<u>Balance Sheet Location</u>	December 31, 2016	
	Asset	Liability
Commodity derivatives		
Other current assets	\$ 688	\$ 712
Other current liabilities ^(a)	—	13
Deferred credits and other liabilities ^(a)	—	47

^(a) Includes embedded derivatives.

Derivatives not Designated as Accounting Hedges

Derivatives that are not designated as accounting hedges may include commodity derivatives used to hedge price risk on (1) inventories, (2) fixed price sales of refined products, (3) the acquisition of foreign-sourced crude oil, (4) the acquisition of ethanol for blending with refined products, (5) sale of NGLs and (6) the purchase of natural gas.

The table below summarizes open commodity derivative contracts for crude oil and refined products as of December 31, 2017.

	Position	Total Barrels <i>(In thousands)</i>
Crude Oil^(a)		
Exchange-traded	Long	23,299
Exchange-traded	Short	(25,199)

^(a) 99.8 percent of the exchange-traded contracts expire in the first quarter of 2018.

	Position	Total Gallons <i>(In thousands)</i>
Refined Products^(a)		
Exchange-traded	Long	257,460
Exchange-traded	Short	(236,460)
OTC	Short	(9,587)

^(a) 100 percent of the exchange-traded contracts expire in the first quarter of 2018.

The following table summarizes the effect of all commodity derivative instruments in our consolidated statements of income:

<u>Income Statement Location</u>	Gain (Loss)		
	2017	2016	2015
Sales and other operating revenues	\$ 5	\$ (13)	\$ 19
Cost of revenues	(26)	(167)	294
Total	\$ (21)	\$ (180)	\$ 313

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19. Debt

Our outstanding borrowings at December 31, 2017 and 2016 consisted of the following:

<i>(In millions)</i>	December 31,	
	2017	2016
Marathon Petroleum Corporation:		
Commercial paper	\$ —	\$ —
364-day bank revolving credit facility due July 2018	—	—
Trade receivables securitization facility due July 2019	—	—
Bank revolving credit facility due 2022	—	—
Term loan agreement due 2019	—	200
Senior notes, 2.700% due December 2018	600	600
Senior notes, 3.400% due December 2020	650	650
Senior notes, 5.125% due March 2021	1,000	1,000
Senior notes, 3.625%, due September 2024	750	750
Senior notes, 6.500%, due March 2041	1,250	1,250
Senior notes, 4.750%, due September 2044	800	800
Senior notes, 5.850% due December 2045	250	250
Senior notes, 5.000%, due September 2054	400	400
Capital lease obligations due 2018-2033	356	311
MPLX LP:		
MPLX term loan facility due 2019	—	250
MPLX bank revolving credit facility due 2022	505	—
MPLX senior notes, 5.500%, due February 2023	710	710
MPLX senior notes, 4.500%, due July 2023	989	989
MPLX senior notes, 4.875%, due December 2024	1,149	1,149
MPLX senior notes, 4.000%, due February 2025	500	500
MPLX senior notes, 4.875%, due June 2025	1,189	1,189
MarkWest senior notes, 4.500% - 5.500%, due 2023 - 2025	63	63
MPLX senior notes, 4.125%, due March 2027	1,250	—
MPLX senior notes, 5.200%, due March 2047	1,000	—
MPLX capital lease obligations due 2020	7	8
Total	13,418	11,069
Unamortized debt issuance costs	(59)	(44)
Unamortized discount ^(a)	(413)	(453)
Amounts due within one year	(624)	(28)
Total long-term debt due after one year	\$ 12,322	\$ 10,544

^(a) Includes \$374 million and \$420 million unamortized discount as of December 31, 2017 and December 31, 2016, respectively, related to the difference at the time of the acquisition between the fair value and the principal amount of assumed MarkWest debt.

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The following table shows five years of scheduled debt payments.

<i>(In millions)</i>	
2018	\$ 626
2019	27
2020	683
2021	1,031
2022	537

Commercial Paper

On February 26, 2016, we established a commercial paper program that allows us to have a maximum of \$2 billion in commercial paper outstanding, with maturities up to 397 days from the date of issuance. We do not intend to have outstanding commercial paper borrowings in excess of available capacity under our bank revolving credit facilities. During 2017, we borrowed and repaid \$300 million under the commercial paper program. At December 31, 2017, we had no amounts outstanding under the commercial paper program.

MPC Revolving Credit Agreements

On July 21, 2017, we entered into credit agreements with a syndicate of lenders to replace our previous \$2.5 billion four-year revolving credit facility due in 2020 and our previous \$1 billion 364-day credit agreement, dated as of July 20, 2016, which expired on July 19, 2017. The new agreements provide for a five-year \$2.5 billion bank revolving credit agreement (“MPC five-year credit agreement”) that expires in July 2022 and a 364-day \$1 billion bank revolving credit agreement (“MPC 364-day credit agreement”) and together with the MPC five-year credit agreement, the “MPC credit agreements”) that expires in July 2018.

Under the MPC five-year credit agreement, we have an option to increase the aggregate commitments by up to an additional \$500 million, subject to, among other conditions, the consent of the lenders whose commitments would be increased. In addition, we may request up to two one-year extensions of the maturity date of the MPC five-year revolving credit agreement subject to, among other conditions, the consent of lenders holding a majority of the commitments, provided that the commitments of any non-consenting lenders will terminate on the then-effective maturity date. The MPC five-year revolving credit agreement includes sub-facilities for swingline loans of up to \$100 million and letters of credit of up to \$1.8 billion, subject to the agreement of one of more of the lenders to increase their issuing commitments thereunder.

Borrowings under the MPC credit agreements bear interest, at our election, at either the Adjusted LIBO Rate or the Alternate Base Rate (both as defined in the MPC credit agreements), plus an applicable margin. We are charged various fees and expenses under the MPC credit agreements, including administrative agent fees, commitment fees on the unused portion of the commitments and fees related to issued and outstanding letters of credit. The applicable margin to the benchmark interest rates and the commitment fees payable under the MPC credit agreements fluctuate from time-to-time based on our credit ratings.

The MPC credit agreements contain certain representations and warranties, affirmative and restrictive covenants and events of default that we consider to be usual and customary for arrangements of this type, including a financial covenant that requires us to maintain a ratio of Consolidated Net Debt to Total Capitalization (each as defined in the MPC credit agreements) of no greater than 0.65 to 1.00 as of the last day of each fiscal quarter. Other covenants, among other things, restrict our ability and/or the ability of certain of our subsidiaries to incur debt, create liens on assets or enter into transactions with affiliates. As of December 31, 2017, we were in compliance with the covenants contained in the MPC credit agreements.

There were no borrowings or letters of credit outstanding at December 31, 2017.

Trade Receivables Securitization Facility

On December 18, 2013, we entered into a trade receivables securitization facility (“trade receivables facility”) with a group of committed purchasers and letter of credit issuers evidenced by a receivables purchase agreement and receivables sales agreement. On July 20, 2016, we amended our trade receivables securitization facility to, among other things, reduce the capacity from \$1 billion to \$750 million and to extend the maturity date to July 19, 2019. The reduction in capacity reflected the lower refined product price environment.

The trade receivables facility consists of one of our wholly-owned subsidiaries, Marathon Petroleum Company LP (“MPC LP”), selling or contributing on an on-going basis all of its trade receivables (including trade receivables acquired from Marathon Petroleum Trading Canada LLC, a wholly-owned subsidiary of MPC LP), together with all related security and

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interests in the proceeds thereof, without recourse, to another wholly-owned, bankruptcy-remote special purpose subsidiary, MPC Trade Receivables Company LLC (“TRC”), in exchange for a combination of cash, equity and/or a subordinated note issued by TRC to MPC LP. TRC, in turn, has the ability to sell undivided ownership interests in qualifying trade receivables, together with all related security and interests in the proceeds thereof, without recourse, to the purchasing group in exchange for cash proceeds. The trade receivables facility also provides for the issuance of letters of credit up to \$750 million, provided that the aggregate credit exposure of the purchasing group, including outstanding letters of credit, may not exceed the lesser of \$750 million or the balance of our eligible trade receivables at any one time.

To the extent that TRC retains an ownership interest in the receivables it has purchased or received from MPC LP, such interest will be included in our consolidated financial statements solely as a result of the consolidation of the financial statements of TRC with those of MPC. The receivables sold or contributed to TRC are available first and foremost to satisfy claims of the creditors of TRC and are not available to satisfy the claims of creditors of MPC. TRC has granted a security interest in all of its assets to the purchasing group to secure its obligations under the Receivables Purchase Agreement.

Proceeds from the sale of undivided percentage ownership interests in qualifying receivables under the trade receivables facility are reflected as debt on our consolidated balance sheet. We remain responsible for servicing the receivables sold to the purchasing group. TRC pays floating-rate interest charges and usage fees on amounts outstanding under the trade receivables facility, if any, unused fees on the portion of unused commitments and certain other fees related to the administration of the facility and letters of credit that are issued and outstanding under the trade receivables facility.

The receivables purchase agreement and receivables sale agreement contain representations and covenants that we consider usual and customary for arrangements of this type. Trade receivables are subject to customary criteria, limits and reserves before being deemed to qualify for sale by TRC pursuant to the trade receivables facility. In addition, further purchases of qualified trade receivables under the trade receivables facility are subject to termination, and TRC may be subject to default fees, upon the occurrence of certain amortization events that are included in the receivables purchase agreement, all of which we consider to be usual and customary for arrangements of this type. At December 31, 2017, we were in compliance with the covenants contained in the receivables purchase agreement and receivables sale agreement.

There were no borrowings or letters of credit outstanding under the trade receivables facility at December 31, 2017. As of December 31, 2017, eligible trade receivables supported borrowings and letter of credit issuances of \$750 million.

MPC Term Loan Agreement

On August 26, 2014, we entered into a \$700 million five-year senior unsecured term loan credit agreement (“term loan agreement”) with a syndicate of lenders to fund a portion of the purchase price for the acquisition of Hess’ Retail Operations and Related Assets. The term loan was drawn in full on September 24, 2014. The term loan agreement matures on September 24, 2019 and may be prepaid at any time without premium or penalty. We pay certain customary fees under the term loan agreement, including an annual administrative fee to the administrative agent.

On September 30, 2016, we prepaid \$500 million under the MPC term loan agreement with available cash on hand. On March 31, 2017, we repaid the remaining \$200 million outstanding under the MPC term loan agreement with available cash on hand.

MPLX Credit Agreement

On July 21, 2017, MPLX entered into a credit agreement with a syndicate of lenders to replace MPLX’s previous \$2 billion five-year bank revolving credit facility with a \$2.25 billion five-year bank revolving credit facility that expires in July 2022 (“MPLX credit agreement”).

The MPLX credit agreement includes letter of credit issuing capacity of up to approximately \$222 million and swingline loan capacity of up to \$100 million. The revolving borrowing capacity may be increased by up to an additional \$500 million, subject to certain conditions, including the consent of the lenders whose commitments would increase. In addition, the maturity date of the bank revolving credit facility may be extended for up to two additional one-year periods subject to the consent of the lenders holding a majority of the revolving credit facility commitments, provided that the commitments held by any non-consenting lenders will terminate on the original maturity date.

Borrowings under the MPLX credit agreement bear interest, at our election, at the Adjusted LIBO Rate or the Alternate Base Rate (both as defined in the MPLX credit agreement) plus an applicable margin. MPLX is charged various fees and expenses in connection with the agreement, including administrative agent fees, commitment fees on the unused portion of the commitments and fees with respect to issued and outstanding letters of credit. The applicable margins to the benchmark interest rates and the commitment fees payable under the MPLX credit agreement fluctuate from time-to-time based on MPLX’s credit ratings.

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The MPLX credit agreement contains certain representations and warranties, affirmative and restrictive covenants and events of default that we consider to be usual and customary for an agreement of this type, including a financial covenant that requires MPLX to maintain a ratio of Consolidated Total Debt as of the end of each fiscal quarter to Consolidated EBITDA (both as defined in the MPLX credit agreement) for the prior four fiscal quarters of no greater than 5.0 to 1.0 (or 5.5 to 1.0 for up to two fiscal quarters following certain acquisitions). Consolidated EBITDA is subject to adjustments for certain acquisitions completed and capital projects undertaken during the relevant period. Other covenants, among other things, restrict MPLX's ability and/or the ability of certain of its subsidiaries to incur debt, create liens on assets and enter into transactions with affiliates. As of December 31, 2017, MPLX was in compliance with the covenants contained in the MPLX credit agreement.

During 2017, MPLX borrowed \$670 million under the bank revolving credit facility, at an average interest rate of 2.7 percent, per annum, and repaid \$165 million of these borrowings. At December 31, 2017, MPLX had \$505 million outstanding borrowings and \$3 million of letters of credit outstanding under the bank revolving credit facility, resulting in total unused loan availability of \$1.74 billion.

MPLX Term Loan

On July 19, 2017, MPLX prepaid the entire outstanding principal amount of its \$250 million term loan with cash on hand.

MPLX Senior Notes

On February 10, 2017, MPLX completed a public offering of \$1.25 billion aggregate principal amount of 4.125 percent unsecured senior notes due March 2027 and \$1.0 billion aggregate principal amount of 5.200 percent unsecured senior notes due March 2047. The net proceeds, which were approximately \$2.22 billion after deducting underwriting discounts, were used by MPLX to fund the \$1.5 billion cash portion of the consideration paid to MPC for the dropdown of assets on March 1, 2017, as well as for general partnership purposes. Interest is payable semi-annually in arrears on March 1 and September 1 of each year, commencing on September 1, 2017.

20. Supplemental Cash Flow Information

<i>(In millions)</i>	2017	2016	2015
Net cash provided by operating activities included:			
Interest paid (net of amounts capitalized)	\$ 525	\$ 478	\$ 272
Net income taxes paid to taxing authorities	904	140	1,605
Non-cash investing and financing activities:			
Capital lease obligations increase	\$ 71	\$ —	\$ 1
Contribution of assets to joint venture ^(a)	337	273	—
Intangible asset acquired ^(b)	45	—	—
Property, plant and equipment sold	—	—	5
Property, plant and equipment acquired	—	—	5
Acquisition:			
Fair value of MPLX units issued ^(c)	—	—	7,326
Payable to MPLX Class B unitholders	—	—	50

^(a) 2017 includes MPLX's contribution of assets to Sherwood Midstream and Sherwood Midstream Holdings. 2016 includes Speedway's contribution of travel plaza locations to new joint venture with Pilot Flying J. See Note 5.

^(b) See Note 16 for further information.

^(c) See Note 5 for further information.

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The consolidated statements of cash flows exclude changes to the consolidated balance sheets that did not affect cash. The following is a reconciliation of additions to property, plant and equipment to total capital expenditures:

<i>(In millions)</i>	2017	2016	2015
Additions to property, plant and equipment per consolidated statements of cash flows	\$ 2,732	\$ 2,892	\$ 1,998
Non-cash additions to property, plant and equipment	—	—	5
Asset retirement expenditures ^(a)	2	6	1
Increase (decrease) in capital accruals	67	(127)	94
Total capital expenditures before acquisitions	2,801	2,771	2,098
Acquisitions ^(b)	250	(133)	11,397
Total capital expenditures	\$ 3,051	\$ 2,638	\$ 13,495

^(a) Included in All other, net – Operating activities on the consolidated statements of cash flows.

^(b) 2017 reflects primarily the acquisition of the Ozark pipeline. 2016 includes adjustments to the fair values of property, plant and equipment, intangibles and goodwill acquired in connection with the MarkWest Merger. The 2015 acquisitions include the MarkWest Merger. The acquisition numbers above include property, plant and equipment, intangibles and goodwill.

21. Accumulated Other Comprehensive Loss

The following table shows the changes in accumulated other comprehensive loss by component. Amounts in parentheses indicate debits.

<i>(In millions)</i>	Pension Benefits	Other Benefits	Gain on Cash Flow Hedge	Workers Compensation	Total
Balance as of December 31, 2015	\$ (255)	\$ (70)	\$ 4	\$ 3	\$ (318)
Other comprehensive income (loss) before reclassifications	22	64	—	—	86
Amounts reclassified from accumulated other comprehensive loss:					
Amortization – prior service credit ^(a)	(46)	(3)	—	—	(49)
– actuarial loss ^(a)	38	2	—	—	40
– settlement loss ^(a)	7	—	—	—	7
Other ^(b)	—	—	—	(1)	(1)
Tax effect	1	—	—	—	1
Other comprehensive income (loss)	22	63	—	(1)	84
Balance as of December 31, 2016	\$ (233)	\$ (7)	\$ 4	\$ 2	\$ (234)

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<i>(In millions)</i>	Pension Benefits	Other Benefits	Gain on Cash Flow Hedge	Workers Compensation	Total
Balance as of December 31, 2016	\$ (233)	\$ (7)	\$ 4	\$ 2	\$ (234)
Other comprehensive income before reclassifications	12	(38)		3	(23)
Amounts reclassified from accumulated other comprehensive loss:					
Amortization – prior service credit ^(a)	(39)	(3)	—	—	(42)
– actuarial loss ^(a)	36	(2)	—	—	34
– settlement loss ^(a)	52	—	—	—	52
Other ^(b)	—	—	—	(2)	(2)
Tax effect	(18)	2	—	—	(16)
Other comprehensive income (loss)	43	(41)	—	1	3
Balance as of December 31, 2017	<u>\$ (190)</u>	<u>\$ (48)</u>	<u>\$ 4</u>	<u>\$ 3</u>	<u>\$ (231)</u>

^(a) These accumulated other comprehensive loss components are included in the computation of net periodic benefit cost. See Note 22.

^(b) This amount was reclassified out of accumulated other comprehensive loss and is included in selling, general and administrative on the consolidated statements of income.

22. Defined Benefit Pension and Other Postretirement Plans

We have noncontributory defined benefit pension plans covering substantially all employees. Benefits under these plans have been based primarily on age, years of service and final average pensionable earnings. The years of service component of this formula was frozen as of December 31, 2009. Benefits for service beginning January 1, 2010 are based on a cash balance formula with an annual percentage of eligible pay credited based upon age and years of service. Eligible Speedway employees accrue benefits under a defined contribution plan for service years beginning January 1, 2010.

We also have other postretirement benefits covering most employees. Health care benefits are provided through comprehensive hospital, surgical and major medical benefit provisions subject to various cost-sharing features. Retiree life insurance benefits are provided to a closed group of retirees. Other postretirement benefits are not funded in advance.

Obligations and funded status – The accumulated benefit obligation for all defined benefit pension plans was \$2,008 million and \$1,914 million as of December 31, 2017 and 2016.

The following summarizes our defined benefit pension plans that have accumulated benefit obligations in excess of plan assets.

<i>(In millions)</i>	December 31,	
	2017	2016
Projected benefit obligations	\$ 2,164	\$ 2,024
Accumulated benefit obligations	2,008	1,914
Fair value of plan assets	1,840	1,659

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The following summarizes the projected benefit obligations and funded status for our defined benefit pension and other postretirement plans:

<i>(In millions)</i>	Pension Benefits		Other Benefits	
	2017	2016	2017	2016
Change in benefit obligations:				
Benefit obligations at January 1	\$ 2,024	\$ 1,997	\$ 740	\$ 800
Service cost	132	114	25	32
Interest cost	75	73	30	35
Actuarial (gain) loss	150	15	61	(101)
Benefits paid	(217)	(175)	(30)	(26)
Other	—	—	—	—
Benefit obligations at December 31	2,164	2,024	826	740
Change in plan assets:				
Fair value of plan assets at January 1	1,659	1,570	—	—
Actual return on plan assets	270	145	—	—
Employer contributions	128	119	30	26
Benefits paid from plan assets	(217)	(175)	(30)	(26)
Fair value of plan assets at December 31	1,840	1,659	—	—
Funded status of plans at December 31	\$ (324)	\$ (365)	\$ (826)	\$ (740)
Amounts recognized in the consolidated balance sheets:				
Current liabilities	\$ (18)	\$ (18)	\$ (33)	\$ (32)
Noncurrent liabilities	(306)	(347)	(793)	(708)
Accrued benefit cost	\$ (324)	\$ (365)	\$ (826)	\$ (740)
Pretax amounts recognized in accumulated other comprehensive loss:^(a)				
Net actuarial loss	\$ 537	\$ 645	\$ 80	\$ 17
Prior service credit	(238)	(276)	(3)	(6)

^(a) Amounts exclude those related to LOOP and Explorer, equity method investees with defined benefit pension and postretirement plans for which net losses of \$17 million and less than \$1 million were recorded in accumulated other comprehensive loss in 2017, reflecting our ownership share.

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Components of net periodic benefit cost and other comprehensive loss – The following summarizes the net periodic benefit costs and the amounts recognized as other comprehensive loss for our defined benefit pension and other postretirement plans.

<i>(In millions)</i>	Pension Benefits			Other Benefits		
	2017	2016	2015	2017	2016	2015
Components of net periodic benefit cost:						
Service cost	\$ 132	\$ 114	\$ 101	\$ 25	\$ 32	\$ 31
Interest cost	75	73	71	30	35	32
Expected return on plan assets	(100)	(98)	(98)	—	—	—
Amortization – prior service credit	(39)	(46)	(46)	(3)	(3)	(4)
– actuarial loss	36	38	51	(2)	2	8
– settlement loss	52	7	4	—	—	—
Net periodic benefit cost ^(a)	\$ 156	\$ 88	\$ 83	\$ 50	\$ 66	\$ 67
Other changes in plan assets and benefit obligations recognized in other comprehensive loss (pretax):						
Actuarial (gain) loss	\$ (20)	\$ (33)	\$ 69	\$ 61	\$ (101)	\$ (63)
Prior service cost ^(b)	—	—	—	—	—	13
Amortization of actuarial loss	(88)	(45)	(55)	2	(2)	(8)
Amortization of prior service cost	39	46	46	3	3	4
Other	—	—	—	—	—	—
Total recognized in other comprehensive loss	\$ (69)	\$ (32)	\$ 60	\$ 66	\$ (100)	\$ (54)
Total recognized in net periodic benefit cost and other comprehensive loss	\$ 87	\$ 56	\$ 143	\$ 116	\$ (34)	\$ 13

^(a) Net periodic benefit cost reflects a calculated market-related value of plan assets which recognizes changes in fair value over three years.

^(b) Includes adjustments related to the MarkWest Merger in 2015.

Lump sum payments to employees retiring in 2017, 2016 and 2015 exceeded the plan's total service and interest costs expected for those years. Settlement losses are required to be recorded when lump sum payments exceed total service and interest costs. As a result, pension settlement expenses were recorded in 2017, 2016 and 2015 related to our cumulative lump sum payments made during those years.

The estimated net actuarial loss and prior service credit for our defined benefit pension plans that will be amortized from accumulated other comprehensive loss into net periodic benefit cost in 2018 are \$36 million and \$33 million, respectively. The estimated net actuarial loss and prior service credit for our other defined benefit postretirement plans that will be amortized from accumulated other comprehensive loss into net periodic benefit cost in 2018 is less than \$1 million and \$3 million, respectively.

Plan assumptions – The following summarizes the assumptions used to determine the benefit obligations at December 31, and net periodic benefit cost for the defined benefit pension and other postretirement plans for 2017, 2016 and 2015.

	Pension Benefits			Other Benefits		
	2017	2016	2015	2017	2016	2015
Weighted-average assumptions used to determine benefit obligation:						
Discount rate	3.55%	3.90%	4.00%	3.70%	4.25%	4.50%
Rate of compensation increase	5.00%	5.00%	3.70%	5.00%	5.00%	3.70%
Weighted-average assumptions used to determine net periodic benefit cost:						
Discount rate	3.85%	3.80%	3.70%	4.25%	4.50%	4.30%
Expected long-term return on plan assets	6.50%	6.50%	6.75%	—%	—%	—%
Rate of compensation increase	5.00%	5.00%	3.70%	5.00%	5.00%	3.70%

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Expected long-term return on plan assets

The overall expected long-term return on plan assets assumption is determined based on an asset rate-of-return modeling tool developed by a third-party investment group. The tool utilizes underlying assumptions based on actual returns by asset category and inflation and takes into account our asset allocation to derive an expected long-term rate of return on those assets. Capital market assumptions reflect the long-term capital market outlook. The assumptions for equity and fixed income investments are developed using a building-block approach, reflecting observable inflation information and interest rate information available in the fixed income markets. Long-term assumptions for other asset categories are based on historical results, current market characteristics and the professional judgment of our internal and external investment teams.

Assumed health care cost trend

The following summarizes the assumed health care cost trend rates.

	December 31,		
	2017	2016	2015
Health care cost trend rate assumed for the following year:			
Medical: Pre-65	6.75%	7.00%	7.50%
Prescription drugs	8.75%	9.00%	7.00%
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate):			
Medical: Pre-65	4.50%	4.50%	5.00%
Prescription drugs	4.50%	4.50%	5.00%
Year that the rate reaches the ultimate trend rate:			
Medical: Pre-65	2026	2026	2021
Prescription drugs	2026	2026	2021

Increases in the post-65 medical plan premium for the Marathon Petroleum Health Plan and the Marathon Petroleum Retiree Health Plan are the lower of the trend rate or four percent.

Assumed health care cost trend rates have a significant effect on the amounts reported for defined benefit retiree health care plans. A one percentage point change in assumed health care cost trend rates would have the following effects:

<i>(In millions)</i>	1-Percentage-Point Increase		1-Percentage-Point Decrease	
Effect on total of service and interest cost components	\$	5	\$	(4)
Effect on other postretirement benefit obligations		38		(33)

Plan investment policies and strategies

The investment policies for our pension plan assets reflect the funded status of the plans and expectations regarding our future ability to make further contributions. Long-term investment goals are to: (1) manage the assets in accordance with the legal requirements of all applicable laws; (2) diversify plan investments across asset classes to achieve an optimal balance between risk and return and between income and growth of assets through capital appreciation; and (3) source benefit payments primarily through existing plan assets and anticipated future returns.

The investment goals are implemented to manage the plans' funded status volatility and minimize future cash contributions. The asset allocation strategy will change over time in response to changes primarily in funded status, which is dictated by current and anticipated market conditions, the independent actions of our investment committee, required cash flows to and from the plans and other factors deemed appropriate. Such changes in asset allocation are intended to allocate additional assets to the fixed income asset class should the funded status improve. The fixed income asset class shall be invested in such a manner that its interest rate sensitivity correlates highly with that of the plans' liabilities. Other asset classes are intended to provide additional return with associated higher levels of risk. Investment performance and risk is measured and monitored on an ongoing basis through quarterly investment meetings and periodic asset and liability studies. At December 31, 2017, the primary plan's targeted asset allocation was 51 percent equity, private equity, real estate, and timber securities and 49 percent fixed income securities.

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Fair value measurements

Plan assets are measured at fair value. The following provides a description of the valuation techniques employed for each major plan asset category at December 31, 2017 and 2016.

Cash and cash equivalents – Cash and cash equivalents include a collective fund serving as the investment vehicle for the cash reserves and cash held by third-party investment managers. The collective fund is valued at net asset value (“NAV”) on a scheduled basis using a cost approach, and is considered a Level 2 asset. Cash and cash equivalents held by third-party investment managers are valued using a cost approach and are considered Level 2.

Equity – Equity investments includes common stock, mutual and pooled funds. Common stock investments are valued using a market approach, which are priced daily in active markets and are considered Level 1. Mutual and pooled equity funds are well diversified portfolios, representing a mix of strategies in domestic, international and emerging market strategies. Mutual funds are publicly registered, valued at NAV on a daily basis using a market approach and are considered Level 1 assets. Pooled funds are valued at NAV using a market approach and are considered Level 2.

Fixed Income – Fixed income investments include corporate bonds, U.S. dollar treasury bonds and municipal bonds. These securities are priced on observable inputs using a combination of market, income and cost approaches. These securities are considered Level 2 assets. Fixed income also includes a well diversified bond portfolio structured as a pooled fund. This fund is valued at NAV on a daily basis using a market approach and is considered Level 2.

Private Equity – Private equity investments include interests in limited partnerships which are valued using information provided by external managers for each individual investment held in the fund. These holdings are considered Level 3.

Real Estate – Real estate investments consist of interests in limited partnerships. These holdings are either appraised or valued using investment manager’s assessment of assets held. These holdings are considered Level 3.

Other – Other investments include two limited liability companies (“LLCs”) with no public market. The LLCs were formed to acquire timberland in the northwest U.S. These holdings are either appraised or valued using investment manager’s assessment of assets held. These holdings are considered Level 3. Other investments classified as Level 1 include publicly traded depository receipts.

The following tables present the fair values of our defined benefit pension plans’ assets, by level within the fair value hierarchy, as of December 31, 2017 and 2016.

<i>(In millions)</i>	December 31, 2017			
	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	\$ —	\$ 14	\$ —	\$ 14
Equity:				
Common stocks	36	—	—	36
Mutual funds	227	—	—	227
Pooled funds	—	507	—	507
Fixed income:				
Corporate	—	673	1	674
Government	—	98	—	98
Pooled funds	—	176	—	176
Private equity	—	—	51	51
Real estate	—	—	34	34
Other	2	2	19	23
Total investments, at fair value	\$ 265	\$ 1,470	\$ 105	\$ 1,840

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<i>(In millions)</i>	December 31, 2016			
	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	\$ —	\$ 24	\$ —	\$ 24
Equity:				
Common stocks	71	—	—	71
Mutual funds	160	—	—	160
Pooled funds	—	451	—	451
Fixed income:				
Corporate	—	570	—	570
Government	—	90	—	90
Pooled funds	—	173	—	173
Private equity	—	—	60	60
Real estate	—	—	39	39
Other	2	—	19	21
Total investments, at fair value	\$ 233	\$ 1,308	\$ 118	\$ 1,659

The following is a reconciliation of the beginning and ending balances recorded for plan assets classified as Level 3 in the fair value hierarchy:

<i>(In millions)</i>	2017			
	Private Equity	Real Estate	Other	Total
Beginning balance	\$ 60	\$ 39	\$ 19	\$ 118
Actual return on plan assets:				
Realized	11	3	—	14
Unrealized	(1)	—	1	—
Purchases	2	1	1	4
Sales	(21)	(9)	(1)	(31)
Ending balance	\$ 51	\$ 34	\$ 20	\$ 105

<i>(In millions)</i>	2016			
	Private Equity	Real Estate	Other	Total
Beginning balance	\$ 62	\$ 50	\$ 19	\$ 131
Actual return on plan assets:				
Realized	8	5	—	13
Unrealized	2	(3)	—	(1)
Purchases	2	1	—	3
Sales	(14)	(14)	—	(28)
Ending balance	\$ 60	\$ 39	\$ 19	\$ 118

Cash Flows

Contributions to defined benefit plans – Our funding policy with respect to the funded pension plans is to contribute amounts necessary to satisfy minimum pension funding requirements, including requirements of the Pension Protection Act of 2006, plus such additional, discretionary, amounts from time to time as determined appropriate by management. In 2017, we made pension contributions totaling \$128 million. We have no required funding for 2018, but may make voluntary contributions at our discretion. Cash contributions to be paid from our general assets for the unfunded pension and postretirement plans are estimated to be approximately \$18 million and \$33 million, respectively, in 2018.

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Estimated future benefit payments – The following gross benefit payments, which reflect expected future service, as appropriate, are expected to be paid in the years indicated.

<i>(In millions)</i>	Pension Benefits	Other Benefits
2018	\$ 176	\$ 33
2019	183	36
2020	161	38
2021	161	41
2022	158	42
2023 through 2027	790	229

Contributions to defined contribution plans – We also contribute to several defined contribution plans for eligible employees. Contributions to these plans totaled \$116 million, \$113 million and \$94 million in 2017, 2016 and 2015, respectively.

Multiemployer Pension Plan

We contribute to one multiemployer defined benefit pension plan under the terms of a collective-bargaining agreement that covers some of our union-represented employees. The risks of participating in this multiemployer plan are different from single-employer plans in the following aspects:

- Assets contributed to the multiemployer plan by one employer may be used to provide benefits to employees of other participating employers.
- If a participating employer stops contributing to the plan, the unfunded obligations of the plan may be borne by the remaining participating employers.
- If we choose to stop participating in the multiemployer plan, we may be required to pay that plan an amount based on the underfunded status of the plan, referred to as a withdrawal liability.

Our participation in this plan for 2017, 2016 and 2015 is outlined in the table below. The “EIN” column provides the Employee Identification Number for the plan. The most recent Pension Protection Act zone status available in 2017 and 2016 is for the plan’s year ended December 31, 2016 and December 31, 2015, respectively. The zone status is based on information that we received from the plan and is certified by the plan’s actuary. Among other factors, plans in the red zone are generally less than 65 percent funded. The “FIP/RP Status Pending/Implemented” column indicates a financial improvement plan or a rehabilitation plan has been implemented. The last column lists the expiration date of the collective-bargaining agreement to which the plan is subject. There have been no significant changes that affect the comparability of 2017, 2016 and 2015 contributions. Our portion of the contributions does not make up more than five percent of total contributions to the plan.

Pension Fund	EIN	Pension Protection Act Zone Status		FIP/RP Status Pending/Implemented	MPC Contributions <i>(In millions)</i>			Surcharge Imposed	Expiration Date of Collective – Bargaining Agreement
		2017	2016		2017	2016	2015		
Central States, Southeast and Southwest Areas Pension Plan ^(a)	366044243	Red	Red	Implemented	\$ 4	\$ 4	\$ 4	No	January 31, 2019

^(a) This agreement has a minimum contribution requirement of \$315 per week per employee for 2018. A total of 282 employees participated in the plan as of December 31, 2017.

Multiemployer Health and Welfare Plan

We contribute to one multiemployer health and welfare plan that covers both active employees and retirees. Through the health and welfare plan employees receive medical, dental, vision, prescription and disability coverage. Our contributions to this plan totaled \$7 million, \$6 million and \$7 million for 2017, 2016 and 2015, respectively.

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23. Stock-Based Compensation Plans

Description of the Plans

Effective April 26, 2012, our employees and non-employee directors became eligible to receive equity awards under the Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan (“MPC 2012 Plan”). The MPC 2012 Plan authorizes the Compensation Committee of our board of directors (“Committee”) to grant non-qualified or incentive stock options, stock appreciation rights, stock awards (including restricted stock and restricted stock unit awards), cash awards and performance awards to our employees and non-employee directors. Under the MPC 2012 Plan, no more than 50 million shares of our common stock may be delivered and no more than 20 million shares of our common stock may be the subject of awards that are not stock options or stock appreciation rights. In the sole discretion of the Committee, 20 million shares of our common stock may be granted as incentive stock options. Shares issued as a result of awards granted under these plans are funded through the issuance of new MPC common shares.

Prior to April 26, 2012, our employees and non-employee directors were eligible to receive equity awards under the Marathon Petroleum Corporation 2011 Second Amended and Restated Incentive Compensation Plan (“MPC 2011 Plan”).

Stock-based awards under the Plans

We expense all share-based payments to employees and non-employee directors based on the grant date fair value of the awards over the requisite service period, adjusted for estimated forfeitures.

Stock Options – We grant stock options to certain officer and non-officer employees. All of the stock options granted in 2017 fell under the MPC 2012 Plan. Stock options awarded under the MPC 2011 Plan and the MPC 2012 Plan represent the right to purchase shares of our common stock at its fair market value, which is the closing price of MPC’s common stock on the date of grant. Stock options have a maximum term of ten years from the date they are granted, and vest over a requisite service period of three years. We use the Black Scholes option-pricing model to estimate the fair value of stock options granted, which requires the input of subjective assumptions.

Restricted Stock and Restricted Stock Units – We grant restricted stock and restricted stock units to employees and non-employee directors. In general, restricted stock and restricted stock units granted to employees vest over a requisite service period of three years. Restricted stock and restricted stock unit awards granted after 2011 to officers are subject to an additional one year holding period after the three-year vesting period. Restricted stock recipients who received grants in 2012 and after have the right to vote such stock; however, dividends are accrued and will be paid upon vesting. Restricted stock units granted to non-employee directors are considered to vest immediately at the time of the grant for accounting purposes, as they are non-forfeitable, but are not issued until the director’s departure from the board of directors. Restricted stock unit recipients do not have the right to vote such shares and receive dividend equivalents payable upon vesting. The non-vested shares are not transferable and are held by our transfer agent. The fair values of restricted stock are equal to the market price of our common stock on the grant date.

Performance Units – We grant performance unit awards to certain officer employees. Performance units are dollar denominated. The target value of all performance units is \$1.00, with actual payout up to \$2.00 per unit (up to 200 percent of target). Performance units issued under the MPC 2012 Plan have a 36-month requisite service period. The payout value of these awards will be determined by the relative ranking of the total shareholder return (“TSR”) of MPC common stock compared to the TSR of a select group of peer companies, as well as the Standard & Poor’s 500 Energy Index fund over an average of four measurement periods. These awards will be settled 25 percent in MPC common stock and 75 percent in cash. The number of shares actually distributed will be determined by dividing 25 percent of the final payout by the closing price of MPC common stock on the day the Committee certifies the final TSR rankings, or the next trading day if the certification is made outside of normal trading hours. The performance units paying out in cash are accounted for as liability awards and recorded at fair value with a mark-to-market adjustment made each quarter. The performance units that settle in shares are accounted for as equity awards.

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Total Stock-Based Compensation Expense

The following table reflects activity related to our stock-based compensation arrangements:

<i>(In millions)</i>	2017	2016	2015
Stock-based compensation expense	\$ 51	\$ 45	\$ 42
Tax benefit recognized on stock-based compensation expense	19	17	16
Cash received by MPC upon exercise of stock option awards	46	10	33
Tax benefit received for tax deductions for stock awards exercised	25	4	26

Stock Option Awards

The Black Scholes option-pricing model values used to value stock option awards granted were determined based on the following weighted average assumptions:

	2017	2016	2015
Weighted average exercise price per share	\$ 50.57	\$ 35.27	\$ 50.85
Expected life in years	6.3	6.2	6.0
Expected volatility	35%	38%	33%
Expected dividend yield	3.0%	3.0%	2.0%
Risk-free interest rate	2.1%	1.4%	1.7%
Weighted average grant date fair value of stock option awards granted	\$ 13.42	\$ 9.84	\$ 13.44

The expected life of stock options granted is based on historical data and represents the period of time that options granted are expected to be held prior to exercise. The 2017 assumption for expected volatility of our stock price reflects a weighting of 50 percent of our common stock implied volatility and 50 percent of our common stock historical volatility. The risk-free interest rate for periods within the expected life of the option is based on the U.S. Treasury yield curve in effect at the time of the grant.

The following is a summary of our common stock option activity in 2017:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Terms (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at December 31, 2016	9,531,440	\$ 28.93		
Granted	1,214,112	50.57		
Exercised	(2,201,768)	21.88		
Forfeited, canceled or expired	(78,386)	41.97		
Outstanding at December 31, 2017	8,465,398	33.74		
Vested and expected to vest at December 31, 2017	8,445,963	33.71	5.5	\$ 273
Exercisable at December 31, 2017	5,992,586	29.16	4.4	221

The intrinsic value of options exercised by MPC employees during 2017, 2016 and 2015 was \$75 million, \$14 million and \$60 million, respectively.

As of December 31, 2017, unrecognized compensation cost related to stock option awards was \$9 million, which is expected to be recognized over a weighted average period of 1.3 years.

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Restricted Stock Awards

The following is a summary of restricted stock award activity of our common stock in 2017:

	Shares of Restricted Stock ("RS")		Restricted Stock Units ("RSU")	
	Number of Shares	Weighted Average Grant Date Fair Value	Number of Units	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2016	1,250,343	\$ 41.51	361,117	\$ 28.26
Granted	579,122	50.25	36,345	53.19
RS's Vested/RSU's Issued	(547,927)	42.54	(98,548)	29.49
Forfeited	(92,876)	44.32	(13,750)	50.20
Outstanding at December 31, 2017	<u>1,188,662</u>	45.07	<u>285,164</u>	29.95

Of the 285,164 restricted stock units outstanding, 280,850 are vested and have a weighted average grant date fair value of \$29.72. These vested but unissued units are held by our non-employee directors and certain officers, are non-forfeitable and are issuable upon the director's departure from our board of directors or officers end of employment with the company.

The following is a summary of the values related to restricted stock and restricted stock unit awards held by MPC employees and non-employee directors:

	Restricted Stock		Restricted Stock Units	
	Intrinsic Value of Awards Vested During the Period (in millions)	Weighted Average Grant Date Fair Value of Awards Granted During the Period	Intrinsic Value of Awards Vested During the Period (in millions)	Weighted Average Grant Date Fair Value of Awards Granted During the Period
2017	\$ 28	\$ 50.25	\$ 5	\$ 53.19
2016	17	36.17	8	40.85
2015	27	50.64	21	49.87

As of December 31, 2017, unrecognized compensation cost related to restricted stock awards was \$34 million, which is expected to be recognized over a weighted average period of 1.3 years. There was no material unrecognized compensation cost related to restricted stock unit awards.

Performance Unit Awards

The following table presents a summary of the 2017 activity for performance unit awards to be settled in shares:

	Number of Units	Weighted Average Grant Date Fair Value
	Outstanding at December 31, 2016	6,255,178
Granted	2,584,750	0.92
Exercised	(1,854,728)	0.85
Canceled	(133,658)	0.82
Outstanding at December 31, 2017	<u>6,851,542</u>	0.81

The number of shares that would be issued upon target vesting, using the closing price of our common stock on December 29, 2017 would be 103,843 shares.

As of December 31, 2017, unrecognized compensation cost related to equity-classified performance unit awards was \$2 million, which is expected to be recognized over a weighted average period of 1.1 years.

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Performance units to be settled in MPC shares have a grant date fair value calculated using a Monte Carlo valuation model, which requires the input of subjective assumptions. The following table provides a summary of these assumptions:

	2017	2016	2015
Risk-free interest rate	1.5%	1.0%	1.0%
Look-back period (in years)	2.8	2.8	2.8
Expected volatility	36.1%	34.2%	30.4%
Grant date fair value of performance units granted	\$ 0.92	\$ 0.57	\$ 0.95

The risk-free interest rate for the remaining performance period as of the grant date is based on the U.S. Treasury yield curve in effect at the time of the grant. The look-back period reflects the remaining performance period at the grant date. The assumption for the expected volatility of our stock price reflects the average MPC common stock historical volatility.

MPLX Awards

Our wholly-owned subsidiary and the general partner of MPLX, MPLX GP LLC (“MPLX GP”), maintains a unit-based compensation plan for officers, directors and employees (including any other individual who may be considered an “employee” under a Registration Statement on Form S-8 or any successor form) of MPLX GP.

The MPLX 2012 Incentive Compensation Plan (“MPLX Plan”) permits various types of equity awards including but not limited to grants of phantom units and performance units. Awards granted under the MPLX Plan will be settled with MPLX units. Total unit-based compensation expense for awards settling in MPLX LP common units was \$18 million in 2017, \$10 million in 2016 and \$4 million in 2015. Additionally, approximately \$15 million was included in the total MarkWest purchase price in 2015, representing MPLX LP unit-based compensation awards granted in connection with the MarkWest Merger.

24. Leases

Lessee

We lease a wide variety of facilities and equipment under operating leases, including land and building space, office equipment, storage facilities and transportation equipment. Most long-term leases include renewal options and, in certain leases, purchase options. Future minimum commitments as of December 31, 2017, for capital lease obligations and for operating lease obligations having initial or remaining non-cancellable lease terms in excess of one year are as follows:

<i>(In millions)</i>	Capital Lease Obligations	Operating Lease Obligations
2018	\$ 50	\$ 255
2019	49	224
2020	54	205
2021	49	177
2022	49	152
Later years	265	463
Total minimum lease payments	516	\$ 1,476
Less imputed interest costs	152	
Present value of net minimum lease payments	\$ 364	

Operating lease rental expense was:

<i>(In millions)</i>	2017	2016	2015
Rental expense	\$ 301	\$ 327	\$ 331

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Lessor

MPLX has certain natural gas gathering, transportation and processing agreements in which it is considered to be the lessor under several implicit operating lease arrangements in accordance with U.S. GAAP. MPLX's primary implicit lease operations relate to a natural gas gathering agreement in the Marcellus region for which it earns a fixed-fee for providing gathering services to a single producer using a dedicated gathering system. As the gathering system is expanded, the fixed-fee charged to the producer is adjusted to include the additional gathering assets in the lease. The primary term of the natural gas gathering arrangement expires in 2023 and will continue thereafter on a year to year basis until terminated by either party. Other significant implicit leases relate to a natural gas processing agreement in the Marcellus region and a natural gas processing agreement in the Southern Appalachia region for which MPLX earns minimum monthly fees for providing processing services to a single producer using a dedicated processing plant. The primary term of these natural gas processing agreements expire during 2023 and 2032.

Our revenue from implicit lease arrangements, excluding executory costs, totaled approximately \$218 million, \$246 million and \$16 million in 2017, 2016 and 2015, respectively. The implicit lease arrangements related to the processing facilities contain contingent rental provisions whereby we receive additional fees if the producer customer exceeds the monthly minimum processed volumes. During the year ended December 31, 2017, we received \$9 million in contingent lease payments and \$7 million for the year ended December 31, 2016. The following is a schedule of minimum future rentals on the non-cancellable operating leases as of December 31, 2017:

(In millions)

2018	\$	194
2019		194
2020		193
2021		181
2022		172
Later years		320
Total minimum lease payments	\$	<u>1,254</u>

The following schedule summarizes our investment in assets held for operating lease by major classes as of December 31, 2017:

(In millions)

Natural gas gathering and NGL transportation pipelines and facilities	\$	735
Natural gas processing facilities		644
Construction in progress		50
Property, plant and equipment		<u>1,429</u>
Less accumulated depreciation		153
Total property, plant and equipment	\$	<u>1,276</u>

25. Commitments and Contingencies

We are the subject of, or a party to, a number of pending or threatened legal actions, contingencies and commitments involving a variety of matters, including laws and regulations relating to the environment. Some of these matters are discussed below. For matters for which we have not recorded an accrued liability, we are unable to estimate a range of possible loss because the issues involved have not been fully developed through pleadings and discovery. However, the ultimate resolution of some of these contingencies could, individually or in the aggregate, be material.

Environmental matters – We are subject to federal, state, local and foreign laws and regulations relating to the environment. These laws generally provide for control of pollutants released into the environment and require responsible parties to undertake remediation of hazardous waste disposal sites and certain other locations including presently or formerly owned or operated retail marketing sites. Penalties may be imposed for noncompliance.

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At December 31, 2017 and 2016, accrued liabilities for remediation totaled \$114 million and \$132 million. It is not presently possible to estimate the ultimate amount of all remediation costs that might be incurred or the penalties if any that may be imposed. Receivables for recoverable costs from certain states, under programs to assist companies in clean-up efforts related to underground storage tanks at presently or formerly owned or operated retail marketing sites, were \$45 million and \$58 million at December 31, 2017 and 2016, respectively.

We are involved in a number of environmental enforcement matters arising in the ordinary course of business. While the outcome and impact on us cannot be predicted with certainty, management believes the resolution of these environmental matters will not, individually or collectively, have a material adverse effect on our consolidated results of operations, financial position or cash flows.

MarkWest Environmental Proceeding – In July 2015, representatives from the EPA and the United States Department of Justice conducted a search at a pipeline launcher/receiver site of MarkWest Liberty Midstream & Resources, L.L.C., a wholly owned subsidiary of MPLX (“MarkWest Liberty Midstream”), utilized for pipeline maintenance operations in Washington County, Pennsylvania pursuant to a search warrant. The criminal investigation ended without any charges against MarkWest Liberty Midstream. With respect to the civil enforcement allegations associated with permitting or other related regulatory obligations for its launcher/receiver and compressor station facilities in the region, MarkWest Liberty Midstream and its affiliates have agreed in principle to pay a cash penalty of approximately \$0.6 million and to undertake certain supplemental environmental projects with an estimated cost of approximately \$2.4 million.

Other Lawsuits - MPLX, MarkWest, MarkWest Liberty Midstream, MarkWest Liberty Bluestone, L.L.C., Ohio Fractionation and MarkWest Utica EMG (collectively, the “MPLX Parties”) are parties to various lawsuits with Bilfinger Westcon, Inc. (“Westcon”) that were instituted in 2016 and 2017 in the Court of Common Pleas in Butler County, Pennsylvania, the Circuit Court in Wetzel County, West Virginia, and the Court of Common Pleas in Harrison County, Ohio. The lawsuits relate to disputes regarding construction work performed by Westcon at the Bluestone, Mobley and Cadiz processing complexes in Pennsylvania, West Virginia and Ohio, respectively, and the Hopedale fractionation complex in Ohio. With respect to work performed by Westcon at the Mobley and Bluestone processing complexes, one or more of the MPLX Parties have asserted breach of contract, fraud, and with respect to work performed at the Mobley processing complex, MarkWest Liberty Midstream has also asserted negligent misrepresentation claims against Westcon. Westcon has also asserted claims against one or more of the MPLX Parties regarding these construction projects for breach of contract, unjust enrichment, promissory estoppel, fraud and constructive fraud, tortious interference with contractual relations, and civil conspiracy. The MPLX Parties seek in excess of \$10 million, plus an unspecified amount of punitive damages. Westcon seeks in excess of \$40 million, plus an unspecified amount of punitive damages. While the ultimate outcome and impact cannot be predicted with certainty, and management is not able to provide a reasonable estimate of the potential loss or range of loss, if any, for these claims, we believe the resolution of these claims will not have a material adverse effect on its consolidated financial position, results of operations, or cash flows.

In May 2015, the Kentucky attorney general filed a lawsuit against our wholly-owned subsidiary, MPC LP, in the United States District Court for the Western District of Kentucky asserting claims under federal and state antitrust statutes, the Kentucky Consumer Protection Act, and state common law. The complaint, as amended in July 2015, alleges that MPC LP used deed restrictions, supply agreements with customers and exchange agreements with competitors to unreasonably restrain trade in areas within Kentucky and seeks declaratory relief, unspecified damages, civil penalties, restitution and disgorgement of profits. At this early stage, the ultimate outcome of this litigation remains uncertain, and neither the likelihood of an unfavorable outcome nor the ultimate liability, if any, can be determined, and we are unable to estimate a reasonably possible loss (or range of loss) for this matter. We intend to vigorously defend ourselves in this matter.

In May 2007, the Kentucky attorney general filed a lawsuit against us and Marathon Oil in state court in Franklin County, Kentucky for alleged violations of Kentucky’s emergency pricing and consumer protection laws following Hurricanes Katrina and Rita in 2005. The lawsuit alleges that we overcharged customers by \$89 million during September and October 2005. The complaint seeks disgorgement of these sums, as well as penalties, under Kentucky’s emergency pricing and consumer protection laws. We are vigorously defending this litigation. We believe that this is the first lawsuit for damages and injunctive relief under the Kentucky emergency pricing laws to progress this far and it contains many novel issues. In May 2011, the Kentucky attorney general amended his complaint to include a request for immediate injunctive relief as well as unspecified damages and penalties related to our wholesale gasoline pricing in April and May 2011 under statewide price controls that were activated by the Kentucky governor on April 26, 2011 and which have since expired. The court denied the attorney general’s request for immediate injunctive relief, and the remainder of the 2011 claims likely will be resolved along with those dating from 2005. If the lawsuit is resolved unfavorably in its entirety, it could materially impact our consolidated results of operations, financial position or cash flows. However, management does not believe the ultimate resolution of this litigation will have a material adverse effect.

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We are also a party to a number of other lawsuits and other proceedings arising in the ordinary course of business. While the ultimate outcome and impact to us cannot be predicted with certainty, we believe that the resolution of these other lawsuits and proceedings will not have a material adverse effect on our consolidated financial position, results of operations or cash flows.

Guarantees – We have provided certain guarantees, direct and indirect, of the indebtedness of other companies. Under the terms of most of these guarantee arrangements, we would be required to perform should the guaranteed party fail to fulfill its obligations under the specified arrangements. In addition to these financial guarantees, we also have various performance guarantees related to specific agreements.

Guarantees related to indebtedness of equity method investees – MPC and MPLX hold interests in an offshore oil port, LOOP, and MPLX holds an interest in a crude oil pipeline system, LOCAP. Both LOOP and LOCAP have secured various project financings with throughput and deficiency agreements. Under the agreements, MPC, as a shipper, is required to advance funds if the investees are unable to service their debt. Any such advances are considered prepayments of future transportation charges. The duration of the agreements vary but tend to follow the terms of the underlying debt, which extend through 2037. Our maximum potential undiscounted payments under these agreements for the debt principal totaled \$160 million as of December 31, 2017.

We hold an interest in a refined products pipeline through our investment in Centennial, and have guaranteed our portion of the payment of Centennial's principal, interest and prepayment costs, if applicable, under a Master Shelf Agreement, which is scheduled to expire in 2024. The guarantee arose in order for Centennial to obtain adequate financing. Our maximum potential undiscounted payments under this agreement for debt principal totaled \$25 million as of December 31, 2017.

In connection with our 50 percent ownership in Crowley Ocean Partners, we have agreed to conditionally guarantee our portion of the obligations of the joint venture and its subsidiaries under a senior secured term loan agreement. The term loan agreement provides for loans of up to \$325 million to finance the acquisition of four product tankers. MPC's liability under the guarantee for each vessel is conditioned upon the occurrence of certain events, including if we cease to maintain an investment-grade credit rating or the charter for the relevant product tanker ceases to be in effect and is not replaced by a charter with an investment-grade company on certain defined commercial terms. As of December 31, 2017, our maximum potential undiscounted payments under this agreement for debt principal totaled \$163 million.

In connection with our 50 percent indirect interest in Crowley Blue Water Partners, we have agreed to provide a conditional guarantee of up to 50 percent of its outstanding debt balance in the event there is no charter agreement in place with an investment-grade customer for the entity's three vessels as well as other financial support in certain circumstances. The maximum exposure under these arrangements is 50 percent of the amount of the debt, which was \$135 million as of December 31, 2017.

Marathon Oil indemnifications – In conjunction with the Spinoff, we have entered into arrangements with Marathon Oil providing indemnities and guarantees with recorded values of \$2 million as of December 31, 2017, which consist of unrecognized tax benefits related to MPC, its consolidated subsidiaries and the RM&T Business operations prior to the Spinoff which are not already reflected in the unrecognized tax benefits described in Note 12, and other contingent liabilities Marathon Oil may incur related to taxes. Furthermore, the separation and distribution agreement and other agreements with Marathon Oil to effect the Spinoff provide for cross-indemnities between Marathon Oil and us. In general, Marathon Oil is required to indemnify us for any liabilities relating to Marathon Oil's historical oil and gas exploration and production operations, oil sands mining operations and integrated gas operations, and we are required to indemnify Marathon Oil for any liabilities relating to Marathon Oil's historical refining, marketing and transportation operations. The terms of these indemnifications are indefinite and the amounts are not capped.

Other guarantees – We have entered into other guarantees with maximum potential undiscounted payments totaling \$93 million as of December 31, 2017, which consist primarily of a commitment to contribute cash to an equity method investee for certain catastrophic events, up to \$50 million per event, in lieu of procuring insurance coverage, a commitment to fund a share of the bonds issued by a government entity for construction of public utilities in the event that other industrial users of the facility default on their utility payments and leases of assets containing general lease indemnities and guaranteed residual values.

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General guarantees associated with dispositions – Over the years, we have sold various assets in the normal course of our business. Certain of the related agreements contain performance and general guarantees, including guarantees regarding inaccuracies in representations, warranties, covenants and agreements, and environmental and general indemnifications that require us to perform upon the occurrence of a triggering event or condition. These guarantees and indemnifications are part of the normal course of selling assets. We are typically not able to calculate the maximum potential amount of future payments that could be made under such contractual provisions because of the variability inherent in the guarantees and indemnities. Most often, the nature of the guarantees and indemnities is such that there is no appropriate method for quantifying the exposure because the underlying triggering event has little or no past experience upon which a reasonable prediction of the outcome can be based.

Contractual commitments and contingencies – At December 31, 2017 and 2016, our contractual commitments to acquire property, plant and equipment and advance funds to equity method investees totaled \$484 million and \$487 million. The contractual commitments at December 31, 2016 included the \$131 million contingent consideration associated with the acquisition of the Galveston Bay Refinery and Related Assets. See Note 17 for additional information on the contingent consideration.

Certain natural gas processing and gathering arrangements require us to construct natural gas processing plants, natural gas gathering pipelines and NGL pipelines and contain certain fees and charges if specified construction milestones are not achieved for reasons other than force majeure. In certain cases, certain producer customers may have the right to cancel the processing arrangements if there are significant delays that are not due to force majeure.

26. Subsequent Events

On February 1, 2018, we contributed our refining logistics assets and fuels distribution services to MPLX in exchange for \$4.1 billion in cash and approximately 114 million newly issued MPLX units. MPLX financed the cash portion of the transaction with its \$4.1 billion 364-day term loan facility, which was entered into on January 2, 2018. Immediately following the dropdown, our IDRs were cancelled and our general partner economic interest was converted into a general partner non-economic interest, all in exchange for 275 million newly issued MPLX common units. We continue to control MPLX through our ownership of the general partner non-economic interest in MPLX and own approximately 64 percent of the outstanding MPLX common units as of February 1, 2018. The contributions of these assets were accounted for as transactions between entities under common control and we did not record a gain or loss.

On February 5, 2018, we announced our intent to redeem all of the \$600 million outstanding aggregate principal amount of our 2.700 percent senior notes due on December 14, 2018. The 2018 senior notes will be redeemed on March 15, 2018, at a price equal to par plus a make whole premium, plus accrued and unpaid interest. The make whole premium will be calculated based on the market yield of the applicable treasury issue as of the redemption date as determined in accordance with the indenture governing the 2018 senior notes. Based on current treasury yields, we expect the make whole premium on the 2018 senior notes, excluding accrued and unpaid interest, to be less than \$3.0 million or 0.50 percent of the face value of the notes.

On February 8, 2018, MPLX issued \$5.5 billion in aggregate principal amount of senior notes in a public offering, consisting of \$500 million aggregate principal amount of 3.375 percent unsecured senior notes due March 2023, \$1.25 billion aggregate principal amount of 4.000 percent unsecured senior notes due March 2028, \$1.75 billion aggregate principal amount of 4.500 percent unsecured senior notes due April 2038, \$1.5 billion aggregate principal amount of 4.700 percent unsecured senior notes due April 2048, and \$500 million aggregate principal amount of 4.900 percent unsecured senior notes due April 2058.

On February 8, 2018, \$4.1 billion of the net proceeds were used to repay the 364-day term-loan facility, which was drawn on February 1, 2018 to fund the cash portion of the consideration MPLX paid MPC for the dropdown of assets on February 1, 2018. The remaining proceeds will be used to repay outstanding borrowings under MPLX's revolving credit facility and intercompany loan agreement with us and for general partnership purposes.

[Table of Contents](#)*Selected Quarterly Financial Data (Unaudited)*

<i>(In millions, except per share data)</i>	2017				2016			
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr. ^(a)	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Revenues	\$ 16,288	\$ 18,180	\$ 19,210	\$ 21,055	\$ 12,755	\$ 16,811	\$ 16,618	\$ 17,155
Income from operations	292	982	1,576	1,119	75	1,315	435	553
Net income (loss)	101	574	1,004	2,125	(78)	783	219	289
Net income attributable to MPC	30	483	903	2,016	1	801	145	227
Net income attributable to MPC per share:								
Basic	\$ 0.06	\$ 0.94	\$ 1.79	\$ 4.13	\$ 0.003	\$ 1.51	\$ 0.28	\$ 0.43
Diluted	0.06	0.93	1.77	4.09	0.003	1.51	0.27	0.43
Dividends paid per share	0.36	0.36	0.40	0.40	0.32	0.32	0.36	0.36

^(a) During the fourth quarter of 2017, we recorded a tax benefit of approximately \$1.5 billion as a result of remeasuring certain deferred tax liabilities using the lower corporate tax rate enacted under the TCJA.

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Supplementary Statistics (Unaudited)

<i>(In millions)</i>	2017	2016	2015
Income from Operations by segment			
Refining & Marketing ^{(a)(b)}	\$ 2,321	\$ 1,357	\$ 3,997
Speedway ^(b)	732	734	673
Midstream ^(a)	1,339	1,048	463
Items not allocated to segments:			
Corporate and other unallocated items ^(a)	(365)	(268)	(293)
Pension settlement expenses	(52)	(7)	(4)
Litigation	(29)	—	—
Impairment ^(c)	23	(486)	(144)
Income from operations	<u>\$ 3,969</u>	<u>\$ 2,378</u>	<u>\$ 4,692</u>
Capital Expenditures and Investments^(d)			
Refining & Marketing ^(a)	\$ 832	\$ 1,054	\$ 1,045
Speedway	381	303	501
Midstream ^{(a)(e)}	2,505	1,568	14,545
Corporate and Other ^(f)	138	144	192
Total	<u>\$ 3,856</u>	<u>\$ 3,069</u>	<u>\$ 16,283</u>

^(a) We revised our operating segment presentation in the first quarter of 2017 in connection with the contribution of certain terminal, pipeline and storage assets to MPLX. The operating results for these assets, which were previously included in the Refining & Marketing segment, are now included in the Midstream segment. Comparable prior period information has been recast to reflect our revised presentation. The results for the pipeline and storage assets were recast effective January 1, 2015, and the results for the terminal assets were recast effective April 1, 2016. Prior to these dates these assets were not considered businesses and therefore there are no financial results from which to recast segment results.

^(b) In 2016, the Refining & Marketing and Speedway segments include an inventory LCM benefit of \$345 million and \$25 million, respectively. In 2015, the Refining & Marketing and Speedway segments include an inventory LCM charge of \$345 million and \$25 million, respectively.

^(c) 2017 includes MPC's share of gains related to the sale of assets remaining from the Sandpiper pipeline project. 2016 relates to impairments of goodwill and equity method investments. 2015 relates to the cancellation of the Residual Oil Upgrader Expansion project. See Notes 16 and 17 to the audited consolidated financial statements.

^(d) Capital expenditures include changes in capital accruals, acquisitions and investments in affiliates.

^(e) 2017 includes \$220 million for the acquisition of the Ozark pipeline and an investment of \$500 million in MarEn Bakken related to the Bakken Pipeline system. 2015 includes \$13.85 billion for the MarkWest Merger.

^(f) Includes capitalized interest of \$55 million, \$63 million and \$37 million for 2017, 2016 and 2015, respectively.

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Supplementary Statistics (Unaudited)

	2017	2016	2015
MPC Consolidated Refined Product Sales Volumes (mbpd)^(a)	2,311	2,269	2,301
Refining & Marketing Operating Statistics			
Refining & Marketing refined product sales volume (mbpd) ^(b)	2,301	2,259	2,289
Refining & Marketing margin (dollars per barrel) ^(c)	\$ 12.60	\$ 11.16	\$ 15.16
Crude oil capacity utilization percent ^(d)	97	95	99
Refinery throughputs (mbpd): ^(e)			
Crude oil refined	1,765	1,699	1,711
Other charge and blendstocks	179	151	177
Total	<u>1,944</u>	<u>1,850</u>	<u>1,888</u>
Sour crude oil throughput percent	59	60	55
WTI-priced crude oil throughput percent	21	19	20
Refined product yields (mbpd): ^(e)			
Gasoline	932	900	913
Distillates	641	617	603
Propane	36	35	36
Feedstocks and special products	277	241	281
Heavy fuel oil	37	32	31
Asphalt	63	58	55
Total	<u>1,986</u>	<u>1,883</u>	<u>1,919</u>
Refinery direct operating costs (dollars per barrel): ^(f)			
Planned turnaround and major maintenance	\$ 1.72	\$ 1.83	\$ 1.13
Depreciation and amortization	1.43	1.47	1.39
Other manufacturing ^(g)	4.07	4.09	4.15
Total	<u>\$ 7.22</u>	<u>\$ 7.39</u>	<u>\$ 6.67</u>
Refining & Marketing Operating Statistics By Region – Gulf Coast			
Refinery throughputs (mbpd): ^(h)			
Crude oil refined	1,070	1,039	1,060
Other charge and blendstocks	224	195	184
Total	<u>1,294</u>	<u>1,234</u>	<u>1,244</u>
Sour crude oil throughput percent	71	73	68
WTI-priced crude oil throughput percent	11	8	6
Refined product yields (mbpd): ^(h)			
Gasoline	546	514	534
Distillates	405	399	392
Propane	26	26	26
Feedstocks and special products	311	286	286
Heavy fuel oil	25	21	15
Asphalt	17	15	16
Total	<u>1,330</u>	<u>1,261</u>	<u>1,269</u>
Refinery direct operating costs (dollars per barrel): ^(f)			
Planned turnaround and major maintenance	\$ 1.75	\$ 2.09	\$ 0.81
Depreciation and amortization	1.12	1.14	1.09
Other manufacturing ^(g)	3.74	3.70	3.88
Total	<u>\$ 6.61</u>	<u>\$ 6.93</u>	<u>\$ 5.78</u>

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Supplementary Statistics (Unaudited)

	2017	2016	2015
Refining & Marketing Operating Statistics By Region – Midwest			
Refinery throughputs (mbpd): ^(h)			
Crude oil refined	695	660	651
Other charge and blendstocks	33	39	39
Total	728	699	690
Sour crude oil throughput percent	40	40	34
WTI-priced crude oil throughput percent	37	38	43
Refined product yields (mbpd): ^(h)			
Gasoline	386	386	379
Distillates	236	218	211
Propane	11	11	12
Feedstocks and special products	42	35	38
Heavy fuel oil	13	12	17
Asphalt	46	43	39
Total	734	705	696
Refinery direct operating costs (dollars per barrel): ^(f)			
Planned turnaround and major maintenance	\$ 1.48	\$ 1.15	\$ 1.64
Depreciation and amortization	1.81	1.88	1.83
Other manufacturing ^(g)	4.26	4.29	4.36
Total	\$ 7.55	\$ 7.32	\$ 7.83
Speedway Operating Statistics⁽ⁱ⁾			
Convenience stores at period-end	2,744	2,733	2,766
Gasoline and distillate sales (millions of gallons)	5,799	6,094	6,038
Gasoline & distillate margin (dollars per gallon) ^(j)	\$ 0.1738	\$ 0.1656	\$ 0.1823
Merchandise sales (in millions)	\$ 4,893	\$ 5,007	\$ 4,879
Merchandise margin (in millions)	\$ 1,402	\$ 1,435	\$ 1,368
Merchandise margin percent	28.7 %	28.7 %	28.0 %
Same store gasoline sales volume (period over period)	(1.3)%	(0.4)%	(0.3)%
Same store merchandise sales (period over period) ^(k)	1.2 %	3.2 %	4.1 %
Midstream Operating Statistics			
Crude oil and refined product pipeline throughputs (mbpd) ^(l)	3,377	2,948	2,829
Terminal throughput (mbpd) ^(m)	1,477	1,505	—
Gathering system throughput (MMcf/d) ⁽ⁿ⁾	3,608	3,275	3,075
Natural gas processed (MMcf/d) ⁽ⁿ⁾	6,460	5,761	5,468
C2 (ethane) + NGLs (natural gas liquids) fractionated (mbpd) ⁽ⁿ⁾	394	335	307

(a) Total average daily volumes of refined product sales to wholesale, branded and retail customers.

(b) Includes intersegment sales.

(c) Excludes LCM inventory valuation adjustments. Sales revenue less cost of refinery inputs and purchased products, divided by total refinery throughputs. Comparable prior period information for R&M margin has been recast in connection with the contribution of certain pipeline assets to MPLX on March 1, 2017.

(d) Based on calendar day capacity, which is an annual average that includes downtime for planned maintenance and other normal operating activities.

(e) Excludes inter-refinery volumes of 78 mbpd, 83 mbpd and 46 mbpd for 2017, 2016 and 2015, respectively.

(f) Per barrel of total refinery throughputs.

(g) Includes utilities, labor, routine maintenance and other operating costs.

(h) Includes inter-refinery transfer volumes.

(i) 2017 operating statistics do not reflect any information for the 41 travel centers contributed to PFJ Southeast, whereas they are reflected in prior years.

(j) Excludes LCM inventory valuation adjustments. The price paid by consumers less the cost of refined products, including transportation, consumer excise taxes and bankcard processing fees, divided by gasoline and distillate sales volume.

(k) Excludes cigarettes.

(l) Includes common-carrier pipelines and private pipelines contributed to MPLX, excluding equity method investments.

(m) Includes the results of the terminal assets contributed to MPLX from the date the assets became a business, April 1, 2016.

(n) Includes the results of the Mark West assets beginning on the Dec. 4, 2015 acquisition date. Includes amounts related to unconsolidated equity method investments on a 100 percent basis.

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

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

An evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13(a)-15(e) and 15(d)-15(e) under the Securities Exchange Act of 1934, as amended) was carried out under the supervision and with the participation of our management, including our chief executive officer and chief financial officer. Based upon that evaluation, the chief executive officer and chief financial officer concluded that the design and operation of these disclosure controls and procedures were effective as of December 31, 2017, the end of the period covered by this Annual Report on Form 10-K.

Internal Control over Financial Reporting and Changes in Internal Control over Financial Reporting

During the quarter ended December 31, 2017, there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. See Item 8. Financial Statements and Supplementary Data – Management’s Report on Internal Control over Financial Reporting and – Report of Independent Registered Public Accounting Firm, which reports are incorporated herein by reference.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

Information concerning our directors required by this item is incorporated by reference to the material appearing under the sub-heading “Proposal No. 1 – Election of Class I Directors” located under the heading “Proposals of the Board” in our Proxy Statement for the 2018 Annual Meeting of Shareholders. Information concerning our executive officers is included in Part I, Item 1 of this Annual Report on Form 10-K.

Our board of directors has established the Audit Committee and determined our “Audit Committee Financial Experts.” The related information required by this item is incorporated by reference to the material appearing under the sub-headings “The Board of Directors” and “Audit Committee Financial Expert” located under the heading “The Board of Directors and Corporate Governance” in our Proxy Statement for the 2018 Annual Meeting of Shareholders.

We have adopted a Code of Ethics for Senior Financial Officers, which applies to our Chief Executive Officer, Chief Financial Officer, Vice President and Controller, Treasurer and other persons performing similar functions. It is available on our website at <http://ir.marathonpetroleum.com> by selecting “Corporate Governance” and clicking on “Code of Ethics for Senior Financial Officers.”

Section 16(a) Beneficial Ownership Reporting Compliance

Information regarding compliance with Section 16(a) of the Securities Exchange Act of 1934 is set forth under the caption “Section 16(a) Beneficial Ownership Reporting Compliance” in our Proxy Statement for the 2018 Annual Meeting of Shareholders, which is incorporated herein by reference.

Item 11. Executive Compensation

Information required by this item is incorporated by reference to the material appearing under the headings “Compensation Discussion and Analysis,” “Compensation-Based Risk Assessment,” “Ratio of Annual Compensation for the CEO to our Median Employee,” and “Executive Compensation;” under the sub-headings “Compensation Committee” and “Compensation Committee Interlocks and Insider Participation” located under the heading “The Board of Directors and Corporate Governance;” and under the headings “Compensation of Directors” and “Compensation Committee Report” in our Proxy Statement for the 2018 Annual Meeting of Shareholders.

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

Information concerning security ownership of certain beneficial owners and management required by this item is incorporated by reference to the material appearing under the headings “Security Ownership of Certain Beneficial Owners” and “Security Ownership of Directors and Executive Officers” in our Proxy Statement for the 2018 Annual Meeting of Shareholders.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information as of December 31, 2017 with respect to shares of our common stock that may be issued under the MPC 2012 Plan and the MPC 2011 Plan:

<u>Plan category</u>	<u>Number of securities to be issued upon exercise of outstanding options, warrants and rights^(a)</u>	<u>Weighted-average exercise price of outstanding options, warrants and rights^(b)</u>	<u>Number of securities remaining available for future issuance under equity compensation plans^(c)</u>
Equity compensation plans approved by stockholders	8,958,247	\$ 33.74	41,355,420
Equity compensation plan not approved by stockholders	—	—	—
Total	8,958,247	N/A	41,355,420

^(a) Includes the following:

- 1) 8,465,398 stock options granted pursuant to the MPC 2012 Plan and the MPC 2011 Plan and not forfeited, cancelled or expired as of December 31, 2017.
- 2) 285,164 restricted stock units granted pursuant to the MPC 2012 Plan and the MPC 2011 Plan for shares unissued and not forfeited, cancelled or expired as of December 31, 2017.
- 3) 207,685 shares as the maximum potential number of shares that could be issued in settlement of performance units outstanding as of December 31, 2017 pursuant to the MPC 2012 Plan, based on the closing price of our common stock on December 29, 2017 of \$65.98 per share. The number of shares reported for this award vehicle may overstate dilution. See Note 23 for more information on performance unit awards granted under the MPC 2012 Plan.

In addition to the awards reported above, 1,188,662 shares of restricted stock have been issued pursuant to the MPC 2012 Plan and were outstanding as of December 31, 2017.

^(b) Restricted stock, restricted stock units and performance units are not taken into account in the weighted-average exercise price as such awards have no exercise price.

^(c) Reflects the shares available for issuance pursuant to the MPC 2012 Plan. All granting authority under the MPC 2011 Plan was revoked following the approval of the MPC 2012 Plan by shareholders on April 25, 2012. No more than 16,688,380 of the shares reported in this column may be issued for awards other than stock options or stock appreciation rights. The number of shares reported in this column assumes 207,685 as the maximum potential number of shares that could be issued pursuant to the MPC 2012 Plan in settlement of performance units outstanding as of December 31, 2017, based on the closing price of our common stock on December 29, 2017, of \$65.98 per share. The number of shares assumed for this award vehicle may understate the number of shares available for issuance pursuant to the MPC 2012 Plan. See Note 23 for more information on performance unit awards granted pursuant to the MPC 2012 Plan. Shares related to grants made pursuant to the MPC 2012 Plan that are forfeited, cancelled or expire unexercised become immediately available for issuance under the MPC 2012 Plan.

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

Information required by this item is incorporated by reference to the material appearing under the heading “Certain Relationships and Related Person Transactions,” and under the sub-heading “Board and Committee Independence” under the heading “The Board of Directors and Corporate Governance” in our Proxy Statement for the 2018 Annual Meeting of Shareholders.

Item 14. Principal Accountant Fees and Services

Information required by this item is incorporated by reference to the material appearing under the heading “Independent Registered Public Accounting Firm’s Fees, Services and Independence” in our Proxy Statement for the 2018 Annual Meeting of Shareholders.

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PART IV

Item 15. Exhibits and Financial Statement Schedules

A. Documents Filed as Part of the Report

1. Financial Statements (see Part II, Item 8. of this Annual Report on Form 10-K regarding financial statements)
2. Financial Statement Schedules

Financial statement schedules required under SEC rules but not included in this Annual Report on Form 10-K are omitted because they are not applicable or the required information is contained in the consolidated financial statements or notes thereto.

3. Exhibits:

Exhibit Number	Exhibit Description	Form	Incorporated by Reference			Filed Herewith	Furnished Herewith
			Exhibit	Filing Date	SEC File No.		
2	Plan of Acquisition, Reorganization, Arrangement, Liquidation or Succession						
2.1 †	Separation and Distribution Agreement, dated as of May 25, 2011, among Marathon Oil Corporation, Marathon Oil Company and Marathon Petroleum Corporation	10	2.1	5/26/2011	001-35054		
2.2 †	Purchase and Sale Agreement, dated as of October 7, 2012, by and among BP Products North America Inc. and BP Pipelines (North America) Inc., as the Sellers and Marathon Petroleum Company LP, as the Buyer	8-K	2.1	10/9/2012	001-35054		
2.3 †	Purchase Agreement by and between Speedway LLC and Hess Corporation, dated as of May 21, 2014	8-K	2.1	5/27/2014	001-35054		
2.4 †	Amendment No. 1 effective as of September 30, 2014, to the Purchase Agreement by and between Speedway LLC and Hess Corporation, dated as of May 21, 2014	8-K	2.2	10/6/2014	001-35054		
2.5 †	Agreement and Plan of Merger, dated as of July 11, 2015, by and among MPLX LP, Sapphire Holdco LLC, MPLX GP LLC, MarkWest Energy Partners, L.P. and, for certain limited purposes set forth therein, Marathon Petroleum Corporation.	8-K	2.1	7/16/2015	001-35054		
2.6	Amendment to Agreement and Plan of Merger, dated as of November 10, 2015, by and among MPLX LP, Sapphire Holdco LLC, MPLX GP LLC, MarkWest Energy Partners, L.P. and Marathon Petroleum Corporation.	8-K	2.1	11/12/2015	001-35054		
2.7	Amendment Number 2 to Agreement and Plan of Merger, dated as of November 16, 2015, by and among MPLX LP, Sapphire Holdco LLC, MPLX GP LLC, MarkWest Energy Partners, L.P. and Marathon Petroleum Corporation.	8-K	2.1	11/17/2015	001-35054		
3	Articles of Incorporation and Bylaws						
3.1	Restated Certificate of Incorporation of Marathon Petroleum Corporation	8-K	3.1	6/22/2011	001-35054		
3.2	Amended and Restated Bylaws of Marathon Petroleum Corporation	8-K	3.1	2/1/2018	001-35054		
4	Instruments Defining the Rights of Security Holders, Including Indentures						
4.1	Indenture dated as of February 1, 2011 between Marathon Petroleum Corporation and The Bank of New York Mellon Trust Company, N.A., as Trustee	10	4.1	5/26/2011	001-35054		
4.2	Form of the terms of the 3 1/2% Senior Notes due 2016, 5 1/8% Senior Notes due 2021 and 6 1/2% Senior Notes due 2041 of Marathon Petroleum Corporation (including Form of Notes)	10	4.2	5/26/2011	001-35054		
4.3	First Supplemental Indenture, dated as of September 5, 2014, by and between Marathon Petroleum Corporation and The Bank of New York Mellon Trust Company, N.A., as trustee (including Form of Notes)	10-Q	4.1	11/3/2014	001-35054		

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Exhibit Number	Exhibit Description	Form	Incorporated by Reference			Filed Herewith	Furnished Herewith
			Exhibit	Filing Date	SEC File No.		
4.4	Second Supplemental Indenture, dated as of December 14, 2015, by and between Marathon Petroleum Corporation and the Bank of New York Mellon Trust Company, N.A., as trustee (including Form of Notes)	8-K	4.1	12/14/2015	001-35054		
4.5	Indenture, dated February 12, 2015, between MPLX LP and The Bank of New York Mellon Trust Company, N.A., as Trustee	8-K	4.1	2/12/2015	001-35714		
4.6	First Supplemental Indenture, dated February 12, 2015, between MPLX LP and The Bank of New York Mellon Trust Company, N.A., as Trustee (including Form of Notes)	8-K	4.2	2/12/2015	001-35714		
4.7	Second Supplemental Indenture, dated as of December 22, 2015, by and between MPLX LP and the Bank of New York Mellon Trust Company, N.A. (including Form of Note)	8-K	4.2	12/22/2015	001-35714		
4.8	Third Supplemental Indenture, dated as of December 22, 2015, by and between MPLX LP and the Bank of New York Mellon Trust Company, N.A. (including Form of Note)	8-K	4.3	12/22/2015	001-35714		
4.9	Fourth Supplemental Indenture, dated as of December 22, 2015, by and between MPLX LP and the Bank of New York Mellon Trust Company, N.A. (including Form of Note)	8-K	4.4	12/22/2015	001-35714		
4.10	Fifth Supplemental Indenture, dated as of December 22, 2015, by and between MPLX LP and the Bank of New York Mellon Trust Company, N.A. (including Form of Note)	8-K	4.5	12/22/2015	001-35714		
4.11	Sixth Supplemental Indenture, dated as of February 10, 2017, by and between MPLX LP and the Bank of New York Mellon Trust Company, N.A. (including Form of Note)	8-K	4.1	2/10/2017	001-35714		
4.12	Seventh Supplemental Indenture, dated as of February 10, 2017, by and between MPLX LP and the Bank of New York Mellon Trust Company, N.A. (including Form of Note)	8-K	4.2	2/10/2017	001-35714		
4.13	Eighth Supplemental Indenture, dated as of February 8, 2018, between the Issuer and The Bank of New York Mellon Trust Company, N.A., as Trustee (including Form of Note)	8-K	4.1	2/8/2018	001-35714		
4.14	Ninth Supplemental Indenture, dated as of February 8, 2018, between the Issuer and The Bank of New York Mellon Trust Company, N.A., as Trustee (including Form of Note)	8-K	4.2	2/8/2018	001-35714		
4.15	Tenth Supplemental Indenture, dated as of February 8, 2018, between the Issuer and The Bank of New York Mellon Trust Company, N.A., as Trustee (including Form of Note)	8-K	4.3	2/8/2018	001-35714		
4.16	Eleventh Supplemental Indenture, dated as of February 8, 2018, between the Issuer and The Bank of New York Mellon Trust Company, N.A., as Trustee (including Form of Note)	8-K	4.4	2/8/2018	001-35714		
4.17	Twelfth Supplemental Indenture, dated as of February 8, 2018, between the Issuer and The Bank of New York Mellon Trust Company, N.A., as Trustee (including Form of Note)	8-K	4.5	2/8/2018	001-35714		
10	Material Contracts						
10.1	Tax Sharing Agreement dated as of May 25, 2011 by and among Marathon Oil Corporation, Marathon Petroleum Corporation and MPC Investment LLC	10	10.1	5/26/2011	001-35054		
10.2	Employee Matters Agreement dated as of May 25, 2011 by and between Marathon Oil Corporation and Marathon Petroleum Corporation	10	10.2	5/26/2011	001-35054		
10.3	Amendment to Employee Matters Agreement, dated as of June 30, 2011 by and between Marathon Oil Corporation and Marathon Petroleum Corporation	8-K	10.1	7/1/2011	001-35054		

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Exhibit Number	Exhibit Description	Form	Incorporated by Reference			Filed Herewith	Furnished Herewith
			Exhibit	Filing Date	SEC File No.		
10.4	Receivables Purchase Agreement, dated as of December 18, 2013, by and among MPC Trade Receivables Company, LLC, Marathon Petroleum Company LP, The Bank of Tokyo-Mitsubishi UFJ, Ltd., New York Branch, as administrative agent and sole lead arranger, certain committed purchasers and conduit purchasers that are parties thereto from time to time and certain other parties thereto from time to time as managing agents and letter of credit issuers.	8-K	10.1	12/23/2013	001-35054		
10.5	Second Amended and Restated Receivables Sale Agreement, dated as of December 18, 2013, by and between Marathon Petroleum Company LP and MPC Trade Receivables Company LLC	8-K	10.2	12/23/2013	001-35054		
10.6	\$2,500,000,000 Four-Year Credit Agreement, dated July 20, 2016, by and among Marathon Petroleum Corporation, as borrower, JPMorgan Chase Bank, N.A., as administrative agent, each of JPMorgan Chase Bank, N.A., Citigroup Global Markets Inc., Barclays Bank PLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated, Mizuho Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ, Ltd., UBS Securities LLC, and Wells Fargo Securities, LLC, as joint lead arrangers and joint bookrunners, Citigroup Global Markets Inc., as syndication agent, each of Bank of America, N.A., Barclays Bank PLC, Mizuho Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ, Ltd., UBS Securities LLC, and Wells Fargo Bank, National Association, as documentation agents, and several other commercial lending institutions that are party thereto.	8-K	10.1	7/26/2016	001-35054		
10.7	\$1,000,000,000 364-Day Revolving Credit Agreement, dated July 20, 2016, by and among Marathon Petroleum Corporation, as borrower, JPMorgan Chase Bank, N.A., as administrative agent, each of JPMorgan Chase Bank, N.A., Citigroup Global Markets Inc., Barclays Bank PLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated, Mizuho Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ, Ltd., UBS Securities LLC, and Wells Fargo Securities, LLC, as joint lead arrangers and joint bookrunners, Citigroup Global Markets Inc., as syndication agent, each of Bank of America, N.A., Barclays Bank PLC, Mizuho Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ, Ltd., UBS Securities LLC, and Wells Fargo Bank, National Association, as documentation agents, and several other commercial lending institutions that are party thereto.	8-K	10.2	7/26/2016	001-35054		
10.8	Contribution, Conveyance and Assumption Agreement, dated as of October 31, 2012, among MPLX LP, MPLX GP LLC, MPLX Operations LLC, MPC Investment LLC, MPLX Logistics Holdings LLC, Marathon Pipe Line LLC, MPL Investment LLC, MPLX Pipe Line Holdings LP and Ohio River Pipe Line LLC.	8-K	10.1	11/6/2012	001-35054		
10.9	Omnibus Agreement, dated as of October 31, 2012, among Marathon Petroleum Corporation, Marathon Petroleum Company LP, MPL Investment LLC, MPLX Operations LLC, MPLX Terminal and Storage LLC, MPLX Pipe Line Holdings LP, Marathon Pipe Line LLC, Ohio River Pipe Line LLC, MPLX LP and MPLX GP LLC.	8-K	10.2	11/6/2012	001-35054		
10.10 *	Marathon Petroleum Corporation Second Amended and Restated 2011 Incentive Compensation Plan	S-3	4.3	12/7/2011	333-175286		
10.11 *	Marathon Petroleum Corporation Policy for Recoupment of Annual Cash Bonus Amounts	10-K	10.10	2/29/2012	001-35054		
10.12 *	Marathon Petroleum Corporation Deferred Compensation Plan for Non-Employee Directors	10-K	10.13	2/28/2013	001-35054		
10.13 *	Marathon Petroleum Amended and Restated Excess Benefit Plan	10-K	10.14	2/24/2017	001-35054		

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Exhibit Number	Exhibit Description	Form	Incorporated by Reference			Filed Herewith	Furnished Herewith
			Exhibit	Filing Date	SEC File No.		
10.14 *	Marathon Petroleum Amended and Restated Deferred Compensation Plan	10-K	10.13	2/29/2012	001-35054		
10.15 *	Marathon Petroleum Corporation Executive Tax, Estate, and Financial Planning Program	10-K	10.14	2/29/2012	001-35054		
10.16 *	Speedway Excess Benefit Plan	10-K	10.15	2/29/2012	001-35054		
10.17 *	Speedway Deferred Compensation Plan	10-K	10.16	2/29/2012	001-35054		
10.18 *	Form of Marathon Petroleum Corporation Amended and Restated 2011 Incentive Compensation Plan Nonqualified Stock Option Award Agreement – Section 16 Officer	8-K	10.6	7/7/2011	001-35054		
10.19 *	Form of Marathon Petroleum Corporation 2011 Incentive Compensation Plan Supplemental Nonqualified Stock Option Award Agreement – Section 16 Officer	8-K	10.2	12/7/2011	001-35054		
10.20 *	Form of Marathon Petroleum Corporation 2011 Incentive Compensation Plan Supplemental Restricted Stock Unit Award Agreement – Non-Employee Director	10-K	10.22	2/29/2012	001-35054		
10.21 *	Marathon Petroleum Corporation Amended and Restated Executive Change in Control Severance Benefits Plan					X	
10.22 *	Form of Marathon Petroleum Corporation Restricted Stock Award Agreement – Officer	10-Q	10.4	5/9/2012	001-35054		
10.23 *	Form of Marathon Petroleum Corporation Nonqualified Stock Option Award Agreement – Officer	10-Q	10.5	5/9/2012	001-35054		
10.24 *	Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan	10-Q	10.1	5/1/2017	001-35054		
10.25 *	Marathon Petroleum Annual Cash Bonus Program	10-K	10.31	2/24/2017	001-35054		
10.26 *	MPC Non-Employee Director Phantom Unit Award Policy	10-K	10.32	2/28/2013	001-35054		
10.27 *	Form of Marathon Petroleum Corporation Restricted Stock Award Agreement – Officer	10-Q	10.2	5/9/2013	001-35054		
10.28 *	Form of Marathon Petroleum Corporation Nonqualified Stock Option Award Agreement – Officer	10-Q	10.3	5/9/2013	001-35054		
10.29 *	MPLX LP – Form of MPC Officer Phantom Unit Award Agreement	10-Q	10.4	5/9/2013	001-35054		
10.30 *	MPLX LP – Form of MPC Officer Performance Unit Award Agreement – 2013-2015 Performance Cycle	10-Q	10.5	5/9/2013	001-35054		
10.31 *	First Amendment to the Marathon Petroleum Corporation Amended and Restated 2011 Incentive Compensation Plan	10-Q	10.1	8/3/2015	001-35054		
10.32 *	First Amendment to the Marathon Petroleum Corporation 2012 Incentive Compensation Plan	10-Q	10.2	8/3/2015	001-35054		
10.33 *	Form of Modification to Performance Unit Award Agreements for the 2016-2018 and 2017-2019 Performance Cycles					X	
10.34 *	Marathon Petroleum Thrift Plan	10-K	10.45	2/24/2017	001-35054		
10.35	Loan Agreement, by and between MPLX LP and MPC Investment LLC, dated December 4, 2015	8-K	10.1	12/10/2015	001-35054		
10.36	First Amendment to Receivables Purchase Agreement, dated July 20, 2016, by and among MPC Trade Receivables Company LLC, Marathon Petroleum Company LP, The Bank of Tokyo-Mitsubishi UFL, Ltd., New York Branch, as administrative agent and sole lead arranger, certain committed purchasers and conduit purchasers that are parties thereto from time to time and certain other parties thereto from time to time as managing agents and letter of credit issuers.	8-K	10.3	7/26/2016	001-35054		

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Exhibit Number	Exhibit Description	Form	Incorporated by Reference			Filed Herewith	Furnished Herewith
			Exhibit	Filing Date	SEC File No.		
10.37*	Form of Marathon Petroleum Corporation Performance Unit Award Agreement	10-Q	10.1	5/2/2016	001-35054		
10.38*	Form of Marathon Petroleum Corporation Restricted Stock Award Agreement - Officer	10-Q	10.2	5/2/2016	001-35054		
10.39*	Form of Marathon Petroleum Corporation Nonqualified Stock Option Award Agreement - Officer	10-Q	10.3	5/2/2016	001-35054		
10.40*	Form of MPLX LP Performance Unit Award Agreement - Marathon Petroleum Corporation Officer	10-Q	10.3	5/1/2017	001-35054		
10.41*	Form of MPLX LP Phantom Unit Award Agreement - Marathon Petroleum Corporation Officer	10-Q	10.5	5/2/2016	001-35054		
10.42*	Form of MPLX LP Performance Unit Award Agreement	10-Q	10.2	5/1/2017	001-35054		
10.43*	MPLX LP Executive Change in Control Severance Benefits Plan	10-Q	10.4	10/30/2017	001-35054		
10.44	\$2,500,000,000 Five-Year Revolving Credit Agreement, dated July 21, 2017, by and among Marathon Petroleum Corporation, as borrower, JPMorgan Chase Bank, N.A., as administrative agent, each of JPMorgan Chase Bank, N.A., Wells Fargo Securities, LLC, Barclays Bank PLC, Citigroup Global Markets Inc., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Mizuho Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ, Ltd., and RBC Capital Markets, as joint lead arrangers and joint bookrunners, Wells Fargo Bank, National Association, as syndication agent, each of Bank of America, N.A., Barclays Bank PLC, Citigroup Global Markets Inc., Mizuho Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ, Ltd., and Royal Bank of Canada, as documentation agents, and several other commercial lending institutions that are party thereto.	8-K	10.1	7/27/2017	001-35054		
10.45	\$1,000,000,000 364-Day Revolving Credit Agreement, dated July 21, 2017, by and among Marathon Petroleum Corporation, as borrower, JPMorgan Chase Bank, N.A., as administrative agent, each of JPMorgan Chase Bank, N.A., Wells Fargo Securities, LLC, Barclays Bank PLC, Citigroup Global Markets Inc., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Mizuho Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ, Ltd., and RBC Capital Markets, as joint lead arrangers and joint bookrunners, Wells Fargo Bank, National Association, as syndication agent, each of Bank of America, N.A., Barclays Bank PLC, Citigroup Global Markets Inc., Mizuho Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ, Ltd., and Royal Bank of Canada, as documentation agents, and several other commercial lending institutions that are party thereto.	8-K	10.2	7/27/2017	001-35054		
10.46	Credit Agreement, dated as of July 21, 2017, among MPLX LP, as borrower, Wells Fargo Bank, National Association, as administrative agent, each of Wells Fargo Securities, LLC, JPMorgan Chase Bank, N.A., Barclays Bank PLC, Citigroup Global Markets Inc., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Mizuho Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ, Ltd. and RBC Capital Markets, as joint lead arrangers and joint bookrunners, JPMorgan Chase Bank, N.A., as syndication agent, each of Bank of America, N.A., Barclays Bank PLC, Citigroup Global Markets Inc., Mizuho Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ, Ltd., and Royal Bank of Canada, as documentation agents, and the other lenders and issuing banks that are parties thereto.	8-K	10.3	7/27/2017	001-35054		
10.47	Partnership Interests Restructuring Agreement, dated as of December 15, 2017, among MPLX GP LLC and MPLX LP	8-K	10.1	12/19/2017	001-35054		

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Exhibit Number	Exhibit Description	Form	Incorporated by Reference			Filed Herewith	Furnished Herewith
			Exhibit	Filing Date	SEC File No.		
10.48	Term Loan Agreement, dated as of January 2, 2018, among MPLX LP, as borrower, Mizuho Bank, Ltd., as administrative agent, each of Mizuho Bank, Ltd., Merrill Lynch, Pierce, Fenner & Smith Incorporated, The Bank of Tokyo-Mitsubishi UFJ, Ltd., Barclays Bank PLC, JPMorgan Chase Bank, N.A., and Wells Fargo Securities, LLC, as joint lead arrangers and joint bookrunners, Bank of America, N.A., The Bank of Tokyo-Mitsubishi UFJ, Ltd., Barclays Bank PLC, JPMorgan Chase Bank, N.A., and Wells Fargo Bank, National Association, as syndication agents, and the other lenders and issuing banks that are parties thereto.	8-K	10.1	1/4/2018	001-35714		
12.1	Computation of Ratio of Earnings to Fixed Charges					X	
14.1	Code of Ethics for Senior Financial Officers	10-K	14.1	2/24/2017	001-35054		
21.1	List of Subsidiaries					X	
23.1	Consent of Independent Registered Public Accounting Firm					X	
24.1	Power of Attorney of Directors and Officers of Marathon Petroleum Corporation					X	
31.1	Certification of Chief Executive Officer pursuant to Rule 13(a)-14 and 15(d)-14 under the Securities Exchange Act of 1934.					X	
31.2	Certification of Chief Financial Officer pursuant to Rule 13(a)-14 and 15(d)-14 under the Securities Exchange Act of 1934.					X	
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350.						X
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350.						X
101.INS	XBRL Instance Document.					X	
101.SCH	XBRL Taxonomy Extension Schema.					X	
101.PRE	XBRL Taxonomy Extension Presentation Linkbase.					X	
101.CAL	XBRL Taxonomy Extension Calculation Linkbase.					X	
101.DEF	XBRL Taxonomy Extension Definition Linkbase.					X	
101.LAB	XBRL Taxonomy Extension Label Linkbase.					X	

† The exhibits and schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K and will be provided to the Securities and Exchange Commission upon request.

* Indicates management contract or compensatory plan, contract or arrangement in which one or more directors or executive officers of the Registrant may be participants.

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Item 16. Form 10-K Summary

Not applicable.

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.

February 28, 2018

MARATHON PETROLEUM CORPORATION

By: /s/ John J. Quaid

John J. Quaid
Vice President and Controller

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Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on February 28, 2018 on behalf of the registrant and in the capacities indicated.

<u>Signature</u>	<u>Title</u>
<u>/s/ Gary R. Heminger</u> Gary R. Heminger	Chairman of the Board and Chief Executive Officer (principal executive officer)
<u>/s/ Timothy T. Griffith</u> Timothy T. Griffith	Senior Vice President and Chief Financial Officer (principal financial officer)
<u>/s/ John J. Quaid</u> John J. Quaid	Vice President and Controller (principal accounting officer)
<u>*</u> Abdulaziz F. Alkhayyal	Director
<u>*</u> Evan Bayh	Director
<u>*</u> Charles E. Bunch	Director
<u>*</u> David A. Daberko	Director
<u>*</u> Steven A. Davis	Director
<u>*</u> Donna A. James	Director
<u>*</u> James E. Rohr	Director
<u>*</u> Frank M. Semple	Director
<u>*</u> J. Michael Stice	Director
<u>*</u> John P. Surma	Director

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* The undersigned, by signing his name hereto, does sign and execute this report pursuant to the Power of Attorney executed by the above-named directors and officers of the registrant, which is being filed herewith on behalf of such directors and officers.

By: /s/ Gary R. Heminger

February 28, 2018

Gary R. Heminger
Attorney-in-Fact

Marathon Petroleum Corporation
Amended and Restated
Executive Change in Control Severance Benefits Plan
(Effective October 26, 2017)

1. Purpose of the Plan.

Marathon Petroleum Corporation and its subsidiaries and affiliates recognize that the contributions of its senior executives to the growth and success of the Corporation (as defined below) are and will continue to be substantial, and the Corporation desires to assure the continued employment of its senior executives. In this connection, the Board of Directors of the Corporation (the "Board") recognizes that, as is the case with many publicly-held corporations, the possibility of a change in control may exist and that such possibility, and the uncertainty and questions which it may raise among management, may result in the departure or distraction of management personnel to the detriment of the Corporation and its stockholders.

Accordingly, the Board has determined that appropriate steps should be taken to reinforce and encourage the continued attention and dedication of the Corporation's senior executives to their assigned duties without distraction in the face of potentially disturbing circumstances arising from the possibility of a change in control of the Corporation.

In order to induce senior executives to remain in the employ of the Corporation, the Corporation has established this Marathon Petroleum Corporation Amended and Restated Executive Change in Control Severance Benefit Plan (the "Plan").

2. Definitions.

As used in the Plan, the following terms shall have the following meanings (and the singular includes the plural, unless the context clearly indicates otherwise):

Administrator: The Compensation Committee of the Board, provided that the Administrator may delegate its authority under this Plan pursuant to such conditions or limitations as the Administrator may establish.

Applicable Event: "Applicable Event" shall mean a Change in Control or a Potential Change in Control.

Cause: "Cause" shall mean a Separation from Service of the Employee by the Corporation upon (i) the willful and continued failure by the Employee to substantially perform the Employee's duties with the Corporation (other than any such failure resulting from Separation from Service by the Employee for Good Reason or any such failure resulting from the Employee's incapacity due to physical or mental illness), after a demand for substantial performance is delivered to the Employee that specifically identifies the manner in which the Corporation believes that the Employee has not substantially performed his or her duties, and the Employee has failed to resume substantial performance of his or her duties on a continuous basis within 14 days of receiving such demand, (ii) the willful engaging by the Employee in conduct which is demonstrably and materially injurious to the Corporation, monetarily or otherwise or (iii) the Employee's conviction of a felony or conviction of a misdemeanor which impairs the Employee's ability substantially to perform his or her duties with the Corporation. For purposes of

Cause, no act, or failure to act, on the Employee's part shall be deemed "willful" unless done, or omitted to be done, by the Employee not in good faith and without reasonable belief that the action or omission was in the best interest of the Corporation.

Change in Control of MPC and Change in Control: A change in control of a nature that would be required to be reported in response to Item 6(e) of Schedule 14A of Regulation 14A promulgated under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), whether or not MPC is then subject to such reporting requirement; provided, that, without limitation, such a change in control shall be deemed to have occurred if:

(i) any person (as such term is used in Sections 13(d) and 14(d) of the Exchange Act) (a "Person") is or becomes the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of MPC (not including in the amount of the securities beneficially owned by such person any such securities acquired directly from MPC or its affiliates) representing twenty percent (20%) or more of the combined voting power of MPC's then outstanding voting securities; provided, however, that for purposes of this Plan the term "Person" shall not include (A) MPC or any of its subsidiaries, (B) a trustee or other fiduciary holding securities under an employee benefit plan of MPC or any of its subsidiaries, (C) an underwriter temporarily holding securities pursuant to an offering of such securities, or (D) a corporation owned, directly or indirectly, by the stockholders of MPC in substantially the same proportions as their ownership of stock of MPC; and provided, further, however, that for purposes of this paragraph (i), there shall be excluded any Person who becomes such a beneficial owner in connection with an Excluded Transaction (as defined in paragraph (iii) below); or

(ii) the following individuals cease for any reason to constitute a majority of the number of directors then serving: individuals who, on the date hereof, constitute the Board and any new director (other than a director whose initial assumption of office is in connection with an actual or threatened election contest including, but not limited to, a consent solicitation, relating to the election of directors of MPC) whose appointment or election by the Board or nomination for election by MPC's stockholders was approved or recommended by a vote of at least two-thirds (2/3) of the directors then still in office who either were directors on the date hereof or whose appointment, election or nomination for election was previously so approved or recommended; or

(iii) there is consummated a merger or consolidation of MPC or any direct or indirect subsidiary thereof with any other corporation, other than a merger or consolidation (an "Excluded Transaction") which would result in the voting securities of MPC outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving corporation or any parent thereof) at least 50% of the combined voting power of the voting securities of the entity surviving the merger or consolidation (or the parent of such surviving entity) immediately after such merger or consolidation, or the shareholders of MPC approve a plan of complete liquidation of MPC, or there is consummated the sale or other disposition of all or substantially all of MPC's assets.

Notwithstanding the foregoing or any provision of the Plan or the applicable award agreement to the contrary, with respect to any settlement of awards or other distributions under this Plan which would be a payment of deferred compensation within the meaning of Section 409A of the Code with respect to the Employee and which is a settlement or distribution made upon the Employee's Separation from Service in connection with a Change in Control, the term "Change in Control" under this Plan shall mean an event that is both a "Change in Control" as defined in the preceding paragraphs and a change in ownership or change in effective control for purposes of Section 409A of the Code.

Corporation: Marathon Petroleum Corporation and each related company or business which is part of the same controlled group under Code sections 414(b) or 414(c); provided that where specified by Marathon Petroleum Corporation in accordance with Code section 409A, in applying Code section 1563(a)(1) – (a)(3) for purposes of determining a controlled group of corporations under Code section 414(b) and in applying Treasury Regulation section 1.414(c)-2 for purposes of determining whether trades or businesses are under common control under Code section 414(c), the phrase “at least 50 percent” is used instead of “at least 80 percent.”

Disability or Disabled: The Employee’s incapacity due to physical or mental illness which in the opinion of a licensed physician renders the Employee incapable of performing his or her assigned duties with the Corporation, and shall be deemed to occur on the earlier of (i) the date that there is no reasonable expectation that the Participant will return to service with the Corporation or (ii) the date the Employee has been absent from the full-time performance of his or her duties with the Corporation for six consecutive months or more.

Effective Date: October 26, 2017.

Employee: Senior executives of the Corporation who are grade 88 or higher.

Good Reason: A Separation from Service by the Employee within ninety days after any of the following events, unless the Employee consents to the applicable event:

- (i) material diminution in the Employee’s base compensation;
- (ii) material diminution in the Employee’s authority, duties, or responsibilities;
- (iii) material diminution in the authority, duties, or responsibilities of the supervisor to whom the Employee is required to report;
- (iv) a forced relocation of Employee’s principal place of employment to a location more than 50 miles from the Employee’s then-current principal place of employment; or
- (v) a material breach by the Corporation of Section 5.a of this Plan or the agreement under which the Employee provides services.

Notwithstanding the foregoing, no Good Reason will have occurred unless and until the Employee has: (A) provided the Corporation, within sixty days of Employee’s knowledge of the occurrence of the facts and circumstances underlying the Good Reason event, written notice stating with specificity the applicable facts and circumstances underlying such finding of Good Reason, and (B) provided the Corporation with an opportunity to cure the same within thirty days after the receipt of such notice.

MPC: Marathon Petroleum Corporation.

Notice of Termination: A written notice which indicates the specific reason(s) relied upon by the Corporation for Separation from Service of an Employee and which sets forth in reasonable detail the facts and circumstances claimed to provide a basis for the Employee’s Separation from Service. Any Separation from Service by the Corporation for Cause or for Disability shall be communicated by Notice of Termination to the Employee, and or any Separation from Service by the Employee for Good Reason shall be communicated by Notice of Termination to the Corporation.

Plan: This plan, effective as of the Effective Date set forth above, and as amended from time to time.

Potential Change in Control of the Corporation and Potential Change in Control: A Potential Change in Control of the Corporation or Potential Change in Control shall be deemed to have occurred, if:

(i) the Corporation enters into an agreement, the consummation of which would result in the occurrence of a Change in Control of the Corporation;

(ii) any Person (including the Corporation) publicly announces an intention to take or to consider taking actions which if consummated would constitute a Change in Control of the Corporation;

(iii) any Person becomes the beneficial owner, directly or indirectly, of securities of the Corporation representing 15% or more of the combined voting power of the Corporation's then outstanding securities (not including in the amount of the securities beneficially owned by such Person any such securities acquired directly from the Corporation or its affiliates); or

(iv) the Board adopts a resolution to the effect that, for purposes of this Plan, a Potential Change in Control of the Corporation has occurred.

Potential Change in Control Period: The period beginning on the date a Potential Change in Control occurs and ending on the earlier of (i) date on which a Change in Control occurs or (ii) the date the Board makes a good faith determination that the risk of a Change in Control has terminated.

Qualified Termination: A Employee has a Qualified Termination if he or she Separates from Service within two years after the date of a Change in Control unless such Separation from Service is (i) due to death or Disability, (ii) by the Corporation for Cause, (iii) by the Employee other than for Good Reason or (iv) on or after the date that the Employee attains age 65. If an Employee Separates from Service prior to a Change in Control and such Separation from Service is other than (w) due to death or Disability, (x) by the Corporation for Cause, (y) by the Employee other than for Good Reason or (z) on or after the date that the Employee attains age 65, the Employee will be deemed to have a Qualified Termination prior to a Change in Control so long as the Employee reasonably demonstrates that such Separation from Service (I) was at the request of or as a result of actions by a third party who has taken steps reasonably calculated to effect a Change in Control or (II) occurs during a Potential Change in Control Period.

Separation Date: The date that an Employee has a Separation from Service.

Separation from Service or Separate from Service: Separation from Service shall have the same meaning as set forth under Code section 409A with respect to the Corporation.

Severance Benefits: The benefits specified in Section 3(d) hereof that are due to an Employee who has a Qualified Termination.

Speedway: Speedway LLC and its subsidiaries, or, as applicable, any successor(s) to Speedway LLC and its subsidiaries.

3. Compensation Upon Separation from Service or During Disability

a. Disability

During any period following an Applicable Event during which an Employee fails to perform his or her full-time duties with the Corporation as a result of incapacity due to physical or mental illness, such Employee's total compensation, including Base Salary, bonus and any benefits, will continue unaffected until either such Employee's Separation Date or such Employee returns to the full-time performance of his or her duties. In the event the Employee returns to the full-time performance of his or her duties prior to a Separation from Service, such Employee shall continue to receive his or her full Base Salary and bonus plus all other amounts to which such Employee is entitled under any compensation or other employee benefit plan of the Corporation without interruption. If an Employee is determined to be Disabled, the Corporation shall promptly cause the Employee to have a Separation from Service due to Disability. In the event of an Employee's Separation from Service due to Disability, such Employee shall not be entitled to Severance Benefits under this Plan and such Employee's benefits shall be determined in accordance with the Corporation's retirement, insurance and other applicable programs and plans then in effect.

b. Separation from Service for Cause or Voluntary Separation from Service for Other Than Good Reason

If an Employee has a Separation from Service by the Corporation for Cause or by the Employee other than for Good Reason, the Corporation shall pay such Employee his or her full Base Salary through the Separation Date at the rate in effect at the time Notice of Termination is given, plus all other amounts to which such Employee is entitled under any compensation or benefit plan of the Corporation at the time such payments are due, and the Corporation shall have no further obligations to such Employee under this Plan.

c. Death

If an Employee has a Separation from Service by reason of his or her death, such Employee's benefits shall be determined in accordance with the Corporation's retirement, survivor's benefits, insurance and other applicable programs and plans then in effect, and such Employee shall not be entitled to Severance Benefits hereunder.

d. Qualified Termination

If an Employee has a Qualified Termination, he or she shall be entitled to the following Severance Benefits:

(i) *Accrued Compensation and Benefits.* The Corporation shall provide to the Employee:

(A) the Employee's Base Salary accrued through the Separation Date to the extent not theretofore provided;

(B) a lump sum cash amount equal to the value of the Employee's unused vacation days accrued through the Separation Date; and

(C) the Employee's normal post-termination compensation and benefits under the Corporation's retirement, insurance and other compensation and benefit plans as in effect immediately prior to the Separation Date, or if more favorable to the Employee, immediately prior to the Applicable Event, which shall be paid at the time or times indicated pursuant to the terms of the plans or arrangements providing for such benefits.

(ii) *Lump Sum Severance Payment.* The Corporation shall provide to the Employee a severance payment in the form of a cash lump sum distribution equal to the Employee's Current Annual Compensation (as defined below) multiplied times three (3); provided, however, that if the Employee attains age 65 within three years of the Separation Date, the Employee's benefit will be limited to a pro rata portion of such benefit based on a fraction equal to the number of full and partial months existing between the Separation Date and the Employee's sixty-fifth (65th) birthday divided by 36 months. For purposes of this paragraph, the term "Current Annual Compensation" shall mean the sum of:

(A) the Employee's Base Salary in effect immediately prior to the occurrence of the circumstances giving rise to such Separation from Service or, if higher, immediately prior to the Applicable Event; and

(B) an amount equal to the highest annual bonus awarded to the Employee, if any, under any annual bonus plan of the Corporation or its predecessor in the three (3) years immediately preceding the Separation Date or, if higher, in the three (3) years immediately preceding the Applicable Event.

(iii) *Continuation of Welfare Benefits.* Subject to the benefits offset described below, the Corporation will arrange to make available to the Employee life and health insurance benefits during the Welfare Continuation Period (as defined below) that are substantially similar to those which are provided to similarly-situated active employees who participate in such welfare benefit plans. These benefits will be provided at a cost to the Employee that is no greater than the amount paid for such benefits by active employees who participate in such Corporation-sponsored welfare benefit plan. The Welfare Continuation Period extends from the Separation Date for a period of thirty-six (36) months, or, if earlier, until the Employee attains age sixty-five (65). The benefits otherwise receivable by the Employee pursuant to this paragraph (iii) shall be reduced to the extent comparable benefits are actually received by the Employee during the Welfare Continuation Period. For purposes of complying with the terms of this offset, the Employee is obligated to report to the Corporation the amount of any such benefits actually received. To the extent permitted by applicable law, the period of time during which the Employee is receiving coverage during the Welfare Continuation Period shall run concurrently with the coverage continuation period federally mandated under the Consolidated Omnibus Budget Reconciliation Act (or similar state law). Notwithstanding the foregoing, if benefits provided under this paragraph (iii) would violate the nondiscrimination rules applicable to health insurance benefits, or would result in penalties to the Corporation, the Corporation shall reform this paragraph (iii) in a manner as is necessary to comply with the nondiscrimination rules and avoid any such penalties.

(iv) *Retiree Medical and Life Benefits.* The Corporation will arrange to make available to the Employee retiree life and health insurance benefits determined as if under the Corporation's welfare benefit plans the Employee's actual participation credit (or continuous service) and actual age as of the Separation Date were increased by the additional three years of service and age provided in paragraph 3(d)(v)(A)(3) below. If eligible for such coverage, the Employee may elect to commence participation in retiree medical benefits coverage at any time following the expiration of the Welfare Continuation Period (or immediately after the Separation Date, if the Employee satisfies the eligibility requirements without taking into consideration the additional three years of service and age).

Such retiree medical and life insurance coverage, if any, will be provided by the entity that is the Employee's employer as of the Separation Date.

(v) *Supplemental Retirement Benefit.* In addition to the pension benefits to which the Employee is entitled under the Corporation's defined benefit pension plans, the Corporation shall provide to the Employee, in the form of a cash lump sum distribution, a benefit (the "Supplemental Retirement Benefit") equal to the difference between: (A) the lump sum value of the Employee's Enhanced Pension Benefit (as defined in paragraph (A) below), and (B) the lump sum value of the Employee's Actual Pension Benefit (as defined in paragraph (B) below). The methods and assumptions that existed under the applicable Corporation pension plan (or plans) immediately prior to the Applicable Event for purposes of determining a lump sum distribution shall be used for purposes of determining the lump sum values in (A) and (B). In determining the Enhanced Pension Benefit and the Actual Pension Benefit, amendments to the MPC Pension Plans, and the Speedway Pension Plans (as each is defined in paragraph 3(d)(v) (B) below) made subsequent to the Applicable Event and on or prior to the Separation Date, if any, shall be disregarded if they adversely affect in any manner the computation of retirement benefits thereunder.

(A) *Enhanced Pension Benefit.* The amount of the Employee's Enhanced Pension Benefit shall be equal to the Actual Pension Benefit for which the Employee is eligible under the MPC Pension Plans, and the Speedway Pension Plans as of the Separation Date, as adjusted to incorporate the enhancements outlined in paragraphs (1) through (6) below. The enhancements outlined in this paragraph (A) shall be applied only to the Employee's benefits under the MPC Pension Plans, or the Speedway Pension Plans in which the Employee was an active participant as of the Separation Date.

(1) *Normal Retirement Benefit - Service.* For purposes of determining the Employee's monthly normal retirement benefit payable at normal retirement age, service used in the formula(s) shall be deemed to be equal to the sum of the Employee's actual service for benefit accrual purposes plus three years. For this purpose, the Employee's actual service shall be determined as of the Separation Date.

(2) *Normal Retirement Benefit - Final Average Pay.* For purposes of determining the Employee's monthly normal retirement benefit payable at normal retirement age, final average pay shall be calculated using the sum of:

- I. the Employee's Base Salary in effect immediately prior to the occurrence of the circumstances giving rise to such Separation from Service or, if higher, immediately prior to the Applicable Event; and
- II. if bonus is considered covered compensation under the applicable pension plan, an amount equal to the highest annual bonus awarded to the Employee, if any, under any annual bonus plan of the Corporation or its predecessor with respect to the three (3) years immediately preceding the Separation Date or, if higher, the three (3) years immediately preceding the Applicable Event (but not less than the amount of bonus taken into account in the Employee's Actual Pension Benefit).

Final average pay taken into account for this paragraph shall not be less than the amount of final average pay taken into account in the determination of the Employee's Actual Pension Benefit.

(3) *Early Commencement Factors - Enhanced Service and Age.* For purposes of determining the early commencement factors that apply to the Employee's monthly normal retirement benefit, the Employee's service and age shall be deemed equal to the Employee's actual service and age plus three (3) years of service and three (3) years of

age, respectively. For this purpose, the Employee's actual service and actual age shall be determined as of the Separation Date.

(4) *Full Vesting.* The Employee's accrued benefits under the MPC Pension Plans and the Speedway Pension Plans shall be deemed to be fully vested or, to the extent not so vested, paid as an additional benefit under this Plan.

(5) *Special Speedway Provisions.* If the Employee is employed by Speedway on the Separation Date:

- I. the additional service credit under paragraph (1) above shall be disregarded for purposes of calculating the accrued benefit under the prior traditional defined benefit plan formula under the Speedway Retirement Plan which is otherwise applicable in determining the Enhanced Pension Benefit, but shall be counted for early retirement eligibility and other purposes; and
- II. in calculating the Enhanced Pension Benefit related to the pension equity formula under the Speedway Retirement Plan, the additional service credit under paragraph (1) above shall be disregarded and instead the Employee shall be deemed to have Speedway Retirement Plan benefit accruals for three additional years following the Separation Date. The age and participation service points for each deemed year of accrual shall be calculated based on what the Employee's actual age and service would have been at the end of each calendar year had the Employee remained employed with Speedway.

(6) *Determination of Age - All other purposes.* Except as specifically provided otherwise in this paragraph (A), the Employee's age, as well as the age of the Employee's spouse, survivor, and/or co-pensioner, used in the determination of the amount of benefits payable under the applicable pension plan shall be determined using the Employee's age and their actual ages as of the Separation Date.

(B) *Actual Pension Benefit.* The amount of the Employee's Actual Pension Benefit is determined as the sum of the monthly pension benefits payable to the Employee as of the Separation Date under the tax-qualified defined benefit pension plans, non-qualified defined benefit excess benefit plans, and non-qualified top-hat or supplemental defined benefit plans sponsored or maintained by the Corporation or Speedway (or any successor plans or similar plans) (the "MPC Pension Plans," and the "Speedway Pension Plans," as applicable).

(vi) *Supplemental Savings Benefit.* In addition to the benefits the Employee is entitled to under the Marathon Petroleum Thrift Plan and the related non-qualified supplemental savings plans ("Savings Plans"), the Corporation shall provide to the Employee, in the form of a cash lump sum distribution, a benefit equal to the excess, if any, of:

(A) the amount the Employee would have been entitled to under the Savings Plans determined as if the Employee was fully vested thereunder on the Separation Date, over

(B) the amount the Employee is entitled to under the Savings Plans on the Separation Date.

(vii) *Timing.* Except as otherwise specifically stated herein, the payments provided for in this paragraph (d) shall be made not later than thirty days following the Separation Date.

Notwithstanding any provision of the Plan to the contrary, if the Employee is a “specified employee” as determined by the Corporation in accordance with its established policy, any payments of deferred compensation within the meaning of Section 409A of the Internal Revenue Code of 1986 (the “Code”) payable to the Employee as a result of the Employee’s Separation from Service (other than as a result of death) which would otherwise be paid within six months of his or her Separation from Service shall be payable on the date that is one day after the earlier of (i) the date that is six months after the Employee’s Separation Date or (ii) the date that otherwise complies with the requirements of Section 409A of the Code. Each payment described herein is hereby designated as a “separate payment” for purposes of Section 409A of the Code.

(e) The Corporation shall also pay to the Employee all legal fees and expenses incurred by the Employee, as such legal fees and expenses are incurred but no later than the end of the calendar year after such fees and expenses were incurred, as a result of Separation from Service (including all such fees and expenses, if any, incurred in contesting or disputing any such Separation from Service or in seeking to obtain or enforce any right or benefit provided by this Plan or in connection with any tax audit or proceeding to the extent attributable to the application of Section 4999 of the Code to any payment or benefit provided hereunder) or otherwise.

(f) Other than as provided in Section 3(d)(iii), the Employee shall not be required to mitigate the amount of any payment provided for in this Section 3 by seeking other employment or otherwise, nor shall the amount of any payment provided for in this Section 3 be reduced by any compensation earned by the Employee as the result of employment by another employer, including self-employment, after the Separation Date, or otherwise.

4. Incentive Awards.

a. General.

This Section 4 shall not delay the vesting of any outstanding options, stock appreciation rights, stock awards and restricted stock awards or cash awards granted to the Employee under any option or incentive plan of the Corporation past the date when such awards would, by their terms have become vested. However, this Section 4 provides for accelerated vesting of awards which, by their terms, would not become vested upon a Qualified Termination. In addition, to the extent required for compliance with the requirements of Code Section 409A, this Section 4 shall delay the settlement of such awards, as set forth in Section 4(e) below, if such awards would have been settled upon a Qualified Termination. Also, notwithstanding anything in this Plan or this Section 4 to the contrary, the provisions of this Section 4 shall not amend or modify any award described herein which was granted prior to the Effective Date of this Plan. With respect to any awards described herein that are granted on and after the Effective Date of this Plan, the terms of this Section 4 regarding vesting and settlement of awards upon a Qualified Termination shall be considered an integral term of such awards but shall not prevent such award from being distributed upon any earlier distribution event which is provided for under the applicable award agreement or plan.

b. Options, Stock Appreciation Rights, Stock Awards and Cash Awards.

Upon a Qualified Termination all outstanding options, stock appreciation rights, stock awards, and restricted stock awards or cash awards granted to the Employee under any option or incentive plan of the Corporation shall be immediately fully vested and immediately exercisable and shall remain so exercisable throughout their entire original terms, and all stock awards, restricted stock awards, and cash awards shall be immediately vested and, subject to Section 4(e) shall be settled upon vesting.

c. Restricted Stock Units.

Upon a Qualified Termination all outstanding restricted stock unit awards shall be immediately vested. To the extent that immediate settlement of vested outstanding restricted stock units would result in an adverse tax consequence to an Employee under Section 409A of the Code, then outstanding restricted stock units will (subject to Section 4(e)) be settled upon the earliest to occur of (i) the date on which a change in ownership or change in effective control for purposes of Section 409A of the Code occurs and the Employee has a Separation from Service in connection with such change of control, or (ii) the date on which the restricted stock units would have been settled absent a Change in Control.

d. Separation Date Following Potential Change in Control.

If the Employee has a Separation from Service prior to a Change in Control which also constitutes a Qualified Termination, and the Employee is entitled to benefits under Section 3(d), as of the Separation Date all outstanding options and stock appreciation rights shall be immediately fully vested and immediately exercisable and shall remain so exercisable throughout their entire original terms, and all stock awards, restricted stock awards, restricted stock unit awards and cash awards shall be immediately vested and, subject to Section 4(e), shall be settled upon vesting.

e. Settlement of Deferred Compensation Awards.

Notwithstanding any provision of the Plan or the applicable award agreement to the contrary, if the Employee is a “specified employee” as determined by the Corporation in accordance with its established policy, any settlement of awards described in this Section 4 which would be a payment of deferred compensation within the meaning of Section 409A of the Code with respect to the Employee as a result of the Employee’s Separation from Service (other than as a result of death) and which would otherwise be paid within six months of the Employee’s Separation Date shall be payable on the date that is one day after the earlier of (i) the date that is six months after the Employee’s Separation Date or (ii) the date that otherwise complies with the requirements of Section 409A of the Code. Each payment described herein is hereby designated as a “separate payment” for purposes of Section 409A of the Code.

5. Successors; Binding Plan.

a. Successors to the Corporation

The Corporation will require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Corporation or of any division or subsidiary thereof employing the Employee to expressly assume and agree to perform this Plan in the same manner and to the same extent that the Corporation would be required to perform it if no such succession had taken place. Failure of the Corporation to obtain such assumption and agreement prior to the effectiveness of any such succession shall be a breach of this Plan.

b. Representatives or Heirs of Employee

This Plan shall inure to the benefit of and be enforceable by the Employee’s personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees. If the Employee should die while any amount would still be payable to the Employee hereunder if the

Employee had continued to live, all such amounts, unless otherwise provided herein, shall be paid in accordance with the terms of this Plan to the Employee's estate.

6. Notice

For the purpose of this Plan, notices and all other communications provided for in the Plan shall be in writing and shall be deemed to have been duly given when delivered or mailed by United States registered mail, return receipt requested, postage prepaid, addressed to the respective addresses set forth on the first page of this Plan.

7. Miscellaneous

a. Jurisdiction. The validity, interpretation, construction and performance of this Plan shall be governed by the laws of the State of Delaware.

b. Separation Agreement. As a condition of payment under this Plan, the Corporation may also require, at its discretion, the Employee to execute a separation agreement, which will include, without limitation: (i) a release of claims in favor of the Corporation and its directors, officers, employees and employee benefit plans; (ii) non-solicitation, non-disparagement, confidentiality and further cooperation provisions; and (iii) non-competition provisions no more restrictive than the Corporation's form of non-competition agreement. To the extent required by Section 409A of the Code, if the period during which the Employee has to execute the separation agreement spans two calendar years, any payment under this Plan shall be paid (or commence) in the second calendar year.

8. Validity

The invalidity or unenforceability of any provision of this Plan shall not affect the validity or enforceability of any other provision of this Plan, which shall remain in full force and effect.

9. Counterparts

This Plan may be executed in several counterparts, each of which shall be deemed to be an original but all of which together will constitute one and the same instrument.

10. Claims and Arbitration

Any dispute or controversy arising under or in connection with this Plan shall be settled exclusively by arbitration in accordance with the rules of the American Arbitration Association then in effect. Judgment may be entered on the arbitrator's award in any court having jurisdiction; provided, however, that the Employee shall be entitled to seek specific performance of his or her right to be paid until the Separation Date during the pendency of any dispute or controversy arising under or in connection with this Plan. Any such arbitration shall be held in Findlay, Ohio.

11. Plan Amendment and Termination

The Corporation may at any time amend or terminate this Plan, provided that for a period of two (2) years following a Change in Control, the Plan may not be amended in a manner adverse to an Employee with respect to that Change in Control. Any amendment or termination shall be set out in an instrument in writing and executed by an appropriate officer of the Corporation.

12. Entire Plan

Except as specifically modified, waived or discharged in an individual agreement between an Employee and the Corporation which meets the requirements of Section 8 of this Plan, this Plan supersedes any other agreement or understanding between the parties hereto with respect to the issues that are the subject matter of this Plan.

IN WITNESS WHEREOF, Marathon Petroleum Corporation has caused its name to be hereunto subscribed by its Executive Vice President, Human Resources and Administrative Services.

MARATHON PETROLEUM CORPORATION

/s/ Rodney P. Nichols

By: Rodney P. Nichols
Its: Executive Vice President, Human
Resources and Administrative Services

MARATHON PETROLEUM CORPORATION

**MODIFICATION TO PERFORMANCE UNIT AWARD AGREEMENTS FOR THE 2016-2018 AND 2017-2019
PERFORMANCE CYCLES**

WHEREAS, Marathon Petroleum Corporation (the “Company”) currently maintains and operates the Marathon Petroleum Corporation 2012 Incentive Compensation Plan (the “2012 Plan”);

WHEREAS, pursuant to the 2012 Plan, the Company granted performance units to certain of its employees in 2016 and in 2017 that vest pursuant to certain terms and conditions, including the achievement of performance objectives over a three-year period beginning in 2016 and 2017, respectively (the “Performance Units”), which grants are evidenced by award agreements (such agreements, the “Performance Unit Award Agreements”);

WHEREAS, Section 5(a) of the 2012 Plan and Section 15 of the Performance Unit Award Agreements permit the Compensation Committee of the Board of Directors of the Company (the “Committee”) to modify the terms of the Performance Unit Award Agreements; and

WHEREAS, the Committee desires to modify the Performance Unit Award Agreements to align the payment timing set forth in Section 7 upon a Qualified Termination (as defined in the Performance Unit Award Agreements) with the payment in the event of a participant’s retirement.

NOW, THEREFORE, effective as of December 22, 2017, Section 7 of all outstanding Performance Unit Award Agreements shall be modified to read in its entirety as follows:

“7. Vesting Upon a Qualified Termination. Notwithstanding anything herein to the contrary, upon a Participant’s Qualified Termination prior to the end of the Performance Cycle, the Participant’s right to receive the Performance Units, unless previously forfeited pursuant to Paragraph 4, shall vest in full and the Payout Percentage shall be determined as follows: (i) for the time period from the beginning of the Performance Cycle to the date of the Change in Control, the Payout Percentage shall be based upon actual TSR Performance Percentile; and (ii) for the time period from the date of the Change in Control to the Qualified Termination, the Payout Percentage shall be 100%. A payment equal to the vested value of the Performance Units shall be made in accordance with Paragraph 3, except that it shall be made 100% in cash and between January 1 and March 15 immediately following the end of the Performance Cycle. Such vesting shall satisfy the rights of the Participant and the obligations of the Corporation under this Award Agreement in full.”

Except as otherwise provided herein, each Performance Unit Award Agreement shall continue in full force and effect in accordance with its terms, and any capitalized terms not otherwise defined in this modification shall have the meaning given to such term in the Performance Unit Award Agreement or the 2012 Plan, as applicable.

IN WITNESS WHEREOF, this Modification is hereby executed on December 22, 2017.

MARATHON PETROLEUM CORPORATION

Rodney P. Nichols
Executive Vice President, Human Resources and
Administrative Services

Marathon Petroleum Corporation
Computation of Ratio of Earnings to Fixed Charges
TOTAL ENTERPRISE BASIS - Unaudited
(In millions)

	For the Years Ended December 31,				
	2017	2016	2015	2014	2013
Portion of rentals representing interest	\$ 101	\$ 109	\$ 110	\$ 85	\$ 71
Capitalized interest	63	64	37	27	28
Other interest and fixed charges	624	539	288	201	167
Preference security dividend requirements of consolidated subsidiaries	65	41	—	—	—
Total fixed charges (A)	\$ 853	\$ 753	\$ 435	\$ 313	\$ 266
Earnings-pretax income with applicable adjustments (B)	\$ 4,212	\$ 3,004	\$ 4,852	\$ 4,194	\$ 3,518
Ratio of (B) to (A)	4.9	4.0	11.2	13.4	13.2

MARATHON PETROLEUM CORPORATION
LIST OF SUBSIDIARIES
as of December 31, 2017

<u>Name of Subsidiary</u>	<u>Jurisdiction of Organization/Incorporation</u>
631 South Main Street Development LLC	Delaware
* Ascension Pipeline Company, LLC	Delaware
* Bakken Pipeline Investments LLC	Delaware
Blanchard Holdings Company LLC	Delaware
Blanchard Pipe Line Company LLC	Delaware
Blanchard Refining Company LLC	Delaware
* Blanchard Terminal Company LLC	Delaware
Bonded Oil Company	Delaware
Buckeye Assurance Corporation	Vermont
Canton Refining Logistics LLC	Delaware
Catlettsburg Refining Logistics LLC	Delaware
Catlettsburg Refining, LLC	Delaware
* Centennial Pipeline LLC	Delaware
* Centrahoma Processing LLC	Delaware
Cincinnati BioRefining Corp.	Delaware
Cincinnati Renewable Fuels LLC	Delaware
* Crowley Blue Water Partners LLC	Delaware
* Crowley Coastal Partners, LLC	Delaware
* Crowley Ocean Partners LLC	Delaware
* Crowley Tanker Charters III, LLC	Delaware
* Crowley Tankers II, LLC	Delaware
* Crowley Tankers IV, LLC	Delaware
* Crowley Tankers V, LLC	Delaware
* Dakota Access Holdings LLC	Delaware
* Dakota Access, LLC	Delaware
Detroit Refining Logistics LLC	Delaware
* Enchi Corporation	Delaware
* Energy Transfer Crude Oil Company, LLC	Delaware
* ETCO Holdings LLC	Delaware
* Explorer Pipeline Company	Delaware
Galveston Bay Refining Logistics LLC	Delaware
Garyville Refining Logistics LLC	Delaware
* Gravcap, Inc.	Delaware
* Green Bay Terminal Corporation	Wisconsin
* Guilford County Terminal Company, LLC	North Carolina
Hardin Assurance Ltd.	Bermuda
Hardin Street Holdings LLC	Delaware
* Hardin Street Marine LLC	Delaware
* Hardin Street Transportation LLC	Delaware
* Illinois Extension Pipeline Company, L.L.C.	Delaware
* Jefferson Gas Gathering Company, L.L.C.	Delaware
* Johnston County Terminal, LLC	Delaware
* Liberty Útica Development, L.L.C.	Delaware
* Lincoln Pipeline LLC	Delaware
* LOCAP LLC	Delaware
* LOOP LLC	Delaware

Marathon Canada Marketing, Ltd.	Delaware
Marathon Carbon Management LLC	Delaware
Marathon Petroleum Company Canada, Ltd.	Alberta
Marathon Petroleum Company LP	Delaware
Marathon Petroleum Logistics Services LLC	Delaware
Marathon Petroleum Service Company	Delaware
Marathon Petroleum Supply LLC	Delaware
Marathon Petroleum Trading Canada LLC	Delaware
Marathon Pipe Line Company	Nevada
* Marathon Pipe Line LLC	Delaware
Marathon PrePaid Card LLC	Ohio
Marathon Refining Logistics Services LLC	Delaware
Marathon Renewable Fuels Corp.	Delaware
Marathon Renewable Supply LLC	Delaware
* MarEn Bakken Company LLC	Delaware
* MarkWest Blackhawk, L.L.C.	Texas
* MarkWest Bluestone Ethane Pipeline, L.L.C.	Delaware
* MarkWest Buffalo Creek Gas Company, L.L.C.	Oklahoma
* MarkWest EMG Jefferson Dry Gas Gathering Company, L.L.C.	Delaware
* MarkWest Energy East Texas Gas Company, L.L.C.	Delaware
* MarkWest Energy Finance Corporation	Delaware
* MarkWest Energy GP, L.L.C.	Delaware
* MarkWest Energy Operating Company, L.L.C.	Delaware
* MarkWest Energy Partners, L.P.	Delaware
* MarkWest Energy South Texas Gas Company, L.L.C.	Delaware
* MarkWest Energy West Texas Gas Company, L.L.C.	Delaware
* MarkWest Gas Marketing, L.L.C.	Texas
* MarkWest Gas Services, L.L.C.	Texas
* MarkWest Hydrocarbon, L.L.C.	Delaware
* MarkWest Javelina Company, L.L.C.	Texas
* MarkWest Javelina Pipeline Company, L.L.C.	Texas
* MarkWest Liberty Bluestone, L.L.C.	Delaware
* MarkWest Liberty Ethane Pipeline, L.L.C.	Delaware
* MarkWest Liberty Gas Gathering, L.L.C.	Delaware
* MarkWest Liberty Midstream & Resources, L.L.C.	Delaware
* MarkWest Mariner Pipeline, L.L.C.	Delaware
* MarkWest Marketing, L.L.C.	Delaware
* MarkWest McAlester, L.L.C.	Oklahoma
* MarkWest Michigan Pipeline Company, L.L.C.	Michigan
* MarkWest Mountaineer Pipeline Company, L.L.C.	Delaware
* MarkWest New Mexico, L.L.C.	Texas
* MarkWest Ohio Fractionation Company, L.L.C.	Delaware
* MarkWest Oklahoma Gas Company, L.L.C.	Oklahoma
* MarkWest Panola Pipeline, L.L.C.	Texas
* MarkWest Pinnacle, L.L.C.	Texas
* MarkWest Pioneer, L.L.C.	Delaware
* MarkWest Pipeline Company, L.L.C.	Texas
* MarkWest PNG Utility, L.L.C.	Texas
* MarkWest POET, L.L.C.	Delaware
* MarkWest Power Tex, L.L.C.	Texas
* MarkWest Ranger Pipeline Company, L.L.C.	Delaware
* MarkWest Texas LPG Pipeline, L.L.C.	Texas
* MarkWest Texas PNG Utility, L.L.C.	Texas

* MarkWest Utica EMG Condensate, L.L.C.	Delaware
* MarkWest Utica EMG, L.L.C.	Delaware
* MarkWest Utica Operating Company, L.L.C.	Delaware
* Mason Pipeline Limited Liability Company	Michigan
* Matrex, L.L.C.	Michigan
MPC Investment Fund, Inc.	Delaware
MPC Investment LLC	Delaware
MPC Trade Receivables Company LLC	Delaware
MPL Investment LLC	Delaware
* MPL Louisiana Holdings LLC	Delaware
* MPLX DAPLETCO Holdings LLC	Delaware
MPLX Fuels Distribution LLC	Delaware
MPLX GP LLC	Delaware
MPLX Holdings Inc.	Delaware
MPLX Logistics Holdings LLC	Delaware
* MPLX LP	Delaware
* MPLX Operations LLC	Delaware
* MPLX Ozark Pipe Line LLC	Delaware
* MPLX Pipe Line Holdings LLC	Delaware
MPLX Refining Logistics LLC	Delaware
* MPLX Terminal and Storage LLC	Delaware
* MPLX Terminals LLC	Delaware
* MPLXIF LLC	Delaware
* Mule Sidetracks, L.L.C.	Delaware
* Mule Tracts, L.L.C.	Delaware
* Muskegon Pipeline LLC	Delaware
MW Logistics Services LLC	Delaware
* MWE GP LLC	Delaware
Niles Properties LLC	Delaware
* North Dakota Pipeline Company LLC	Delaware
Ocean Tankers LLC	Delaware
* Ohio Condensate Company, L.L.C.	Delaware
* Ohio Gathering Company, L.L.C.	Delaware
* Ohio River Pipe Line LLC	Delaware
* Ohio Utica Jefferson Dry Gas Gathering Company, L.L.C.	Delaware
* Oil Insurance Limited	Bermuda
* Panola Pipeline Company, LLC	Texas
* PFJ Southeast LLC	Delaware
* Port Everglades Environmental Corp.	Florida
* Resource Environmental, L.L.C.	Delaware
Robinson Refining Logistics LLC	Delaware
* Sherwood Midstream Holdings LLC	Delaware
* Sherwood Midstream LLC	Delaware
South Houston Green Power, LLC	Delaware
Speedway LLC	Delaware
Speedway of Massachusetts LLC	Massachusetts
Speedway Petroleum Corporation	Delaware
Speedway Prepaid Card LLC	Ohio
Speedway.com LLC	Delaware
Speedy Prepaid Services Inc.	New Hampshire
Starvin Marvin, Inc.	Delaware
SWTO LLC	Delaware
* The Andersons Albion Ethanol LLC	Ohio

* The Andersons Clymers Ethanol LLC	Ohio
* The Andersons Marathon Ethanol LLC	Delaware
* West Relay Gathering Company, L.L.C.	Delaware
* West Shore Processing Company, L.L.C.	Michigan
Williston Basin Pipe Line LLC	Delaware
* WIP, LLC	Indiana
* Wirth Gathering Partnership	Oklahoma
* Wolverine Pipe Line Company	Delaware
* Woodhaven Cavern LLC	Delaware

* Indicates a company that is not wholly owned directly or indirectly by Marathon Petroleum Corporation

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-217560 and 333-217543) and Form S-8 (No. 333-181007, 333-175245, 333-175244 and 333-212956) of Marathon Petroleum Corporation of our report dated February 28, 2018 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/PricewaterhouseCoopers LLP

Toledo, Ohio
February 28, 2018

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that each of the undersigned officers and directors of Marathon Petroleum Corporation, a Delaware corporation, hereby constitutes and appoints Gary R. Heminger, Timothy T. Griffith and John J. Quaid, and each of them, as his or her true and lawful attorney or attorneys-in-fact, with full power of substitution and revocation, for each of the undersigned and in the name, place, and stead of each of the undersigned, to sign on behalf of each of the undersigned an Annual Report on Form 10-K for the fiscal year ended December 31, 2017 pursuant to Section 13 of the Securities Exchange Act of 1934 and to sign any and all amendments to such Annual Report, and to file the same, with all exhibits thereto, and other documents in connection therewith including, without limitation, a Form 12b-25 with the Securities and Exchange Commission, granting to said attorney or attorneys-in-fact, and each of them, full power and authority to do so and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as the undersigned might or could do in person, hereby ratifying and confirming all that said attorney or attorneys-in-fact or any of them or their substitute or substitutes may lawfully do or cause to be done by virtue thereof.

This power of attorney may be executed in multiple counterparts, each of which shall be deemed an original with respect to the person executing it.

IN WITNESS WHEREOF, the undersigned have hereunto set their hands as of the 28th day of February, 2018.

/s/ Gary R. Heminger

 Gary R. Heminger
 Chairman of the Board and Chief Executive Officer
 (principal executive officer)

/s/ John J. Quaid

 John J. Quaid
 Vice President and Controller
 (principal accounting officer)

/s/ Evan Bayh

 Evan Bayh
 Director

/s/ David A. Daberko

 David A. Daberko
 Director

/s/ Donna A. James

 Donna A. James
 Director

/s/ Frank M. Semple

 Frank M. Semple
 Director

/s/ John P. Surma

 John P. Surma
 Director

/s/ Timothy T. Griffith

 Timothy T. Griffith
 Senior Vice President and Chief Financial Officer
 (principal financial officer)

/s/ Abdulaziz F. Alkhayyal

 Abdulaziz F. Alkhayyal
 Director

/s/ Charles E. Bunch

 Charles E. Bunch
 Director

/s/ Steven A. Davis

 Steven A. Davis
 Director

/s/ James E. Rohr

 James E. Rohr
 Director

/s/ J. Michael Stice

 J. Michael Stice
 Director

MARATHON PETROLEUM CORPORATION
CERTIFICATION PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002

I, Gary R. Heminger, certify that:

1. I have reviewed this report on Form 10-K of Marathon Petroleum Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2018

/s/ Gary R. Heminger

Gary R. Heminger

Chairman of the Board and Chief Executive Officer

MARATHON PETROLEUM CORPORATION
CERTIFICATION PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002

I, Timothy T. Griffith, certify that:

1. I have reviewed this report on Form 10-K of Marathon Petroleum Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2018

/s/ Timothy T. Griffith

Timothy T. Griffith

Senior Vice President and Chief Financial Officer

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Marathon Petroleum Corporation (the "Company") on Form 10-K for the year ended December 31, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Gary R. Heminger, Chairman of the Board and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 28, 2018

/s/ Gary R. Heminger

Gary R. Heminger

Chairman of the Board and Chief Executive Officer

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Marathon Petroleum Corporation (the "Company") on Form 10-K for the year ended December 31, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Timothy T. Griffith, Senior Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 28, 2018

/s/ Timothy T. Griffith

Timothy T. Griffith

Senior Vice President and Chief Financial Officer

