Marathon Petroleum Corp
Form 10-Q
October 31, 2016
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-Q
(Mark One)
x QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Quarterly Period Ended September 30, 2016
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	27-1284632
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
539 South Main Street, Findlay, Ohio	45840-3229
(Address of principal executive offices)	(Zip code)

(419) 422-2121
(Registrant's telephone number, including area code)
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x 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 x No ¨
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer x	Accelerated filer ¨
Non-accelerated filer ¨ (Do not check if a smaller reporting company)	Smaller reporting company ¨

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act) Yes ¨ No x
There were 527,815,189 shares of Marathon Petroleum Corporation common stock outstanding as of October 27, 2016.

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Unless otherwise stated or the context otherwise indicates, all references in this Form 10-Q to "MPC," "us," "our," "we" or "th Company" mean Marathon Petroleum Corporation and its consolidated subsidiaries.

GLOSSARY OF TERMS

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

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.
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortization, a non-GAAP financial measure
EPA	United States Environmental Protection Agency
FASB	Financial Accounting Standards Board
IDR	Incentive Distribution Rights
LCM	Lower of cost or market
LIBO Rate	London Interbank Offered Rate
LIFO	Last in, first out, an inventory costing method
LLS	Louisiana Light Sweet crude oil, an oil index benchmark price
mbpd	Thousand barrels per day
MMbtu	One million British thermal units, an energy measurement
MMcf/d	One million cubic feet of natural gas per day
NGL	Natural gas liquids, such as ethane, propane, butanes and natural gasoline
OTC	Over-the-Counter
ppm	Parts per million
RINs	Renewable Identification Numbers
SEC	Securities and Exchange Commission
SMR	Steam methane reformer, operated by a third party and located at the Javelina gas processing and fractionation complex in Corpus Christi, Texas
ULSD	Ultra-low sulfur diesel
U.S. GAAP	Accounting principles generally accepted in the United States
USGC	U.S. Gulf Coast
VIE	Variable interest entity
WTI	West Texas Intermediate crude oil, an oil index benchmark price

Part I – Financial Information
Item 1. Financial Statements
Marathon Petroleum Corporation
Consolidated Statements of Income (Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions, except per share data)	2016	2015	2016	2015
Revenues and other income:				
Sales and other operating revenues (including consumer excise taxes)	$16,618	$18,716	$46,184	$56,444
Income (loss) from equity method investments	(208)	23	(236)	58
Net gain on disposal of assets	1	2	26	6
Other income	49	17	106	71
Total revenues and other income	16,460	18,758	46,080	56,579
Costs and expenses:				
Cost of revenues (excludes items below)	12,944	14,165	35,475	43,575
Purchases from related parties	128	61	359	219
Inventory market valuation adjustment	—	—	(370)	—
Consumer excise taxes	1,914	1,988	5,633	5,759
Impairment expense	—	144	130	144
Depreciation and amortization	507	364	1,497	1,089
Selling, general and administrative expenses	420	392	1,199	1,143
Other taxes	112	95	332	296
Total costs and expenses	16,025	17,209	44,255	52,225
Income from operations	435	1,549	1,825	4,354
Net interest and other financial income (costs)	(141)	(70)	(420)	(215)
Income before income taxes	294	1,479	1,405	4,139
Provision for income taxes	75	521	481	1,439
Net income	219	958	924	2,700
Less net income (loss) attributable to:				
Redeemable noncontrolling interest	16	—	25	—
Noncontrolling interests	58	10	(48)	35
Net income attributable to MPC	$145	$948	$947	$2,665
Per Share Data (See Note 7)				
Basic:				
Net income attributable to MPC per share	$0.28	$1.77	$1.79	$4.93
Weighted average shares outstanding	527	535	528	540
Diluted:				
Net income attributable to MPC per share	$0.27	$1.76	$1.78	$4.90
Weighted average shares outstanding	530	538	531	544
Dividends paid	$0.36	$0.32	$1.00	$0.82

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

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Marathon Petroleum Corporation
Consolidated Statements of Comprehensive Income (Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions)	2016	2015	2016	2015
Net income	$219	$958	$924	$2,700
Other comprehensive income (loss):				
Defined benefit postretirement and post-employment plans:				
Actuarial changes, net of tax of $0, $3, $8 and $15	2	5	14	25
Prior service costs, net of tax of ($5), ($5), ($14) and ($14)	(8)	(8)	(23)	(24)
Other comprehensive income (loss)	(6)	(3)	(9)	1
Comprehensive income	213	955	915	2,701
Less comprehensive income (loss) attributable to:				
Redeemable noncontrolling interest	16	—	25	—
Noncontrolling interests	58	10	(48)	35
Comprehensive income attributable to MPC	$139	$945	$938	$2,666

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

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Marathon Petroleum Corporation
Consolidated Balance Sheets (Unaudited)

(In millions, except share data)	September 30, 2016	December 31, 2015
Assets		
Current assets:		
Cash and cash equivalents (MPLX: $208 and $43, respectively)	$ 709	$ 1,127
Receivables, less allowance for doubtful accounts of $12 and $12 (MPLX: $295 and $257, respectively)	3,136	2,927
Inventories (MPLX: $50 and $51, respectively)	5,524	5,225
Other current assets (MPLX: $33 and $50, respectively)	176	192
Total current assets	9,545	9,471
Equity method investments (MPLX: $2,475 and $2,458, respectively)	3,554	3,622
Property, plant and equipment, net (MPLX: $10,537 and $9,997, respectively)	25,697	25,164
Goodwill (MPLX: $2,199 and $2,570, respectively)	3,648	4,019
Other noncurrent assets (MPLX: $515 and $478, respectively)	849	839
Total assets	$ 43,293	$ 43,115
Liabilities		
Current liabilities:		
Accounts payable (MPLX: $472 and $449, respectively)	$ 5,055	$ 4,743
Payroll and benefits payable (MPLX: $1 and $18, respectively)	439	503
Consumer excise taxes payable (MPLX: $2 and $1, respectively)	329	460
Accrued taxes (MPLX: $35 and $26, respectively)	163	184
Debt due within one year (MPLX: $1 and $1, respectively)	28	29
Other current liabilities (MPLX: $72 and $65, respectively)	326	426
Total current liabilities	6,340	6,345
Long-term debt (MPLX: $4,411 and $5,255, respectively)	10,538	11,896
Deferred income taxes (MPLX: $5 and $378, respectively)	3,682	3,285
Defined benefit postretirement plan obligations	1,174	1,179
Deferred credits and other liabilities (MPLX: $163 and $170, respectively)	602	735
Total liabilities	22,336	23,440
Commitments and contingencies (see Note 22)		
Redeemable noncontrolling interest	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 – 731 million and 729 million shares (par value 0.01 per share, 1 billion shares authorized)	7	7
Held in treasury, at cost – 203 million and 198 million shares	(7,459)	(7,275)
Additional paid-in capital	11,005	11,071
Retained earnings	10,169	9,752
Accumulated other comprehensive loss	(327)	(318)
Total MPC stockholders' equity	13,395	13,237
Noncontrolling interests	6,562	6,438
Total equity	19,957	19,675

Total liabilities, redeemable noncontrolling interest and equity	$ 43,293	$ 43,115

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

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Marathon Petroleum Corporation
Consolidated Statements of Cash Flows (Unaudited)

	Nine Months Ended September 30,	
(In millions)	2016	2015
Increase (decrease) in cash and cash equivalents		
Operating activities:		
Net income	$924	$2,700
Adjustments to reconcile net income to net cash provided by operating activities:		
Amortization of deferred financing costs and debt discount	47	9
Impairment expense	130	144
Depreciation and amortization	1,497	1,089
Inventory market valuation adjustment	(370)	—
Pension and other postretirement benefits, net	(21)	51
Deferred income taxes	335	(6)
Net gain on disposal of assets	(26)	(6)
Equity method investments, net	435	8
Changes in the fair value of derivative instruments	6	9
Changes in:		
Current receivables	(209)	931
Inventories	71	86
Current accounts payable and accrued liabilities	237	(1,707)
All other, net	(61)	(55)
Net cash provided by operating activities	2,995	3,253
Investing activities:		
Additions to property, plant and equipment	(2,147)	(1,277)
Disposal of assets	88	14
Investments – acquisitions, loans and contributions	(240)	(221)
– redemptions, repayments and return of capital	20	4
All other, net	62	52
Net cash used in investing activities	(2,217)	(1,428)
Financing activities:		
Commercial paper – issued	1,063	—
– repayments	(1,063)	—
Long-term debt – borrowings	714	528
– repayments	(2,112)	(433)
Debt issuance costs	(11)	(4)
Issuance of common stock	8	29
Common stock repurchased	(177)	(773)
Dividends paid	(529)	(443)
Issuance of MPLX LP common units	499	—
Issuance of MPLX LP redeemable preferred units	984	—
Distributions to noncontrolling interests	(389)	(29)
Contingent consideration payment	(164)	(175)
All other, net	(19)	25
Net cash used in financing activities	(1,196)	(1,275)

Net increase (decrease) in cash and cash equivalents	(418)	550
Cash and cash equivalents at beginning of period	1,127	1,494
Cash and cash equivalents at end of period	$709	$2,044

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 (Unaudited)

	MPC Stockholders' Equity							
(In millions)	Common Stock	Treasury Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Noncontrolling Interests	Total Equity	Redeemable Noncontrolling Interest
Balance as of December 31, 2014	$7	$(6,299)	$9,841	$7,515	$ (313)	$ 639	$11,390	
Net income	—	—	—	2,665	—	35	2,700	
Dividends declared	—	—	—	(444)	—	—	(444)	
Distributions to noncontrolling interests	—	—	—	—	—	(29)	(29)	
Other comprehensive income	—	—	—	—	1	—	1	
Shares repurchased	—	(773)	—	—	—	—	(773)	
Shares issued (returned) – stock-based compensation	—	(11)	29	—	—	—	18	
Stock-based compensation	—	—	59	—	—	1	60	
Issuance of MPLX LP common units	—	—	—	—	—	2	2	
Balance as of September 30, 2015	$7	$(7,083)	$9,929	$9,736	$ (312)	$ 648	$12,925	$ —
Balance as of December 31, 2015	$7	$(7,275)	$11,071	$9,752	$ (318)	$ 6,438	$19,675	$ —
Net income (loss)	—	—	—	947	—	(48)	899	25
Dividends declared	—	—	—	(530)	—	—	(530)	—
Distributions to noncontrolling interests	—	—	—	—	—	(380)	(380)	(9)
Other comprehensive loss	—	—	—	—	(9)	—	(9)	—
Shares repurchased	—	(177)	—	—	—	—	(177)	—
Shares issued (returned) – stock-based compensation	—	(7)	8	—	—	—	1	—
Stock-based compensation	—	—	39	—	—	6	45	—
Issuance of MPLX LP common units	—	—	(43)	—	—	542	499	—
Deferred income tax effect from changes in noncontrolling interest - MarkWest Merger	—	—	(115)	—	—	—	(115)	—
Deferred income tax effect from changes in noncontrolling interest - contribution of inland marine	—	—	42	—	—	—	42	—
Issuance of MPLX LP redeemable preferred units	—	—	—	—	—	—	—	984
Tax effect of MPLX reorganization	—	—	3	—	—	—	3	—
Other	—	—	—	—	—	4	4	—
	$7	$(7,459)	$11,005	$10,169	$ (327)	$ 6,562	$19,957	$ 1,000

Balance as of September 30, 2016

(Shares in millions)	Common Stock	Treasury Stock
Balance as of December 31, 2014	726	(179)
Shares repurchased	—	(15)
Shares issued (returned) – stock-based compensation	3	(1)
Balance as of September 30, 2015	729	(195)
Balance as of December 31, 2015	729	(198)
Shares repurchased	—	(4)
Shares issued – stock-based compensation	2	(1)
Balance as of September 30, 2016	731	(203)

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

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Notes to Consolidated Financial Statements (Unaudited)

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, Speedway LLC and its subsidiaries ("Speedway") and MPLX LP and its subsidiaries ("MPLX").

See Note 9 for additional information about our operations.

Basis of Presentation—All significant intercompany transactions and accounts have been eliminated.

These interim consolidated financial statements are unaudited; however, in the opinion of our management, these statements reflect all adjustments necessary for a fair statement of the results for the periods reported. All such adjustments are of a normal, recurring nature unless otherwise disclosed. These interim consolidated financial statements, including the notes, have been prepared in accordance with the rules of the SEC applicable to interim period financial statements and do not include all of the information and disclosures required by U.S. GAAP for complete financial statements.

These interim consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2015. The results of operations for the three and nine months ended September 30, 2016 are not necessarily indicative of the results to be expected for the full year.

Certain prior period financial statement amounts have been reclassified to conform to current period presentation. In the first quarter of 2016, we revised our segment reporting in connection with the contribution of our inland marine business to MPLX. See Note 3 for additional information. The operating results for our inland marine business and our investment in an ocean vessel joint venture, Crowley Ocean Partners LLC ("Crowley Ocean Partners"), 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 segment presentation. See Note 9 for additional information.

2. Accounting Standards

Recently Adopted

In September 2015, the FASB issued an accounting standard update that eliminates the requirement to restate prior period financial statements for measurement period adjustments related to business combinations. This accounting standard update requires that the cumulative impact of a measurement period adjustment be recognized in the reporting period in which the adjustment is identified. The change was effective for interim and annual periods beginning after December 15, 2015. We recognized measurement period adjustments during the first and second quarters of 2016 on a cumulative prospective basis as additional analysis was completed on the preliminary purchase price allocation for the acquisition of MarkWest Energy Partners, L.P. ("MarkWest"). See Note 4 for further discussion and detail related to these measurement period adjustments.

In May 2015, the FASB issued an accounting standard update that eliminates the requirement to categorize investments that are measured at net asset value using the practical expedient in the fair value hierarchy. The change was effective for fiscal years beginning after December 15, 2015 and interim periods within the fiscal year. Retrospective application is required. Adoption of this accounting standard update in the first quarter of 2016 did not have a material impact on our disclosures.

In April 2015, the FASB issued an accounting standard update clarifying whether a customer should account for a cloud computing arrangement as an acquisition of a software license or as a service arrangement by providing characteristics that a cloud computing arrangement must have in order to be accounted for as a software license acquisition. The change was effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2015. Retrospective or prospective application is allowed. We adopted this accounting standard update prospectively in the first quarter of 2016 and it did not have a material impact on our consolidated results of operations, financial position or cash flows.

In February 2015, the FASB issued an accounting standard update making targeted changes to the current consolidation guidance. The accounting standard update changes the considerations related to substantive rights, related parties, and decision making fees when applying the VIE consolidation model and eliminates certain guidance for limited partnerships and similar entities under the voting interest consolidation model. The change was effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2015. Under the accounting standard update, we continue to consolidate our master limited partnership, MPLX, but it is now considered to be a VIE. The adoption of this accounting standard update in the first quarter of 2016 did impact our disclosures for this consolidated VIE, but did not have a material impact on our results of operations, financial position or cash flows.

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In June 2014, the FASB issued an accounting standard update for the elimination of the concept of development stage entity ("DSE") from U.S. GAAP and removes the related incremental reporting. The accounting standard update eliminated the additional financial statement requirements specific to a DSE and was adopted in the first quarter of 2015. In addition, the portion of the accounting standard update that amended the consolidation model to eliminate the special provisions in the VIE rules for assessing the sufficiency of the equity of a DSE was adopted in the first quarter of 2016. Adoption of this accounting standard update in the first quarter of 2015 and 2016 did not have an impact on our consolidated results of operations, financial position or cash flows.

Not Yet Adopted

In August 2016, the FASB issued an accounting standard update related to the classification of certain cash flows. This accounting standard update provides classification solutions for eight different cash flow items including: debt prepayment/extinguishment costs, settlement of zero-coupon bonds, contingent consideration payments made after a business combination, proceeds from settlement of insurance claims, proceeds from settlement of corporate-owned life insurance policies, distributions received from equity method investees, beneficial interests in securitization transactions, and separately identifiable cash flows and application of the predominance principle. The change is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years, with early adoption permitted. We do not expect application of this accounting standard update to have a material impact on our statement of cash flows.

In June 2016, the FASB issued an accounting standard 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 standard update to have a material impact on our consolidated financial statements.

In March 2016, the FASB issued an accounting standard 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, classification of awards as either equity or liabilities and classification within the statement of cash flows. This change will be effective for fiscal years beginning after December 15, 2016, and interim periods within those years. Early adoption is permitted. We do not expect application of this accounting standard update to have a material impact on our consolidated financial statements.

In March 2016, the FASB issued an accounting standard 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 will be effective for fiscal years beginning after December 15, 2016, and interim periods within those years. The guidance will be applied prospectively and early adoption is permitted. We do not expect application of this accounting standard update to have a material impact on our consolidated financial statements.

In February 2016, the FASB issued an accounting standard update on lease accounting. This accounting standard update requires lessees to record virtually all leases on their balance sheets. The accounting standard update also requires expanded disclosures to help financial statement users better understand the amount, timing and uncertainty of cash flows arising from 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 in the process of determining the impact of the accounting standard update on our consolidated financial statements.

In January 2016, the FASB issued an accounting standard 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 standard update also requires the use of the exit price notion when measuring the fair value of financial instruments for disclosure purposes and the separate presentation of financial assets and liabilities by measurement category and form on the balance sheet and accompanying notes. The accounting standard update

eliminates the requirement to disclose the methods and assumptions used in estimating the fair value of financial instruments measured at amortized cost. Lastly, the accounting standard update requires separate presentation in other comprehensive income of the portion of the total change in the fair value of a liability resulting from a change in the instrument-specific credit risk when electing to measure the liability at fair value in accordance with the fair value option for financial instruments. The changes are effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2017. Early adoption is permitted only for the guidance regarding presentation of a liability's credit risk. We do not expect application of this accounting standard update to have a material impact on our consolidated financial statements.

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In August 2014, the FASB issued an accounting standard update requiring management to assess an entity's ability to continue as a going concern and to provide related footnote disclosures in certain circumstances. Management will be required to assess if there is substantial doubt about an entity's ability to continue as a going concern within one year after the issuance of the financial statements. Disclosures will be required if conditions give rise to substantial doubt and the type of disclosure will be determined based on whether management's plans will be able to alleviate the substantial doubt. The change will be effective for the first fiscal period ending after December 15, 2016, and for fiscal periods and interim periods thereafter with early application permitted. We do not expect application of this accounting standard update to have an impact on our disclosures.

In May 2014, the FASB issued an accounting standard update for revenue recognition for contracts with customers. The guidance in the accounting standard 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 then 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. The change will be effective on a retrospective or modified retrospective basis for fiscal years beginning after December 15, 2017, and interim periods within those years, with early adoption permitted, no earlier than January 1, 2017. We are in the process of determining the impact of the accounting standard update on our consolidated financial statements.

3. MPLX LP

MPLX is a publicly traded master limited partnership formed by us to own, operate, develop and acquire pipelines and other midstream assets related to the transportation and storage of hydrocarbon-based products, including crude oil, refined products, natural gas and NGLs. On December 4, 2015, MPLX and 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's other assets include a 100 percent interest in MPLX Pipe Line Holdings LLC, which owns a network of common carrier crude oil and product pipeline systems and associated storage assets in the Midwest and Gulf Coast regions of the United States and a 100 percent interest in a butane cavern in Neal, West Virginia. MPLX also owns an inland marine business, which is comprised of 18 tow boats and approximately 200 barges that transports primarily crude oil and refined products principally for MPC in the Midwest and Gulf Coast regions of the United States.

See Note 4 for information on MPLX's anticipated investment in the Bakken Pipeline system.

As of September 30, 2016, we owned a 24 percent interest in MPLX, including a two percent general partner interest. This ownership percentage reflects the conversion of the MPLX Class B Units in July of 2017 at 1.09 to 1.00 and assumes exchange of the MPLX preferred units on a one for one basis. 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 76 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.

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 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 closing prices of MPLX

common units for the last 10 trading days prior to 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") for 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.

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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 common units. 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 our 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.

Contribution of Inland Marine Business to MPLX

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. The number of units we received from MPLX was determined by dividing $600 million by the volume weighted average NYSE price of MPLX common units for the 10 trading days preceding March 14, 2016, pursuant to the 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 we did not record a gain or loss.

ATM Program

On August 4, 2016, MPLX entered into a second amended and restated distribution agreement providing for the continuous issuance of up to an aggregate of $1.18 billion of common units, in amounts, at prices and on terms to be determined by market conditions and other factors at the time of any offerings (such continuous offering program, or at-the-market program, referred to as the "ATM Program"). MPLX expects to use 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.

During the nine months ended September 30, 2016, MPLX issued an aggregate of 18 million common units under the ATM Program, generating net proceeds of approximately $499 million. As a result of common units issued under the ATM Program during the period, we contributed approximately $10 million to MPLX in exchange for general partner units to maintain our two percent general partner interest.

Agreements

We have various long-term, fee-based transportation and storage services agreements with MPLX. Under these agreements, MPLX provides transportation 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 that 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.

4. Acquisitions and Investments

Merger with MarkWest Energy Partners, L.P.

On December 4, 2015, MPLX completed the MarkWest Merger. The total value of consideration transferred was $8.61 billion, consisting of $7.33 billion in equity and $1.28 billion in cash. At closing, we made a payment of $1.23 billion to MarkWest common unitholders and the remaining $50 million will be paid in equal amounts, the first of which was paid in July 2016 and the second of which will be 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.

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The following table summarizes the final purchase price allocation. Subsequent to December 31, 2015, additional analysis was completed and adjustments were made to the preliminary purchase price allocation as noted in the table below. The estimated fair value of assets acquired and liabilities and noncontrolling interests assumed at the acquisition date, are as follows:

(In millions)	As originally reported	Adjustments	As adjusted
Cash and cash equivalents	$ 12	$ —	$ 12
Receivables	164	—	164
Inventories	33	(1)	32
Other current assets	44	—	44
Equity method investments	2,457	143	2,600
Property, plant and equipment, net	8,474	43	8,517
Other noncurrent assets[(a)]	473	65	538
Total assets acquired	11,657	250	11,907
Accounts payable	322	6	328
Payroll and benefits payable	13	—	13
Accrued taxes	21	—	21
Other current liabilities	44	—	44
Long-term debt	4,567	—	4,567
Deferred income taxes	374	3	377
Deferred credit and other liabilities	151	—	151
Noncontrolling interest	13	—	13
Total liabilities and noncontrolling interest assumed	5,505	9	5,514
Net assets acquired excluding goodwill	6,152	241	6,393
Goodwill	2,454	(241)	2,213
Net assets acquired	$ 8,606	$ —	$ 8,606

[(a)] The adjustment relates to acquired intangible assets.

Adjustments to the preliminary purchase price allocations as of December 31, 2015 stem mainly from additional information obtained by management in the first quarter about facts and circumstances that existed at the acquisition date including updates to forecasted employee benefit costs and capital expenditures, and completion of certain valuations to determine the underlying fair value of certain acquired assets. The adjustment to intangibles mainly relates to a misstatement in the preliminary purchase price allocation as of December 31, 2015. The correction of the error in the first quarter resulted in a $68 million reduction to the carrying value of goodwill and offsetting increases of $64 million in intangibles and $2 million in both equity method investments and property, plant and equipment. Management concluded that the correction of the error is immaterial to the consolidated financial statements for all periods presented.

The increases to fair value of equity method investments, property plant and equipment, and other noncurrent assets noted above would not have resulted in a material effect to depreciation and amortization or income from equity method investments in the consolidated statements of income for the year ended December 31, 2015, had the fair value adjustments been recorded as of December 4, 2015.

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 complementary 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 14, we recorded a goodwill impairment charge 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 a refinement of the impairment expense recorded, as more fully discussed in Note 14.

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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.

(In millions, except per share data)	Three Months Ended September 30, 2015	Nine Months Ended September 30, 2015
Sales and other operating revenues (including consumer excise taxes)	$ 19,186	$ 57,830
Net income attributable to MPC	943	2,600
Net income attributable to MPC per share – basic	$ 1.76	$ 4.81
Net income attributable to MPC per share – diluted	1.75	4.78

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 transaction and is not necessarily indicative of the results of future operations.

Investments in Ocean Vessel Joint Ventures

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.

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. Two of the vessels were delivered in 2015, the third was delivered in April 2016 and the fourth was delivered in August 2016. During the nine months ended September 30, 2016, we contributed $69 million in connection with the delivery of the third and fourth vessels. We have 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 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 5 for information on Crowley Coastal Partners as a VIE and Note 22 for information on our conditional guarantee of the indebtedness of Crowley Ocean Partners and Crowley Blue Water Partners.

Investments in Pipeline Companies

In November 2013, we agreed to serve as an anchor shipper for the Sandpiper pipeline project and fund 37.5 percent of the construction costs of the project, which was to become part of Enbridge Energy Partners L.P.'s ("Enbridge Energy Partners") North Dakota System. In exchange for these commitments, we were to earn an approximate 27 percent equity interest in Enbridge Energy Partners' North Dakota System when the Sandpiper pipeline is placed into service. We made contributions of $14 million to North Dakota Pipeline Company LLC ("North Dakota Pipeline") during the nine months ended September 30, 2016 and have contributed $301 million since project inception to fund our share of the construction costs for the project.

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.

See Note 15 for information regarding the charge recognized in the third quarter of 2016.

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MPLX currently expects to participate in a joint venture with Enbridge Energy Partners to acquire a 9.1875 percent 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, from Energy Transfer Partners, L.P. (“ETP”) and Sunoco Logistics Partners, L.P. (“SXL”) for $500 million. Furthermore, MPC expects to become a committed shipper on the Bakken Pipeline system under terms of an on-going open season. The acquisition remains subject to certain closing conditions and is expected to close in the fourth quarter of 2016.

The Bakken Pipeline system is currently expected to deliver in excess of 470,000 barrels per day 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. ETP and SXL collectively own a 75 percent interest in each of the two joint ventures that are developing the Bakken Pipeline system. MPLX and Enbridge Energy Partners will participate in a new joint venture to acquire 49 percent of ETP and SXL’s 75 percent indirect interest in the Bakken Pipeline system. MPLX will own 25 percent of this new joint venture with Enbridge, which results in a 9.1875 percent indirect ownership interest in the Bakken Pipeline system. MPLX expects to account for its investment using the equity method of accounting.

Subject to the closing of the transaction with ETP and SXL, Enbridge Energy Partners has agreed to cancel MPC’s transportation services agreement with respect to the Sandpiper pipeline project and release MPC from paying any termination fee per that agreement.

5. Variable Interest Entities

In addition to MPLX, as described in Note 3, the following entities are also VIEs.

Crowley Coastal Partners

In May 2016, Crowley Coastal Partners was formed to own the 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 September 30, 2016 was $491 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.

MarkWest has a 60 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 September 30, 2016 was $2.25 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 September 30, 2016, we had a 36 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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6. Related Party Transactions

Our related parties include:

- Centennial Pipeline LLC ("Centennial"), in which we have a 50 percent noncontrolling interest. Centennial owns a refined products pipeline and storage facility.
- 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.
- Explorer Pipeline Company ("Explorer"), in which we have a 25 percent interest. Explorer owns and operates a refined products pipeline.
- Illinois Extension Pipeline Company, LLC ("Illinois Extension Pipeline"), in which we have a 35 percent noncontrolling interest. Illinois Extension Pipeline owns and operates a crude oil pipeline.
- LOCAP LLC ("LOCAP"), in which we have a 59 percent noncontrolling interest. LOCAP owns and operates a crude oil pipeline.
- LOOP LLC ("LOOP"), in which we have a 51 percent noncontrolling interest. LOOP owns and operates the only U.S. deepwater oil port.
- MarkWest EMG Jefferson Dry Gas Gathering Company, L.L.C. ("Jefferson Dry Gas"), in which we have a 67 percent noncontrolling interest. Jefferson Dry Gas is engaged in dry natural gas gathering in the county of Jefferson, Ohio.
- MarkWest Utica EMG, in which we have a 60 percent noncontrolling interest. MarkWest Utica EMG owns and operates a NGL pipeline and natural gas gathering system.
- Ohio Condensate Company, L.L.C. ("Ohio Condensate"), in which we have a 60 percent noncontrolling interest. Ohio Condensate owns and operates wellhead condensate stabilization and gathering services for certain locations within Ohio.
- Ohio Gathering, in which we have a 36 percent indirect noncontrolling interest. Ohio Gathering owns, operates and develops midstream gathering infrastructure in southeastern Ohio.
- 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 60 percent noncontrolling interest and The Andersons Marathon Ethanol LLC ("TAME"), in which we have a 67 percent direct and indirect 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, which are included in "Sales and other operating revenues (including consumer excise taxes)" on the accompanying consolidated statements of income, were $2 million and $1 million for the three months ended September 30, 2016 and 2015, respectively, and $5 million and $4 million for the nine months ended September 30, 2016 and 2015, respectively.

Other income from related parties, which is included in "Other income" on the accompanying consolidated statements of income, were $12 million and less than $1 million for the three months ended September 30, 2016 and 2015, respectively, and $31 million and $1 million for the nine months ended September 30, 2016 and 2015, respectively. Other income from related parties consists primarily of fees received for operating transportation assets for our related parties.

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Purchases from related parties were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions)	2016	2015	2016	2015
Crowley Blue Water Partners	$16	$—	$22	$—
Crowley Ocean Partners	15	—	32	—
Explorer	4	2	12	16
Illinois Extension Pipeline	27	—	82	—
LOCAP	6	6	18	17
LOOP	14	12	42	38
Ohio Condensate	2	—	8	—
TAAE	9	11	29	39
TACE	10	7	39	38
TAME	23	21	67	64
Other equity method investees	2	2	8	7
Total	$128	$61	$359	$219

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 Explorer consist primarily of refined product transportation costs. 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 Ohio Condensate consist of condensate processing fees. Related party purchases from TAAE, TACE and TAME consist of ethanol purchases.

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

(In millions)	September 30, 2016	December 31, 2015
Centennial	$ 1	$ 1
Jefferson Dry Gas	—	2
MarkWest Utica EMG	2	1
Ohio Condensate	—	3
Ohio Gathering	2	5
Other equity method investees	2	1
Total	$ 7	$ 13

The long-term receivable, which is included in “Other noncurrent assets” on the accompanying consolidated balance sheet, was $1 million at September 30, 2016 and $1 million at December 31, 2015.

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Payables to related parties, which are included in “Accounts payable” on the accompanying consolidated balance sheets, were as follows:

(In millions)	September 30, 2016	December 31, 2015
Explorer	$ 1	$ 1
Illinois Extension Pipeline	9	4
LOCAP	2	2
LOOP	4	5
MarkWest Utica EMG	15	19
Ohio Condensate	1	4
TAAE	1	1
TACE	2	2
TAME	3	3
Other equity method investees	2	1
Total	$ 40	$ 42

7. 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. 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.

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions, except per share data)	2016	2015	2016	2015
Basic earnings per share:				
Allocation of earnings:				
Net income attributable to MPC	$145	$948	$947	$2,665
Income allocated to participating securities	—	1	1	3
Income available to common stockholders – basic	$145	$947	$946	$2,662
Weighted average common shares outstanding	527	535	528	540
Basic earnings per share	$0.28	$1.77	$1.79	$4.93
Diluted earnings per share:				
Allocation of earnings:				
Net income attributable to MPC	$145	$948	$947	$2,665
Income allocated to participating securities	—	1	1	3
Income available to common stockholders – diluted	$145	$947	$946	$2,662
Weighted average common shares outstanding	527	535	528	540
Effect of dilutive securities	3	3	3	4
Weighted average common shares, including dilutive effect	530	538	531	544
Diluted earnings per share	$0.27	$1.76	$1.78	$4.90

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The following table summarizes the shares that were anti-dilutive and, therefore, were excluded from the diluted share calculation.

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions)	2016	2015	2016	2015
Shares issued under stock-based compensation plans	3	1	3	1

8. Equity

As of September 30, 2016, we have $2.58 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 three and nine months ended September 30, 2016 and 2015:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions, except per share data)	2016	2015	2016	2015
Number of shares repurchased	1	3	4	15
Cash paid for shares repurchased	$51	$156	$177	$773
Effective average cost per delivered share	$42.76	$50.86	$41.14	$49.97

9. Segment Information

In the first quarter of 2016, we revised our segment reporting in connection with the contribution of our inland marine business to MPLX. The operating results for our inland marine business and our investment in Crowley Ocean Partners 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 segment presentation.

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 refineries in the Gulf Coast and Midwest regions of the United States, purchases ethanol and refined products for resale and distributes refined products through various means, including terminals and trucks that we own or operate. 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 – includes the operations of MPLX and certain other related operations. The Midstream segment gathers, processes and transports natural gas; gathers, transports, fractionates, stores and markets NGLs and transports and stores crude oil and refined products.

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 MarkWest Merger does not include amounts for these operations. See Note 4.

Segment income represents income from operations attributable to the reportable segments. Corporate administrative expenses 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.

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(In millions)	Refining & Marketing	Speedway	Midstream	Total
Three Months Ended September 30, 2016				
Revenues:				
Customer	$ 11,286	$ 4,848	$ 484	$16,618
Intersegment[a]	2,798	1	206	3,005
Segment revenues	$ 14,084	$ 4,849	$ 690	$19,623
Segment income from operations[b]	$ 306	$ 209	$ 258	$773
Income from equity method investments[d]	8	—	51	59
Depreciation and amortization[d]	277	71	145	493
Capital expenditures and investments[e]	267	71	394	732

(In millions)	Refining & Marketing	Speedway	Midstream	Total
Three Months Ended September 30, 2015				
Revenues:				
Customer	$ 13,441	$ 5,256	$ 19	$18,716
Intersegment[a]	3,192	1	198	3,391
Segment revenues	$ 16,633	$ 5,257	$ 217	$22,107
Segment income from operations[b]	$ 1,434	$ 243	$ 93	$1,770
Income from equity method investments	6	—	17	23
Depreciation and amortization[d]	262	63	27	352
Capital expenditures and investments[e]	256	130	156	542

(In millions)	Refining & Marketing	Speedway	Midstream	Total
Nine Months Ended September 30, 2016				
Revenues:				
Customer	$ 31,197	$ 13,663	$ 1,324	$46,184
Intersegment[a]	7,872	2	595	8,469
Segment revenues	$ 39,069	$ 13,665	$ 1,919	$54,653
Segment income from operations[b][c]	$ 1,324	$ 569	$ 626	$2,519
Income from equity method investments[d]	10	—	110	120
Depreciation and amortization[d]	820	203	429	1,452
Capital expenditures and investments[e]	788	191	1,147	2,126

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(In millions)	Refining & Marketing	Speedway	Midstream	Total
Nine Months Ended September 30, 2015				
Revenues:				
Customer	$ 41,277	$ 15,116	$ 51	$56,444
Intersegment[a]	9,353	3	587	9,943
Segment revenues	$ 50,630	$ 15,119	$ 638	$66,387
Segment income from operations[b]	$ 3,907	$ 538	$ 286	$4,731
Income from equity method investments	20	—	38	58
Depreciation and amortization[d]	784	188	79	1,051
Capital expenditures and investments[e]	686	275	400	1,361

(a) Management believes intersegment transactions were conducted under terms comparable to those with unaffiliated parties.

(b) Corporate overhead expenses attributable to MPLX are included in the Midstream segment. Corporate overhead expenses are not allocated to the Refining & Marketing and Speedway segments.

(c) The Refining & Marketing and Speedway segments include inventory LCM benefit of $345 million and $25 million, respectively, for the nine months ended September 30, 2016.

(d) 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.

(e) Capital expenditures include changes in capital accruals, acquisitions (including any goodwill) and investments in affiliates.

The following reconciles segment income from operations to income before income taxes as reported in the consolidated statements of income:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions)	2016	2015	2016	2015
Segment income from operations	$773	$1,770	$2,519	$4,731
Items not allocated to segments:				
Corporate and other unallocated items[a][b]	(67)	(75)	(201)	(229)
Pension settlement expenses[c]	(4)	(2)	(7)	(4)
Impairments[d]	(267)	(144)	(486)	(144)
Net interest and other financial income (costs)	(141)	(70)	(420)	(215)
Income before income taxes	$294	$1,479	$1,405	$4,139

(a) Corporate and other unallocated items consists primarily of MPC’s corporate administrative expenses and costs related to certain non-operating assets.

(b) Corporate overhead expenses attributable to MPLX are included in the Midstream segment. Corporate overhead expenses are not allocated to the Refining & Marketing and Speedway segments.

(c) See Note 20.

(d) 2016 relates to impairments of goodwill and equity method investments. 2015 relates to the cancellation of the Residual Oil Upgrader Expansion project. See Notes 14 and 15, respectively.

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The following reconciles segment capital expenditures and investments to total capital expenditures:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions)	2016	2015	2016	2015
Segment capital expenditures and investments	$732	$542	$2,126	$1,361
Less investments in equity method investees[a]	69	72	383	221
Plus items not allocated to segments:				
Capital expenditures	14	33	59	95
Capitalized interest	15	10	47	26
Total capital expenditures[b]	$692	$513	$1,849	$1,261

(a) The nine months ended September 30, 2016 includes an adjustment of $143 million to the fair value of equity investments acquired in connection with the MarkWest Merger. See Note 4.

(b) Capital expenditures include changes in capital accruals. See Note 18 for a reconciliation of total capital expenditures to additions to property, plant and equipment as reported in the consolidated statements of cash flows.

10. Other Items

Net interest and other financial income (costs) was:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions)	2016	2015	2016	2015
Interest income	$3	$2	$5	$5
Interest expense[a]	(153)	(77)	(455)	(226)
Interest capitalized	15	11	47	27
Other financial costs	(6)	(6)	(17)	(21)
Net interest and other financial income (costs)	$(141)	$(70)	$(420)	$(215)

(a) The three and nine months ended September 30, 2016 includes $11 million and $33 million, respectively, for the amortization of the discount related to the difference between the fair value and the principal amount of the assumed MarkWest debt.

11. Income Taxes

The combined federal, state and foreign income tax rate was 26 percent and 35 percent for the three months ended September 30, 2016 and 2015, respectively and 34 percent and 35 percent for the nine months ended September 30, 2016 and 2015, respectively. The effective tax rate for the three months ended September 30, 2016 varies from the U.S. statutory rate of 35 percent primarily due to the effects of a lower forecasted annual effective tax rate as compared to the forecasted rate used for the first six months of 2016. The effective tax rate for the nine months ended September 30, 2016 is slightly less than the U.S. statutory rate of 35 percent primarily due to certain permanent tax differences related to the net income attributable to noncontrolling interests (including their proportional share of the goodwill impairment charge recorded by MPLX), the domestic manufacturing deduction and state and local tax expense. The effective tax rate for the three and nine months ended September 30, 2015 is equivalent to the U.S. statutory rate of 35 percent.

On March 31, 2016, we contributed our inland marine business to MPLX in exchange for MPLX common units representing limited partner interests and general partner units resulting in an increase in MPC’s controlling interest in MPLX. As a result of the change in our ownership of the underlying assets of MPLX, we recorded a decrease in MPC’s deferred tax liabilities of $42 million with an offsetting increase to additional paid-in capital.

During the first quarter of 2016, MPC's deferred tax liabilities increased $115 million and additional paid-in capital decreased by the same amount for an out of period adjustment to update the preliminary tax effects recorded in 2015 related to the MarkWest Merger. The impact of the out of period adjustment was not material to the consolidated balance sheet as of December 31, 2015.

We are continuously undergoing examination of our income tax returns, which have been completed for our U.S. federal and state income tax returns through the 2009 and 2007 tax years, respectively. We had $6 million of unrecognized tax benefits as of September 30, 2016. Pursuant to our tax sharing agreement with Marathon Oil Corporation ("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 22 for indemnification information.

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12. Inventories

(In millions)	September 30, 2016	December 31, 2015
Crude oil and refinery feedstocks	$ 2,230	$ 2,180
Refined products	2,689	2,804
Materials and supplies	442	438
Merchandise	163	173
LCM reserve	—	(370)
Total	$ 5,524	$ 5,225

Inventories are carried at the lower of cost or market value. Costs of crude oil, refinery feedstocks and refined products 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 values. As of December 31, 2015, costs of inventories exceeded market value by $370 million. As of September 30, 2016, market value exceeded cost. The effect of the change in LCM reserve was a $370 million benefit to cost of revenues for the nine months ended September 30, 2016. 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.

The cost of inventories of crude oil and refinery feedstocks, refined products and merchandise is determined primarily under the LIFO method. During the nine months ended September 30, 2016 and 2015, we recorded LIFO liquidations caused by permanently decreased levels in refined products inventory volumes. Cost of revenues increased and income from operations decreased by approximately $54 million and $30 million for the nine months ended September 30, 2016 and 2015, respectively, as a result of the LIFO liquidations.

13. Property, Plant and Equipment

(In millions)	September 30, 2016	December 31, 2015
Refining & Marketing	$ 19,179	$ 18,396
Speedway	5,224	5,067
Midstream	12,328	11,379
Corporate and Other	795	762
Total	37,526	35,604
Less accumulated depreciation	11,829	10,440
Property, plant and equipment, net	$ 25,697	$ 25,164

14. 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.

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, we completed our 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

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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.

The fair value of the reporting units for the 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 interim goodwill impairment test will prove to be an accurate prediction of the future.

The changes in the carrying amount of goodwill for the nine months ended September 30, 2016 were as follows:

(In millions)	Refining & Marketing	Speedway	Midstream	Total
Balance at December 31, 2015	$ 539	$ 853	$ 2,627	$4,019
Purchase price allocation adjustments[a]	—	—	(241)	(241)
Impairment	—	—	(130)	(130)
Balance at September 30, 2016	$ 539	$ 853	$ 2,256	$3,648

[a] See Note 4 for further discussion on purchase price allocation adjustments.

15. Fair Value Measurements

Fair Values—Recurring

The following tables present assets and liabilities accounted for at fair value on a recurring basis as of September 30, 2016 and December 31, 2015 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.

	September 30, 2016 Fair Value Hierarchy					
(In millions)	Level 1	Level 2	Level 3	Netting and Collateral[a]	Net Carrying Value on Balance Sheet[b]	Collateral Pledged Not Offset
Commodity derivative instruments, assets	$277	$ 1	$—	$ (278)	$ —	$ 64
Other assets	2	—	—	N/A	2	—
Total assets at fair value	$279	$ 1	$—	$ (278)	$ 2	$ 64
Commodity derivative instruments, liabilities[c]	$312	$ —	$4	$ (313)	$ 3	$ —
Embedded derivatives in commodity contracts[c]	—	—	44	—	44	—
Contingent consideration, liability[d]	—	—	128	N/A	128	—
Total liabilities at fair value	$312	$ —	$176	$ (313)	$ 175	$ —

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(In millions)	December 31, 2015 Fair Value Hierarchy					
	Level 1	Level 2	Level 3	Netting and Collateral[a]	Net Carrying Value on Balance Sheet[b]	Collateral Pledged Not Offset
Commodity derivative instruments, assets	$104	$ 2	$7	$ (62)	$ 51	$ —
Other assets	2	—	—	N/A	2	—
Total assets at fair value	$106	$ 2	$7	$ (62)	$ 53	$ —
Commodity derivative instruments, liabilities	$39	$ —	$—	$ (39)	$ —	$ —
Embedded derivatives in commodity contracts[c]	—	—	32	—	32	—
Contingent consideration, liability[d]	—	—	317	N/A	317	—
Total liabilities at fair value	$39	$ —	$349	$ (39)	$ 349	$ —

(a) Represents the impact of netting assets, liabilities and cash collateral when a legal right of offset exists. As of September 30, 2016, cash collateral of $35 million was netted with the mark-to-market derivative liabilities. As of December 31, 2015, $23 million was netted with mark-to-market derivative assets.

(b) We have no derivative contracts that are subject to master netting arrangements that are reflected gross on the balance sheet.

(c) Level 3 includes $9 million and $5 million classified as current at September 30, 2016 and December 31, 2015, respectively.

(d) Includes $128 million and $196 million classified as current at September 30, 2016 and December 31, 2015, respectively.

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.

Commodity derivatives in Level 2 include crude oil and natural gas swap contracts and are measured at fair value with a market approach. The valuations are based on the appropriate commodity prices and contain no significant unobservable inputs. LIBO Rates are an observable input for the measurement of these derivative contracts. The measurements for commodity contracts contain observable inputs in the form of forward prices based on WTI crude oil prices; and Columbia Appalachia, Henry Hub, PEPL and Houston Ship Channel natural gas prices.

Level 3 instruments include OTC NGL contracts and embedded derivatives in commodity contracts. The fair value calculation for these Level 3 instruments used significant unobservable inputs including: (1) NGL prices interpolated and extrapolated due to inactive markets ranging from $0.22 to $3.13 per gallon, (2) electricity prices ranging from $24.66 to $27.11 per megawatt hour and (3) the probability of renewal of 50 percent for the first five-year term and 75 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. The embedded derivative liability relates to a natural gas purchase agreement embedded in a keep whole processing agreement. 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 represents the fair value as of September 30, 2016 and December 31, 2015 of the remaining amount we expect 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. We refer to these assets as the “Galveston Bay Refinery and Related Assets.” The fair value of the remaining contingent consideration was estimated using an income approach and is therefore a Level 3 liability. The amount of cash to be paid under the arrangement is based on both a market-based crack spread and refinery throughput volumes for the months during which the earnout applies, as well as established thresholds that cap the annual and total payment. The earnout payment cannot exceed $250 million per year for the last three years of the arrangement, with the total cumulative payment capped at $700 million over the six-year period commencing in 2014. Any excess or shortfall from the annual cap for a current year’s earnout calculation will not affect subsequent years’ calculations. The fair value calculation used significant unobservable inputs, including: (1) an estimate of forecasted monthly refinery throughput volumes; (2) a range of internal and external monthly crack spread forecasts from approximately $11 to $13 per barrel; and (3) a range of risk-adjusted discount rates from five percent to 10 percent. An increase or decrease in forecasts for the crack spread or refinery throughput volumes may result in a corresponding increase or decrease in the fair value of the contingent consideration liability. Increases to the fair value as a result of increasing forecasts for both of these unobservable inputs, however, are limited as the earnout payment is subject to annual caps. An increase or decrease in the discount rate may result in a decrease or increase to the fair value of the contingent consideration liability, respectively. The fair value of the contingent consideration liability is reassessed each quarter, with changes in fair value recorded in cost of revenues.

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During the second quarter of 2016, we paid BP $200 million for the third year's contingent earnout. On the consolidated statements of cash flows for the nine months ended September 30, 2016, $164 million of the contingent earnout payment is included as a financing activity with the remainder included as an operating activity. Including this second quarter payment, we have paid BP approximately $569 million in total leaving $131 million remaining under the total cap of $700 million.

The following is a reconciliation of the beginning and ending balances recorded for liabilities classified as Level 3 in the fair value hierarchy.

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions)	2016	2015	2016	2015
Beginning balance	$171	$307	$342	$478
Contingent consideration payment	—	—	(200)	(189)
Unrealized and realized losses included in net income	6	5	33	23
Settlements of derivative instruments	(1)	—	1	—
Ending balance	$176	$312	$176	$312
The amount of total losses for the period included in earnings attributable to the change in unrealized losses relating to assets still held at the end of period:				
Derivative instruments	$4	$—	$19	$—
Contingent consideration agreement	2	5	11	23
Total	$6	$5	$30	$23

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.

	Nine Months Ended September 30,			
	2016		2015	
(In millions)	Fair Value	Impairment	Fair Value	Impairment
Equity method investments	$42	$ 356	$ —	$ —
Goodwill	—	130	—	—
Property, plant and equipment, net	—	—	—	144

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, which owns the investments made to date in the Sandpiper pipeline project, 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, 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. 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. North Dakota Pipeline expects to dispose of these assets through orderly transactions.

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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, there can be no assurance that the estimates and assumptions made for purposes of the interim impairment test will prove to be an accurate prediction of the future.

See Note 14 for additional information on the goodwill impairment.

In the third quarter of 2015, we decided to cancel the Residual Oil Upgrader Expansion ("ROUX") project at our Garyville, LA refinery due to the implications of current market conditions. The project was intended to increase margins by upgrading residual fuel to ultra-low sulfur diesel and gas oil. 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. This impairment charge is included in "Impairment expense" on the accompanying consolidated statements of income. The fair value of our investment in the project was determined using an income approach and is classified as Level 3.

Fair Values – Reported

The following table summarizes financial instruments on the basis of their nature, characteristics and risk at September 30, 2016 and December 31, 2015, excluding the derivative financial instruments and contingent consideration reported above.

	September 30, 2016		December 31, 2015	
(In millions)	Fair Value	Carrying Value	Fair Value	Carrying Value
Financial assets:				
Investments	$27	$2	$33	$2
Other	22	22	35	33
Total financial assets	$49	$24	$68	$35
Financial liabilities:				
Long-term debt[(a)]	$11,056	$10,285	$11,366	$11,628

Deferred credits and other liabilities	124	111	136	135
Total financial liabilities	$11,180	$10,396	$11,502	$11,763

(a) Excludes capital leases and debt issuance costs, however, includes amount classified as debt due within one year.

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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"), a payable for merger cash consideration to be paid to MPLX's Class B unitholders upon conversion to MPLX common units, 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.

16. Derivatives

For further information regarding the fair value measurement of derivative instruments, including any effect of master netting agreements or collateral, see Note 15. We do not designate any of our commodity derivative instruments as hedges for accounting purposes.

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, (6) the purchase of natural gas and (7) the purchase of electricity.

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 September 30, 2016 and December 31, 2015:

(In millions)	September 30, 2016	
Balance Sheet Location	Asset	Liability
Commodity derivatives[(a)]		
Other current assets	$278	$ 312
Other current liabilities	—	10
Deferred credits and other liabilities	—	38

(In millions)	December 31, 2015	
Balance Sheet Location	Asset	Liability
Commodity derivatives		
Other current assets	$113	$ 39
Other current liabilities	—	5
Deferred credits and other liabilities[(a)]	—	27

(a) Includes embedded derivatives.

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The tables below summarize open commodity derivative contracts for crude oil, natural gas and refined products as of September 30, 2016.

	Position	Total Barrels(In thousands)
Crude Oil[a]		
Exchange-traded	Long	45,660
Exchange-traded	Short	(47,459)
OTC	Short	(92)

[a] 91 percent of the exchange-traded contracts expire in the fourth quarter of 2016.

	Position	MMbtu
Natural Gas		
OTC	Long	841,931

	Position	Total Gallons (In thousands)
Refined Products[a]		
Exchange-traded	Long	112,098
Exchange-traded	Short	(137,634)
OTC	Short	(56,108)

[a] 100 percent of the exchange-traded contracts expire in the fourth quarter of 2016.

The following table summarizes the effect of all commodity derivative instruments in our consolidated statements of income:

	Gain (Loss) Three Months Ended September 30,		Gain (Loss) Nine Months Ended September 30,	
(In millions)				
Income Statement Location	2016	2015	2016	2015
Sales and other operating revenues	$(3)	$(1)	$(4)	$10
Cost of revenues	(19)	140	(85)	115
Total	$(22)	$139	$(89)	$125

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17. Debt

Our outstanding borrowings at September 30, 2016 and December 31, 2015 consisted of the following:

(In millions)	September 30, 2016	December 31, 2015
Marathon Petroleum Corporation:		
Commercial paper	$ —	$ —
364-day bank revolving credit facility due July 2017	—	—
Bank revolving credit facility due 2020	—	—
Term loan agreement due 2019	200	700
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
MPLX LP:		
MPLX term loan facility due 2019	250	250
MPLX bank revolving credit facility due 2020	—	877
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
Capital lease obligations due 2016-2028	327	348
Trade receivables securitization facility due July 2019	—	—
Total	11,077	12,475
Unamortized debt issuance costs	(46)	(51)
Unamortized discount[(a)]	(465)	(499)
Amounts due within one year	(28)	(29)
Total long-term debt due after one year	$ 10,538	$ 11,896

(a) Includes $431 million and $464 million discount as of September 30, 2016 and December 31, 2015, respectively, related to the difference between the fair value and the principal amount of the assumed MarkWest debt.

Commercial Paper

On February 26, 2016, we established a commercial paper program that allows us to have a maximum of $2.0 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 facility. During the nine months ended September 30, 2016, we borrowed and repaid $1.06 billion under the commercial paper program. At September 30, 2016, we had no amounts outstanding under the commercial paper program.

MPC Bank Revolving Credit Facility

On July 20, 2016, we entered into a credit agreement with a syndicate of lenders to replace our existing MPC bank revolving credit facility due in 2017. The new agreement provides for a four-year $2.5 billion bank revolving credit facility maturing on July 20, 2020. Additionally, we entered into a 364-day $1.0 billion bank revolving credit facility maturing on July 19, 2017. The financial covenants contained in these agreements remain the same as under the previous bank revolving credit facility. There were no borrowings or letters of credit outstanding under the MPC bank revolving credit facility at September 30, 2016.

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MPC Term Loan Agreement

On September 30, 2016, we chose to prepay $500 million under the MPC term loan agreement with available cash on hand. Under the provisions of the MPC term loan agreement, the loan may be prepaid in whole or in part without premium or penalty. The maturity date of the MPC term loan agreement is September 24, 2019.

MPLX Bank Revolving Credit Facility

During the nine months ended September 30, 2016, MPLX borrowed $434 million under the MPLX bank revolving credit facility at an average interest rate of 1.9 percent, per annum, and repaid $1.31 billion of the outstanding borrowings. At September 30, 2016, MPLX had no outstanding borrowings and $3 million letters of credit outstanding under the MPLX bank revolving credit facility, resulting in total availability of $2.0 billion.

Trade Receivables Securitization Facility

On July 20, 2016, we amended our trade receivables securitization facility ("trade receivables facility") to, among other things, reduce the capacity from $1.0 billion to $750 million and to extend the maturity date to July 19, 2019. The reduction in capacity reflects the lower refined product price environment.

During the nine months ended September 30, 2016, we borrowed $280 million under the trade receivables securitization facility at an average interest rate of 1.3 percent and repaid all of these borrowings. At September 30, 2016, we had no amounts outstanding under our trade receivables securitization facility.

18. Supplemental Cash Flow Information

	Nine Months Ended September 30,	
(In millions)	2016	2015
Net cash provided by operating activities included:		
Interest paid (net of amounts capitalized)	$400	$262
Net income taxes paid to taxing authorities	28	1,286
Non-cash investing and financing activities:		
Property, plant and equipment sold	—	5
Property, plant and equipment acquired	—	5

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:

	Nine Months Ended September 30,	
(In millions)	2016	2015
Additions to property, plant and equipment per consolidated statements of cash flows	$2,147	$1,277
Non-cash additions to property, plant and equipment	—	5
Asset retirement expenditures	4	1
Decrease in capital accruals	(169)	(22)
Total capital expenditures before acquisitions	1,982	1,261
Acquisitions[(a)]	(133)	—
Total capital expenditures	$1,849	$1,261

(a) The nine months ended September 30, 2016 includes adjustments to the fair values of the property, plant and equipment, intangibles and goodwill acquired in connection with the MarkWest Merger. See Note 4.

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19. Accumulated Other Comprehensive Loss

The following table shows the changes in accumulated other comprehensive loss by component. Amounts in parentheses indicate debits.

(In millions)	Pension Benefits	Other Benefits	Gain on Cash Flow Hedge	Workers Compensation	Total
Balance as of December 31, 2014	$ (217)	$ (104)	$ 4	$ 4	$ (313)
Other comprehensive income (loss) before reclassifications	(17)	14	—	(3)	(6)
Amounts reclassified from accumulated other comprehensive loss:					
Amortization – prior service credit[a]	(35)	(3)	—	—	(38)
– actuarial loss[a]	39	6	—	—	45
– settlement loss[a]	4	—	—	—	4
Tax effect	(3)	(1)	—	—	(4)
Other comprehensive income (loss)	(12)	16	—	(3)	1
Balance as of September 30, 2015	$ (229)	$ (88)	$ 4	$ 1	$ (312)

(In millions)	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	(8)	1	—	—	(7)
Amounts reclassified from accumulated other comprehensive loss:					
Amortization – prior service credit[a]	(35)	(2)	—	—	(37)
– actuarial loss[a]	28	1	—	—	29
– settlement loss[a]	7	—	—	—	7
Other[b]	—	—	—	(1)	(1)
Tax effect	—	—	—	—	—
Other comprehensive income (loss)	(8)	—	—	(1)	(9)
Balance as of September 30, 2016	$ (263)	$ (70)	$ 4	$ 2	$ (327)

(a) These accumulated other comprehensive loss components are included in the computation of net periodic benefit cost. See Note 20.

(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.

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20. Defined Benefit Pension and Other Postretirement Plans

The following summarizes the components of net periodic benefit costs:

	Three Months Ended September 30,			
	Pension Benefits		Other Benefits	
(In millions)	2016	2015	2016	2015
Components of net periodic benefit cost:				
Service cost	$29	$25	$8	$8
Interest cost	18	18	9	8
Expected return on plan assets	(24)	(25)	—	—
Amortization – prior service credit	(12)	(12)	(1)	(1)
– actuarial loss	10	13	—	2
– settlement loss	4	2	—	—
Net periodic benefit cost	$25	$21	$16	$17

	Nine Months Ended September 30,			
	Pension Benefits		Other Benefits	
(In millions)	2016	2015	2016	2015
Components of net periodic benefit cost:				
Service cost	$86	$76	$24	$23
Interest cost	55	54	26	24
Expected return on plan assets	(73)	(75)	—	—
Amortization – prior service credit	(35)	(35)	(2)	(3)
– actuarial loss	28	39	1	6
– settlement loss	7	4	—	—
Net periodic benefit cost	$68	$63	$49	$50

We have no required funding requirements for our funded pension plans for 2016, but during the nine months ended September 30, 2016, we chose to make a $100 million voluntary contribution. Benefit payments related to unfunded pension and other postretirement benefit plans were $19 million and $19 million, respectively, during the nine months ended September 30, 2016.

During the nine months ended September 30, 2016 and 2015, we determined that certain of our pension plans' lump sum payments to employees retiring in the respective years will exceed the plans' total service and interest costs for the year. Settlement losses are required to be recorded when lump sum payments exceed total service and interest costs. As a result, during the nine months ended September 30, 2016 and 2015, we recorded pension settlement expenses of $7 million and $4 million.

21. Stock-Based Compensation Plans

Stock Option Awards

The following table presents a summary of our stock option award activity for the nine months ended September 30, 2016:

	Number of Shares	Weighted Average Exercise Price
Outstanding at December 31, 2015	8,724,631	$ 27.16
Granted	1,474,177	35.27

Exercised	(524,458)	18.26
Forfeited, canceled or expired	(29,607)	42.91
Outstanding at September 30, 2016	9,644,743	28.84

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The grant date fair value of stock option awards granted during the nine months ended September 30, 2016 was $9.84 per share. The fair value of stock options granted to our employees is estimated on the date of the grant using the Black Scholes option-pricing model, which employs various assumptions.

Restricted Stock Awards

The following table presents a summary of restricted stock award activity for the nine months ended September 30, 2016:

	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, 2015	1,074,543	$ 47.70	513,220	$ 24.59
Granted	722,315	36.10	35,453	40.21
RS's Vested/RSU's Issued	(463,996)	46.42	(190,845)	20.60
Forfeited	(39,213)	44.67	—	—
Outstanding at September 30, 2016	1,293,649	41.77	357,828	28.26

Performance Unit Awards

The following table presents a summary of the activity for performance unit awards to be settled in shares for the nine months ended September 30, 2016:

	Number of Units	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2015	6,145,442	$ 0.92
Granted	2,329,500	0.57
Exercised	(1,904,792)	0.95
Canceled	(314,972)	0.93
Outstanding at September 30, 2016	6,255,178	0.78

The performance unit awards granted during the nine months ended September 30, 2016 have a grant date fair value of $0.57 per unit, as calculated using a Monte Carlo valuation model.

MPLX Awards

During the nine months ended September 30, 2016, MPLX granted equity-based compensation awards under the MPLX LP 2012 Incentive Compensation Plan. The compensation expense for these awards is not material to our consolidated financial statements.

22. 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 September 30, 2016 and December 31, 2015, accrued liabilities for remediation totaled $145 million and $163 million, respectively. 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 $62 million and $70 million at September 30, 2016 and December 31, 2015, 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.

Litigation Relating to the MarkWest Merger—In July 2015, a purported class action lawsuit asserting claims challenging the MarkWest Merger was filed in the Court of Chancery of the State of Delaware by a purported unitholder of MarkWest. In August 2015, two similar putative class action lawsuits were filed in the Court of Chancery of the State of Delaware by plaintiffs who purport to be unitholders of MarkWest. On September 9, 2015, these lawsuits were consolidated into one action pending in the Court of Chancery of the State of Delaware, now captioned In re MarkWest Energy Partners, L.P. Unitholder Litigation. On October 1, 2015, the plaintiffs filed a consolidated complaint against the individual members of the board of directors of MarkWest Energy GP, L.L.C. (the "MarkWest GP Board"), MPLX, MPLX GP, MPC and Sapphire Holdco LLC, a wholly-owned subsidiary of MPLX, asserting in connection with the MarkWest Merger and related disclosures that, among other things, (i) the MarkWest GP Board breached its duties in approving the MarkWest Merger with MPLX and (ii) MPC, MPLX, MPLX GP, and Sapphire Holdco LLC aided and abetted such breaches. On February 4, 2016, the Court approved a stipulation and proposed order to dismiss all claims with prejudice as to the named plaintiffs, but the Court retained jurisdiction to adjudicate a fee application by the plaintiffs' counsel for an award of attorneys' fees and reimbursement of expenses. On March 28, 2016, the plaintiffs filed an application for reimbursement of approximately $2 million of legal fees and expenses. On May 17, 2016, the plaintiffs withdrew the fee application and the case is now dismissed.

MarkWest Environmental Proceeding – In July 2015 representatives from the EPA and the United States Department of Justice conducted a raid on a MarkWest Liberty Midstream pipeline launcher/receiver site utilized for pipeline maintenance operations in Washington County, Pennsylvania pursuant to a search warrant issued by a magistrate of the United States District Court for the Western District of Pennsylvania. As part of this initiative, the U.S. Attorney's Office for the Western District of Pennsylvania, with the assistance of EPA's Criminal Investigation Division proceeded with an investigation of MarkWest's launcher/receiver, pipeline and compressor station operations. In response to the investigation, MarkWest initiated independent studies which demonstrated that there was no risk to worker safety and no threat of public harm associated with MarkWest's launcher/receiver operations. These findings were supported by a subsequent inspection and review by the Occupational Safety and Health Administration. After providing these studies, and other substantial documentation related to MarkWest's pipeline and compressor stations, and arranging site visits and conducting several meetings with the government's representatives, on September 13, 2016, the U.S. Attorney's Office for the Western District of Pennsylvania rendered a declination decision, dropping its criminal investigation and declining to pursue charges in this matter.

MarkWest Liberty Midstream continues to discuss with the EPA and the State of Pennsylvania alleged omissions associated with permits or related regulatory obligations for its launcher/receiver and compressor station facilities in the region. It is possible that in connection with any potential or asserted enforcement action associated with this matter, MarkWest Liberty Midstream will incur material assessments, penalties or fines, incur material defense costs and expenses, be required to modify operations or construction activities which could increase operating costs and capital expenditures, or be subject to other obligations or restrictions that could restrict or prohibit our activities, any or all of which could adversely affect our results of operations, financial position or cash flows. The amount of any potential assessments, penalties, fines, restrictions, requirements, modifications, costs or expenses that may be incurred in connection with any potential enforcement action cannot be reasonably estimated or determined at this time.

Other Lawsuits—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 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.

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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.

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—We hold interests in an offshore oil port, LOOP, and a crude oil pipeline system, LOCAP. Both LOOP and LOCAP have secured various project financings with throughput and deficiency agreements. Under the agreements, we are 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 $172 million as of September 30, 2016.

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 $30 million as of September 30, 2016.

In connection with our 50 percent indirect interest 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 September 30, 2016, 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 $142 million as of September 30, 2016.

Marathon Oil indemnifications—In conjunction with our spinoff from Marathon Oil, we have entered into arrangements with Marathon Oil providing indemnities and guarantees with recorded values of $3 million as of September 30, 2016, which consist of unrecognized tax benefits related to MPC, its consolidated subsidiaries and the refining, marketing and transportation business operations prior to our spinoff which are not already reflected in the unrecognized tax benefits described in Note 11, 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 our 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.

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Other guarantees—We have entered into other guarantees with maximum potential undiscounted payments totaling $83 million as of September 30, 2016, which primarily consist 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 and leases of assets containing general lease indemnities and guaranteed residual values.

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 September 30, 2016, our contractual commitments to acquire property, plant and equipment and advance funds to equity method investees totaled $521 million, which includes $131 million of contingent consideration associated with the acquisition of the Galveston Bay Refinery and Related Assets. See Note 15 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 with us if there are significant delays that are not due to force majeure. As of September 30, 2016, management does not believe there are any indications that we will not be able to meet the construction milestones, that force majeure does not apply, or that such fees and charges will otherwise be triggered.

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Item 2: 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 unaudited consolidated financial statements and accompanying footnotes included under Item 1. Financial Statements and in conjunction with our Annual Report on Form 10-K for the year ended December 31, 2015.

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," "estimate," "objective," "expect," "forecast," "goal," "int "plan," "predict," "project," "potential," "seek," "target," "could," "may," "should," "would," "will" or other similar expressio 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. For additional risk factors affecting our business, see Item 1A. Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2015.

Corporate Overview

We are an independent petroleum refining and marketing, retail and midstream services company. We currently own and operate seven refineries, all located in the United States, with an aggregate crude oil refining capacity of approximately 1.8 million barrels per calendar day. Our refineries supply refined products to resellers and consumers within our market areas, including the Midwest, Gulf Coast, Northeast, East Coast and Southeast regions of the United States. We distribute refined products to our customers through one of the largest terminal operations in the United States and a combination of MPC-owned and third-party-owned trucking and rail assets. 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 2,770 convenience stores in 22 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 5,400 retail outlets operated by independent entrepreneurs in 19 states.

Through our ownership interests in MPLX and its wholly-owned subsidiary, MarkWest, we believe we are one of the largest processors of natural gas in the United States, the largest processor and fractionator in the Marcellus and Utica shale regions and we distribute refined products through one of the largest private domestic fleets of inland petroleum product barges. 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 5,500 MMcf/d of gathering capacity, 7,500 MMcf/d of natural gas processing capacity and 500 mbpd of fractionation capacity. We also own more than 5,500 miles of gas gathering and NGL pipelines and have ownership interests in more than 50 gas processing plants, more than 10 NGL fractionation facilities and two condensate stabilization facilities. We own, lease or have ownership interests in approximately 8,400 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 revised our operating segment presentation in the first quarter of 2016 in connection with the contribution of our inland marine business to MPLX. In previous periods, our inland marine business and our investment in an ocean vessel joint venture, (Crowley Ocean Partners), were presented within our Refining & Marketing segment. They are now presented in our Midstream segment. Comparable prior period information has been recast to reflect our revised segment presentation.

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.

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Refining & Marketing—refines crude oil and other feedstocks at our seven 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 terminals and trucks that we own or operate. 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 merchandise in the retail market in the Midwest, East Coast and Southeast regions of the United States.
- Midstream – includes the operations of MPLX and certain other related operations. The Midstream segment gathers, processes and transports natural gas; gathers, transports, fractionates, stores and markets NGLs and transports and stores crude oil and refined products.

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Executive Summary

Results

Select results for the three and nine months ended September 30, 2016 and 2015 are reflected in the following table.

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions, except per share data)	2016	2015	2016	2015
Income from Operations by segment				
Refining & Marketing	$306	$1,434	$1,324	$3,907
Speedway	209	243	569	538
Midstream[(a)]	258	93	626	286
Net income attributable to MPC	$145	$948	$947	$2,665
Net income attributable to MPC per diluted share	$0.27	$1.76	$1.78	$4.90

(a) Excludes equity method investment impairment charges of $267 million and $356 million for the three months and nine months ended September 30, 2016, respectively, as discussed in Note 15 to the unaudited consolidated financial statements and goodwill impairment charges of $130 million for the nine months ended September 30, 2016 as discussed in Acquisitions and Investments.

Net income attributable to MPC was $145 million, or $0.27 per diluted share, in the third quarter and $947 million, or $1.78 per diluted share, in the first nine months of 2016 compared to $948 million, or $1.76 per diluted share, and $2.67 billion, or $4.90 per diluted share, for the same periods of 2015.

Refining & Marketing segment income from operations decreased $1.13 billion in the third quarter and $2.58 billion in the first nine months of 2016 compared to the same periods of 2015. Segment income in the first nine months of 2016 includes a non-cash benefit of $345 million related to the reversal of the Company's LCM inventory valuation reserve. Excluding the LCM benefit in the first nine months of 2016, the decreases in both periods were mainly the result of lower crack spreads.

Speedway segment income from operations decreased $34 million in the third quarter and increased $31 million in the first nine months of 2016 compared to the same periods of 2015. The decrease in the third quarter of 2016 was primarily due to lower light product margins and higher depreciation expense partially offset by increases in merchandise margins and light product sales volume. In the first nine months of 2016, segment income includes a non-cash benefit of $25 million related to the reversal of the Company's LCM inventory valuation reserve. Excluding the LCM benefit, the increase in segment income was primarily due to higher merchandise margins and a $24 million gain from the sale of a retail location, partially offset by lower light product margins and higher depreciation expense. The increases in depreciation are primarily related to the recent investments made in the business, including capital spending related to the Hess Retail acquisition in late 2014.

Midstream segment income from operations increased $165 million in the third quarter and $340 million in the first nine months of 2016 compared to the same periods of 2015. The increases were primarily due to the inclusion of MarkWest’s operating results following the merger with MPLX on December 4, 2015, as well as earnings from new and existing pipeline and marine equity investments.

Strategic Actions to Enhance Shareholder Value

On October 27, 2016, we announced several initiatives to enhance shareholder value, primarily focused on unlocking value from our portfolio of high-quality midstream assets.

The strategic plan includes the following actions:

- 2017 Dropdowns. MPC plans to offer to MPLX assets contributing a total of approximately $350 million of annual EBITDA by the end of 2017, subject to market and other conditions. The first dropdown of assets contributing approximately $235 million of annual EBITDA is expected to occur by the end of the first quarter, pending requisite approvals. The transactions are expected to support increased limited and general partner distributions from MPLX

and provide value creation for investors. MPLX's plans for funding these dropdowns would likely include transactions with MPC, including the potential for a substantial amount of equity issued to MPC.

- Future Dropdown Strategy. Following these initial dropdown transactions, MPC would have an estimated $1 billion of annual EBITDA that could be dropped into MPLX to support the continued strong growth of partnership distributions and further enhance the value of MPC's limited and general partner interests in MPLX. Subject to market and other conditions, MPC intends to execute on these value-enhancing dropdowns as soon as practicable within the next three years, pending requisite approvals.

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- Highlighting the Value of the General Partner Interest. In addition to the expected dropdown transactions, MPC is evaluating strategic opportunities to highlight and capture the value of its general partner ownership interest in MPLX and optimize the cost of capital for the partnership. MPC has retained independent financial advisors to assist with this evaluation. The timing of any resulting transactions would be subject to market and other conditions.
- Review of Segment Reporting. In connection with the above strategic actions to unlock value from its midstream assets, MPC also plans to evaluate changes to its internal financial reporting. This review will largely focus on the assets and earnings associated with its future dropdown strategy that are currently reported in the refining and marketing segment. MPC is working diligently on this assessment, which is likely to result in changes to its segment reporting beginning in 2017.

MPLX LP

As of September 30, 2016, we owned a 24 percent interest in MPLX, including a two percent general partner interest. This ownership percentage assumes the conversion of the MPLX Class B Units in July of 2017 at 1.09 to 1.00 and the exchange of the MPLX preferred units on a one for one basis. On December 4, 2015, MPLX completed the MarkWest Merger. The total value of consideration transferred was $8.61 billion, consisting of $7.33 billion in equity and $1.28 billion in cash. At closing, we made a payment of $1.23 billion to MarkWest common unitholders and the remaining $50 million will be paid in equal amounts, the first of which was paid in July 2016 and the second of which will be 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.

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 the issued and outstanding MPLX Class A Units, all of which were held by MarkWest Hydrocarbon, a subsidiary of MPLX, were exchanged for newly issued common units representing limited partner interests in MPLX. The simple average of the closing prices of MPLX common units for the last 10 trading days prior to 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”) for 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. The approximate $1.3 billion of financing from the combination of the ATM issuances in the first quarter and this private placement should provide for MPLX’s anticipated funding needs for the remainder of 2016 and into 2017.

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 common units. 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 our 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.

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Contribution of Inland Marine Business to MPLX

On March 31, 2016, we contributed our inland marine business to MPLX in exchange for 23 million MPLX common units and 460 thousand general partner units. The number of units we received from MPLX was determined by dividing $600 million by the volume weighted average NYSE price of MPLX common units for the 10 trading days preceding March 14, 2016, pursuant to the 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 we did not record a gain or loss.

ATM Program

On August 4, 2016, MPLX entered into a second amended and restated distribution agreement providing for the continuous issuance of up to an aggregate of $1.18 billion of common units, in amounts, at prices and on terms to be determined by market conditions and other factors at the time of any offerings under its ATM Program. MPLX expects to use 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.

During the nine months ended September 30, 2016, MPLX issued an aggregate of 18 million common units under the ATM Program, generating net proceeds of approximately $499 million. As a result of common units issued under the ATM Program during the period, we contributed approximately $10 million in exchange for general partner units to maintain our two percent general partner interest.

Distributions from MPLX

The following table summarizes the cash distributions we received from MPLX during the first nine months of 2016 and 2015.

	Nine Months Ended September 30,	
(In millions)	2016	2015
Cash distributions received from MPLX:		
General partner distributions, including IDRs	$ 134	$ 13
Limited partner distributions	99	70
Total	$ 233	$ 83

The market value of the 86.6 million MPLX common units we owned at September 30, 2016 was $2.93 billion based on the September 30, 2016 closing unit price of $33.86. We also believe there is substantial value attributable to our two percent general partnership interest.

On October 25, 2016, MPLX declared a quarterly cash distribution of $0.5150 per common unit payable on November 14, 2016. As a result, MPLX will make distributions totaling $233 million to its limited and general partners. MPC’s portion of these distributions is approximately $98 million.

See Note 3 to the unaudited consolidated financial statements for additional information on MPLX.

Acquisitions and Investments

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 nine months ended September 30, 2016 and have 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 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 Note 15 to the unaudited consolidated financial statements for information regarding the charge.

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MPLX currently expects to participate in a joint venture with Enbridge Energy Partners to acquire a 9.1875 percent 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, from Energy Transfer Partners, L.P. ("ETP") and Sunoco Logistics Partners, L.P. ("SXL") for $500 million. Furthermore, MPC expects to become a committed shipper on the Bakken Pipeline system under terms of an on-going open season. The acquisition remains subject to certain closing conditions and is expected to close in the fourth quarter of 2016.

The Bakken Pipeline system is currently expected to deliver in excess of 470,000 barrels per day 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. ETP and SXL collectively own a 75 percent interest in each of the two joint ventures that are developing the Bakken Pipeline system. MPLX and Enbridge Energy Partners will participate in a new joint venture to acquire 49 percent of ETP and SXL's 75 percent indirect interest in the Bakken Pipeline system. MPLX will own 25 percent of this new joint venture with Enbridge, which results in a 9.1875 percent indirect ownership interest in the Bakken Pipeline system. MPLX expects to account for its investment using the equity method of accounting.

Subject to the closing of the transaction with ETP and SXL, Enbridge Energy Partners has agreed to cancel MPC's transportation services agreement with respect to the Sandpiper pipeline project and release MPC from paying any termination fee per that agreement.

In June 2016, Speedway and Pilot Flying J signed a definitive agreement for a joint venture consisting of 120 travel plazas, primarily in the Southeast United States. The new entity, PFJ Southeast LLC, will initially consist of 41 existing locations contributed by Speedway and 79 locations contributed by Pilot Flying J, all of which will carry either the Pilot or Flying J brand and will be operated by Pilot Flying J. This transaction is subject to customary closing conditions and regulatory clearances.

We currently have indirect ownership interests in two ocean vessel joint ventures with Crowley, which were established to own and operate Jones Act vessels in petroleum product service.

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. Two of the vessels were delivered in 2015, the third was delivered in April 2016 and the fourth was delivered in August 2016. During the nine months ended September 30, 2016, we contributed $69 million in connection with the delivery of the third and fourth vessels. We have 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. 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 5 to the unaudited consolidated financial statements for information on Crowley Coastal Partners as a VIE and Note 22 to the unaudited consolidated financial statements for information on our conditional guarantee of the indebtedness of Crowley Ocean Partners and Crowley Blue Water Partners.

On December 4, 2015, MPLX merged with MarkWest, whereby MarkWest became a wholly-owned subsidiary of MPLX. 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. Each Class B unit of MarkWest outstanding immediately prior to the merger was converted into the right to receive one Class B unit of MPLX having substantially similar rights, including conversion and registration rights, and obligations that the Class B units of MarkWest had immediately prior to the merger. At closing, we contributed $1.23 billion in cash to MPLX to pay the cash consideration to MarkWest common unitholders. We will contribute an additional total of $50 million in cash to MPLX for the cash consideration to be paid upon the conversion of the MPLX Class B Units to MPLX common units in equal installments, the first of which was paid in July 2016 and the second of which will be paid in July 2017.

These contributions are with respect to MPC's existing interests in MPLX (including IDRs) and not in consideration of new units or other equity interest in MPLX. We assigned the total consideration transferred of $8.61 billion, including the $7.33 billion fair value of the equity consideration and the $1.28 billion of cash contributions, to the fair value of the assets acquired and liabilities and noncontrolling interest assumed in the MarkWest Merger, with the excess recorded as goodwill. During the first quarter of 2016, the preliminary fair value measurements of assets acquired and liabilities assumed recorded in the 2015 year-end financial statements were revised based on additional analysis. These adjustments to the fair values of property, plant and equipment, intangibles and equity investments, among other items, resulted in an offsetting

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reduction to goodwill of approximately $241 million. As a result, we recognized total assets acquired of $11.91 billion, including $8.52 billion of property plant and equipment and $2.60 billion of equity investments, and total liabilities and noncontrolling interests assumed of $5.51 billion, including $4.57 billion of assumed debt. Goodwill is not amortized, but rather is tested for impairment annually or more frequently if warranted due to events or changes in circumstances. MPLX recorded an impairment charge of approximately $129 million in the first quarter to impair a portion of the $2.21 billion of goodwill, as adjusted, recorded in connection with the MarkWest Merger. 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.

See the Critical Accounting Estimates section for a discussion of this interim assessment of goodwill. See Note 14 to the unaudited consolidated financial statements for information on goodwill recorded from the MarkWest Merger. Our financial results and operating statistics reflect the results of MarkWest from the date of the acquisition.

Consistent with our strategy to grow our midstream business, the MarkWest Merger combines one of the nation’s largest processors of natural gas and the largest processor and fractionator in the Marcellus and Utica shale regions with a rapidly growing crude oil and refined products logistics partnership sponsored by MPC. The complementary aspects of the highly diverse asset base of MarkWest, MPLX and MPC provide significant additional opportunities across multiple segments of the hydrocarbon value chain. The combined entity will further MarkWest's leading midstream presence in the Marcellus and Utica shales by allowing it to pursue additional midstream projects, which should allow producer customers to achieve superior value for their growing production in these important shale regions. In addition, the combination provides significant vertical integration opportunities, as MPC is a large consumer of NGLs.

Share Repurchases

Since January 1, 2012, our board of directors has approved $10.0 billion in total share repurchase authorizations and we have repurchased a total of $7.42 billion of our common stock, leaving $2.58 billion available for repurchases. During the nine months ended September 30, 2016, we have acquired 4 million common shares at an average cost per share of $41.14 under these authorizations. See Note 8 to the unaudited consolidated financial statements.

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.

Liquidity

As of September 30, 2016, we had cash and cash equivalents of $709 million, unused $3.5 billion bank revolving credit facilities and approximately $740 million of availability under our $750 million trade receivables facility based on eligible trade receivables. Availability under MPC’s trade receivables facility is a function of eligible accounts receivable, which will be lower in a sustained lower refined product price environment. As of September 30, 2016, 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 facility. The above amounts exclude MPLX’s $2.0 billion bank revolving credit facility, which as of September 30, 2016, had no borrowings and $3 million letters of credit outstanding.

During the first nine months of 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.

On July 20, 2016, we amended our trade receivables facility to, among other things, reduce the capacity from $1.0 billion to $750 million and to extend the maturity date to July 19, 2019. The reduction in capacity reflects the lower refined product price environment.

On July 20, 2016, we entered into a credit agreement with a syndicate of lenders to replace our existing MPC bank revolving credit facility due in 2017. The new agreement provides for a four-year $2.5 billion bank revolving credit facility maturing on July 20, 2020. Additionally, we entered into a 364-day $1.0 billion bank revolving credit facility maturing on July 19, 2017. The financial covenants contained in these agreements remain the same as under the previous bank revolving credit facility.

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The above discussion contains forward-looking statements with respect to certain strategic initiatives and our growth and vertical integration opportunities with respect to our midstream assets, the pending joint venture with Pilot Flying J, MPLX's investment in the Bakken Pipeline system and our share repurchase authorizations. Factors that could affect our strategic initiatives include, but are not limited to, the time, costs and ability to obtain regulatory or other approvals and consents and otherwise consummate the strategic actions discussed herein; the satisfaction or waiver of conditions in the agreements governing the strategic actions discussed herein; our ability to achieve the strategic and other objectives related to the strategic actions discussed herein; the impact of adverse market conditions affecting MPC's and MPLX's midstream businesses; adverse changes in laws including with respect to tax and regulatory matters; inability to agree with the MPLX conflicts committee with respect to the timing of and value attributed to assets expected to be offered to MPLX. Factors that could affect our growth and vertical integration opportunities with respect to our midstream assets include, but are not limited to, volatility in and/or degradation of market and industry conditions, our ability to implement and realize the benefits and synergies of these initiatives, availability of liquidity, actions taken by competitors, regulatory approvals and operating performance. Factors that could affect the pending joint venture with Pilot Flying J include, but are not limited to, our ability to successfully close the pending joint venture, including, without limitation, satisfying customary closing conditions. Factors that could affect MPLX's investment and participation in the Bakken Pipeline system include, but are not limited to, the parties' ability to satisfy closing conditions. Factors that could affect the share repurchase authorizations and the timing of any repurchases include, but are not limited to, business conditions, availability of liquidity and the market price of our common stock. These factors, among others, could cause actual results to differ materially from those set forth in the forward-looking statements.

Overview of Segments

Refining & Marketing

Refining & Marketing segment income from operations depends largely on our Refining & Marketing gross margin and refinery throughputs.

Our Refining & Marketing gross 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 ULSD and 1 barrel of three percent residual fuel oil) are used for these crack-spread calculations.

Refined product prices have historically moved relative to international crude oil prices like Brent crude. In recent years, domestic U.S. crude oils, such as WTI and LLS, have traded at prices less than Brent due to the growth in U.S. crude oil production, logistical constraints and other market factors. These price discounts had favorably impacted the LLS 6-3-2-1 crack spread. The decline in crude oil prices in 2015 and continuing into the first quarter of 2016 has led to declines in sequential (month on month) onshore U.S. crude oil production and narrowed the LLS discount to Brent. With the end of the ban on U.S. crude oil exports, LLS and Brent are expected to trade near parity.

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 gross margin to differ from crack spreads based on sweet crude oil. In general, a larger sweet/sour differential will enhance our Refining & Marketing gross margin.

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

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

(In millions, after-tax)	
LLS 6-3-2-1 crack spread sensitivity[a] (per $1.00/barrel change)	$450
Sweet/sour differential sensitivity[b] (per $1.00/barrel change)	220
LLS-WTI differential sensitivity[c] (per $1.00/barrel change)	90
Natural gas price sensitivity (per $1.00/million British thermal unit change)	140

(a) 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.

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

(c) Assumes 20 percent of crude oil throughput volumes are WTI-based domestic crude oil.

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

- the types of crude oil and other charge and blendstocks processed;
- our refinery yields;
- the selling prices realized for refined products;
- the impact of commodity derivative instruments used to hedge price risk;
- the cost of products purchased for resale;
- the effect of changes to refined product prices on LCM inventory valuation reserves; and
- the impact of liquidations of LIFO inventory layers with costs significantly above current market prices.

Inventories are carried at the lower of cost or market value. Costs of crude oil, refinery feedstocks and refined products 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 values. As of December 31, 2015, costs of inventories on a consolidated basis exceeded market value by $370 million, of which $345 million was allocated to our Refining & Marketing segment. As of June 30, 2016, market value exceeded cost and we reversed the LCM reserve resulting in a benefit to cost of revenues for the nine months ended September 30, 2016. As of September 30, 2016, market values for refined products continue to exceed their cost basis and, therefore, there is no LCM inventory market valuation reserve at the end of the third quarter. 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.

The cost of inventories of crude oil and refinery feedstocks, refined products and merchandise is determined primarily under the LIFO method. During the second quarter of 2016, we recognized a permanent reduction in our refined products inventories for LIFO accounting purposes. The cost of these inventories was based on prices in early 2015, which were much higher than current prices. As a result, we recognized a pre-tax charge of approximately $54 million in connection with this LIFO inventory reduction. There were no liquidation of LIFO inventories for the nine months ended September 30, 2015.

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. Costs for planned turnaround, major maintenance and engineering projects are expensed in the period incurred. We had significantly more planned turnaround and major maintenance activities at our Galveston Bay and Garyville refineries during the first nine months of 2016 compared to the same period in 2015.

Speedway

Our retail marketing gross 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. Numerous factors impact gasoline and distillate demand, including local competition, transportation fuel prices, seasonal demand fluctuations, the available wholesale supply, the level of economic activity in our marketing areas and weather conditions. Market demand increases for gasoline and distillate generally increase the product margin we can realize.

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The gross margin on merchandise sold at convenience stores historically has been less volatile and has contributed substantially to Speedway's gross margin. 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 crude oil, refinery feedstocks and refined products 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 values. As of December 31, 2015, costs of inventories on a consolidated basis exceeded market value by $370 million, of which $25 million was allocated to our Speedway segment. As of June 30, 2016, market value exceeded cost and we reversed the LCM reserve resulting in a benefit to cost of revenues for the nine months ended September 30, 2016. As of September 30, 2016, market values for refined products continue to exceed their cost basis and, therefore, there is no LCM inventory market valuation reserve at the end of the third quarter. 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 that are beyond our control. Our profitability is directly 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 by our producer customers, such prices also affect profitability.

The profitability of our pipeline transportation operations primarily depends on tariff rates and the volumes shipped through the pipelines. The profitability of our marine operations primarily depends on the quantity and availability of our vessels and barges. A majority of the crude oil and refined product shipments on our common carrier pipelines and marine vessels 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 and marine operations. 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.

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Results of Operations

Consolidated Results of Operations

	Three Months Ended September 30,			Nine Months Ended September 30,		
(In millions)	2016	2015	Variance	2016	2015	Variance
Revenues and other income:						
Sales and other operating revenues (including consumer excise taxes)	$16,618	$18,716	$(2,098)	$46,184	$56,444	$(10,260)
Income (loss) from equity method investments	(208)	23	(231)	(236)	58	(294)
Net gain on disposal of assets	1	2	(1)	26	6	20
Other income	49	17	32	106	71	35
Total revenues and other income	16,460	18,758	(2,298)	46,080	56,579	(10,499)
Costs and expenses:						
Cost of revenues (excludes items below)	12,944	14,165	(1,221)	35,475	43,575	(8,100)
Purchases from related parties	128	61	67	359	219	140
Inventory market valuation adjustment	—	—	—	(370)	—	(370)
Consumer excise taxes	1,914	1,988	(74)	5,633	5,759	(126)
Impairment expense	—	144	(144)	130	144	(14)
Depreciation and amortization	507	364	143	1,497	1,089	408
Selling, general and	420	392	28	1,199	1,143	56

administrative expenses						
Other taxes	112	95	17	332	296	36
Total costs and expenses	16,025	17,209	(1,184)	44,255	52,225	(7,970)
Income from operations	435	1,549	(1,114)	1,825	4,354	(2,529)
Net interest and other financial income (costs)	(141)	(70)	(71)	(420)	(215)	(205)
Income before income taxes	294	1,479	(1,185)	1,405	4,139	(2,734)
Provision for income taxes	75	521	(446)	481	1,439	(958)
Net income	219	958	(739)	924	2,700	(1,776)
Less net income (loss) attributable to:						
Redeemable noncontrolling interest	16	—	16	25	—	25
Noncontrolling interests	58	10	48	(48)	35	(83)
Net income attributable to MPC	$145	$948	$(803)	$947	$2,665	$(1,718)

Net income attributable to MPC decreased $803 million in the third quarter and $1.72 billion in the first nine months of 2016 compared to the same periods of 2015. In both periods of 2016, decreases in income from operations for our Refining & Marketing segment were partially offset by increases in our Midstream segment. Income from operations decreased for our Speedway segment in the third quarter and increased for the first nine months of 2016 compared to the same periods of 2015. Income from operations for the first nine months of 2016 includes a non-cash benefit of $370 million related to the reversal of the Company's LCM inventory valuation reserve. Items not allocated to segments includes impairment charges of $267 million in the third quarter and $356 million in the first nine months of 2016 related to equity method investments. See Segment Results for additional information.

Sales and other operating revenues (including consumer excise taxes) decreased $2.10 billion in the third quarter and $10.26 billion in the first nine months of 2016 compared to the same periods of 2015. The decreases were primarily due to lower average refined product sales prices which decreased $0.24 per gallon and $0.39 per gallon, for the third quarter and first nine months of 2016, respectively.

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Income (loss) from equity method investments decreased $231 million in the third quarter and $294 million in the first nine months of 2016 compared to the same periods of 2015. The decreases are primarily due to impairment charges related to equity method investments of $267 million and $356 million, for the third quarter and first nine months of 2016, respectively, partially offset by increases in income from new and existing pipeline and marine equity investments.

Net gain on disposal of assets increased $20 million in the first nine months of 2016 compared to the same period of 2015, primarily due to the sale of a Speedway retail location in the first quarter of 2016.

Cost of revenues decreased $1.22 billion in the third quarter and $8.10 billion in the first nine months of 2016 compared to the same periods of 2015. The decreases were primarily due to:

- decreases in refined product cost of sales of $1.23 billion and $7.97 billion, respectively, primarily due to decreases in raw material and finished product costs; partially offset by
- increases in refinery direct operating costs of $36 million, or $0.15 per barrel of total refinery throughput, and $338 million, or $0.78 per barrel of total refinery throughput, primarily due to increased planned turnaround activity in 2016.

Purchases from related parties increased $67 million in the third quarter and $140 million in the first nine months of 2016 compared to the same periods of 2015, primarily due to:

- increases in volumes transported by by Illinois Extension Pipeline, which is a pipeline affiliate that became operational in December of 2015, of $27 million and $82 million, respectively;
- increases in transportation services provided by Crowley Ocean Partners, which is a new marine joint venture established in September of 2015, of $15 million and $32 million, respectively; and
- increases in transportation services provided by Crowley Blue Water Partners, which is a new marine joint venture established in May of 2016, of $16 million and $22 million, respectively.

Inventory market valuation adjustment decreased costs and expenses by $370 million for the first nine months of 2016 compared to the same period of 2015. The December 31, 2015 LCM reserve of $370 million was reversed due to the sale of inventory quantities that gave rise to the 2015 reserve and a new LCM reserve of $385 million was established as of March 31, 2016 based on market prices at that time. As of June 30, 2016, market value exceeded cost due to increases in refined product prices during the second quarter and we reversed the LCM reserve resulting in reductions to cost of revenues of $370 million for the nine months ended September 30, 2016.

Consumer excise taxes decreased $74 million in the third quarter and $126 million in the first nine months of 2016 compared to the same periods of 2015, primarily due to decreases in taxable refined product sales volumes and tax rates in certain locations.

Impairment expense reflects a $130 million impairment charge recorded by MPLX in the first nine months of 2016 to impair a portion of the $2.21 billion of goodwill, as adjusted, recorded in connection with the MarkWest Merger. The third quarter and first nine months of 2015 included a $144 million impairment charge related to the cancellation of the ROUX project at our Garyville refinery. See the Critical Accounting Estimates section for a discussion of the interim impairment assessment of goodwill.

Depreciation and amortization increased $143 million in the third quarter and $408 million in the first nine months of 2016 compared to the same periods of 2015, primarily due to depreciation of the fair value of the assets acquired in connection with the MarkWest Merger.

Selling, general and administrative expenses increased $28 million in the third quarter and $56 million in the first nine months of 2016 compared to the same periods of 2015, primarily due to the inclusion of MarkWest’s expenses, partially offset by a decrease in expenses in both periods.

Other taxes increased $17 million in the third quarter and $36 million in the first nine months of 2016 compared to the same periods of 2015, primarily due to the inclusion of MarkWest’s taxes.

Net interest and other financial costs increased $71 million in the third quarter and $205 million in the first nine months of 2016 compared to the same periods of 2015, primarily due to interest on the debt assumed in the MarkWest Merger.

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Provision for income taxes decreased $446 million in the third quarter and $958 million in the first nine months of 2016 compared to the same periods of 2015, primarily due to decreases in income before income taxes of $1.19 billion in the third quarter and $2.73 billion in the first nine months of 2016. The combined federal, state and foreign income tax rate was 26 percent and 35 percent for the three months ended September 30, 2016 and 2015, respectively and 34 percent and 35 percent for the nine months ended September 30, 2016 and 2015, respectively. The effective tax rate for the three months ended September 30, 2016 varies from the U.S. statutory rate of 35 percent primarily due to the effects of a lower forecasted annual effective tax rate as compared to the forecasted rate used for the first six months of 2016. The effective tax rate for the nine months ended September 30, 2016 is slightly less than the U.S. statutory rate of 35 percent primarily due to certain permanent tax differences related to the net income attributable to noncontrolling interests (including their proportional share of the goodwill impairment charge recorded by MPLX), the domestic manufacturing deduction and state and local tax expense. The effective tax rate for the three and nine months ended September 30, 2015 is equivalent to the U.S. statutory rate of 35 percent.

Segment Results

Revenues

Revenues, including intersegment sales, are summarized by segment in the following table.

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions)	2016	2015	2016	2015
Refining & Marketing	$14,084	$16,633	$39,069	$50,630
Speedway	4,849	5,257	13,665	15,119
Midstream	690	217	1,919	638
Segment revenues	$19,623	$22,107	$54,653	$66,387
Items included in both revenues and costs:				
Consumer excise taxes	$1,914	$1,988	$5,633	$5,759

Refining & Marketing segment revenues decreased $2.55 billion in the third quarter and $11.56 billion in the first nine months of 2016 compared to the same periods of 2015. The decreases were primarily due to decreases in refined product sales prices in both periods of 2016. The table below shows our Refining & Marketing segment refined product sales volumes, sales destined for export and average sales prices.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Refining & Marketing segment:				
Refined product sales volumes (thousands of barrels per	2,307	2,345	2,265	2,303

day)[a]				
Refined product sales destined for export (thousands of barrels per day)	314	333	301	315
Average refined product sales prices (dollars per gallon)	$ 1.51	$ 1.75	$ 1.43	$ 1.82

[a] Includes intersegment sales and sales destined for export.

The table below shows the average refined product benchmark prices for our marketing areas.

	Three Months Ended September 30,		Nine Months Ended September 30,	
(Dollars per gallon)	2016	2015	2016	2015
Chicago spot unleaded regular gasoline	$1.40	$1.71	$1.31	$1.70
Chicago spot ultra-low sulfur diesel	1.43	1.60	1.31	1.69
USGC spot unleaded regular gasoline	1.39	1.60	1.29	1.66
USGC spot ultra-low sulfur diesel	1.37	1.51	1.25	1.67

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Refining & Marketing intersegment sales to our Speedway segment decreased $394 million in the third quarter and $1.48 billion in the first nine months of 2016 compared to the same periods of 2015. The decreases in intersegment refined product sales were primarily due to lower refined product sales prices partially offset by higher volumes. The table below shows our Refining & Marketing intersegment sales to our Speedway segment.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Refining & Marketing intersegment sales to Speedway:				
Intersegment sales (in millions)	$2,798	$3,192	$7,872	$9,353
Refined product sales volumes (millions of gallons)	1,544	1,510	4,510	4,371
Average refined product sales prices (dollars per gallon)	$1.81	$2.11	$1.74	$2.13

Speedway segment revenues decreased $408 million in the third quarter and $1.45 billion in the first nine months of 2016 compared to the same periods of 2015, primarily due to decreases in gasoline and distillate sales of $448 million and $1.55 billion, for the third quarter and first nine months, respectively, partially offset by increases in merchandise sales of $44 million and $108 million, respectively. The decreases in gasoline and distillate sales were primarily due to decreases in average gasoline and distillate selling prices of $0.31 per gallon and $0.39 per gallon, respectively, partially offset by volume increases of 20 million gallons and 104 million gallons, respectively.

The following table includes certain revenue statistics for the Speedway segment.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Convenience stores at period-end	2,773	2,756		
Gasoline & distillate sales (millions of gallons)	1,575	1,555	4,605	4,501
Average gasoline & distillate sales prices (dollars per gallon)	$2.14	$2.45	$2.06	$2.45
Merchandise sales (in millions)	$1,338	$1,294	$3,777	$3,669
Same store gasoline sales volume (period over period)	(0.6 %)	0.5 %	0.2 %	(0.3 %)
Same store merchandise sales (period over period)[(a)]	4.0 %	3.6 %	3.0 %	4.7 %

[(a)] Excludes cigarettes.

Midstream segment revenue increased $473 million in the third quarter and $1.28 billion in the first nine months of 2016 compared to the same periods of 2015, primarily due to the inclusion of MarkWest's operating results following the merger with MPLX on December 4, 2015, as well as earnings from new and existing pipeline and marine equity investments.

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The following table includes operating statistics for the Midstream segment.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Crude oil and refined product pipeline throughputs (mbpd)[a]	2,433	2,259	2,298	2,231
Gathering system throughput (MMcf/d)[b]	3,306		3,313	
Natural gas processed (MMcf/d)[b]	5,906		5,691	
C2 (ethane) + NGLs (natural gas liquids) fractionated (mbpd)[b]	348		330	
Natural Gas NYMEX HH ($ per MMBtu)[b]	$2.80		$2.34	
C2 + NGL Pricing ($ per gallon)[b][c]	$0.46		$0.44	

[a] On owned common-carrier pipelines, excluding equity method investments.

[b] Beginning December 4, 2015, which was the effective date of the MarkWest Merger.

[c] 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.

Income from Operations

Income before income taxes and income from operations by segment are presented in the following table.

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions)	2016	2015	2016	2015
Income from Operations by segment				
Refining & Marketing	$306	$1,434	$1,324	$3,907
Speedway	209	243	569	538
Midstream[a]	258	93	626	286
Items not allocated to segments:				
Corporate and other unallocated items[a]	(67)	(75)	(201)	(229)
Pension settlement expenses	(4)	(2)	(7)	(4)
Impairment expense	(267)	(144)	(486)	(144)
Income from operations	435	1,549	1,825	4,354
Net interest and other financial income	(141)	(70)	(420)	(215)

(costs)				
Income before income taxes	$294	$1,479	$1,405	$4,139

(a) Corporate overhead expenses attributable to MPLX are included in the Midstream segment. Corporate overhead expenses are not allocated to the Refining & Marketing and Speedway segments.

Refining & Marketing segment income from operations decreased $1.13 billion in the third quarter and $2.58 billion in the first nine months of 2016 compared to the same periods of 2015. The decrease in the third quarter was due to a $6.52 per barrel decrease in gross margin, primarily resulting from lower crack spreads in both Gulf Coast and Chicago markets and lower product price realizations compared to the spot market product prices used in the LLS crack spread calculation. The Chicago and Gulf Coast LLS 6-3-2-1 blended crack spread decreased from $12.18 per barrel in the third quarter of 2015 to $8.08 per barrel in the third quarter of 2016. In the first nine months of 2016, segment income includes a non-cash benefit of $345 million related to the reversal of the Company's LCM inventory valuation reserve. Excluding the LCM benefit, the decrease was primarily the result of lower crack spreads, less favorable product price realizations, unfavorable crude oil and feedstock acquisition costs relative to benchmark LLS crude oil, and higher operating costs, primarily related to increased turnaround activity.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
(Dollars per barrel)	2016	2015	2016	2015
Chicago LLS 6-3-2-1 crack spread[a][b]	$8.70	$14.49	$7.48	$11.38
USGC LLS 6-3-2-1 crack spread[a]	7.66	10.77	6.38	10.32
Blended 6-3-2-1 crack spread[a][c]	8.08	12.18	6.82	10.72
LLS	46.52	50.22	43.19	55.32
WTI	44.94	46.50	41.53	51.01
LLS—WTI crude oil differential[a]	1.58	3.72	1.66	4.31
Sweet/Sour crude oil differential[a][d]	6.28	5.88	6.65	5.95

[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 percent/60 percent in 2016 and 38 percent/62 percent in 2015 based on our refining capacity by region.

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

Based on the market indicators above and our refinery throughputs, we estimate the following impacts on Refining & Marketing segment income from operations for the third quarter and first nine months of 2016 compared to the same periods of 2015:

- The USGC LLS 6-3-2-1 crack spread decreased $3.11 per barrel for the third quarter and $3.94 per barrel for the first nine months, which had a negative impact on segment income of $360 million for the third quarter and $1.37 billion for the first nine months.
- The Chicago LLS 6-3-2-1 crack spread decreased $5.79 per barrel for the third quarter and $3.90 per barrel for the first nine months, which had a negative impact on segment income of $351 million for the third quarter and $722 million for the first nine months.
- The sweet/sour crude oil differential increased $0.40 per barrel in the third quarter and $0.70 per barrel in the first nine months resulting in a positive impact on segment income of $79 million in the third quarter and $311 million in the first nine months. Increased volumes in both periods also had a positive impact on segment income.
- The LLS-WTI crude oil differential decreased $2.14 per barrel for the third quarter and $2.65 per barrel for the first nine months, which had a negative impact on segment income of $69 million in the third quarter and $251 million for the first nine months.

The above 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, as well as the effects of LCM inventory valuation adjustments, 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 of $431 million for the third quarter and $246 million in the first nine months of 2016 compared to the same periods of 2015.

The following table summarizes our refinery throughputs.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Refinery Throughputs (thousands of barrels per day):				
Crude oil refined	1,791	1,744	1,708	1,735
Other charge and blendstocks	135	168	156	170
Total	1,926	1,912	1,864	1,905
Sour crude oil throughput percent	59	56	60	55
WTI-priced crude oil throughput percent	20	20	20	20

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Crude oil throughputs increased 47 mbpd in the third quarter and decreased 27 mbpd in the first nine months of 2016 compared to the same periods of 2015. The increase in the third quarter was primarily due to decreased planned turnaround and major maintenance activity at the Catlettsburg and Robinson refineries in 2016. The decrease in the first nine months is primarily the result of increased planned turnaround and major maintenance activity at the Galveston Bay refinery in 2016.

The following table includes certain key operating statistics for the Refining & Marketing segment.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Refining & Marketing gross margin (dollars per barrel)[a][b]	$10.75	$17.27	$11.20	$16.08
Refinery direct operating costs (dollars per barrel):[c]				
Planned turnaround and major maintenance	$1.62	$1.37	$1.72	$0.94
Depreciation and amortization	1.42	1.36	1.46	1.37
Other manufacturing[d]	4.01	4.17	4.03	4.12
Total	$7.05	$6.90	$7.21	$6.43

[a] Sales revenue less cost of refinery inputs and purchased products, divided by total refinery throughputs.

[b] Excludes LCM inventory valuation adjustments.

[c] Per barrel of total refinery throughputs.

[d] Includes utilities, labor, routine maintenance and other operating costs.

Refinery direct operating costs increased $0.15 per barrel in the third quarter and $0.78 in the first nine months of 2016 compared to the same periods of 2015, primarily due to increases in planned turnaround and major maintenance costs of $0.25 per barrel and $0.78 per barrel, respectively. The increases in planned turnaround and major maintenance costs were primarily attributable to significant turnaround costs incurred by the Galveston Bay and Garyville refineries in the third quarter and first nine months of 2016 partially offset by a decrease in turnaround costs incurred by the Robinson and Catlettsburg refineries in the third quarter of 2016. Other manufacturing costs decreased $0.16 per barrel in the third quarter and $0.09 per barrel in the first nine months of 2016 compared to the same periods in 2015. The decreases in other manufacturing costs for both periods were due to lower routine maintenance, waste and other operating expenses in addition to lower energy costs in the first nine months of 2016.

We purchase RINs to satisfy a portion of our Renewable Fuel Standard compliance. Our expense associated with purchased RINs increased to $80 million in the third quarter and $221 million in the first nine months of 2016 from $34 million in the third quarter and $151 million in the first nine months of 2015. The first nine months of 2015 includes a $46 million charge to recognize increased estimated costs for compliance with the renewable fuel standards for 2014 and 2015, particularly those for bio-mass based diesel and advanced biofuels. Excluding this charge, the increases for both periods of 2016 were primarily due to the effect of increased prices for bio-mass based diesel RINs.

Speedway segment income from operations decreased $34 million in the third quarter and increased $31 million in the first nine months of 2016 compared to the same periods of 2015. The decrease in the third quarter is primarily due to a decrease in our gasoline and distillate gross margins of $54 million, or $0.0373 per gallon, and higher depreciation expense, partially offset by increases in merchandise margins of $28 million and sales volume. Segment income includes a non-cash benefit of $25 million in the first nine months of 2016 related to the reversal of the Company's LCM inventory valuation reserve. Excluding the LCM benefit, the increase in segment income was primarily due to an increase in merchandise margins of $57 million and a gain from the sale of a retail location of $24 million, partially offset by a decrease in our gasoline and distillate gross margins of $52 million, or $0.0154 per gallon, and higher depreciation expense. The increases in depreciation are primarily related to the recent investments made in the business, including capital spending related to the Hess Retail acquisition in late 2014.

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The following table includes margin statistics for the Speedway segment.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Gasoline & distillate gross margin (dollars per gallon)[a][b]	$0.1773	$0.2146	$0.1668	$0.1822
Merchandise gross margin (in millions)	$386	$358	$1,085	$1,028
Merchandise gross margin percent	28.9 %	27.7 %	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.

(b) Excludes LCM inventory valuation adjustments.

Midstream segment income from operations increased $165 million in the third quarter and $340 million in the first nine months of 2016 compared to the same periods of 2015 primarily due to the inclusion of MarkWest's operating results following the merger with MPLX on December 4, 2015, as well as earnings from new and existing pipeline and marine equity investments.

Corporate and other unallocated items decreased $8 million in the third quarter and $28 million in the first nine months of 2016, largely due to reductions in corporate expenses in both periods.

Unallocated items also include impairment charges of $267 million in the third quarter and $356 million in the first nine months of 2016 related to equity method investments. The non-cash impairment charge in the third quarter related to our equity investment in the Sandpiper pipeline Project resulted from the indefinite deferral of this project. Impairment charges in the first nine months of 2016 also include $89 million related to an equity method investment held by MPLX and $130 million recorded by MPLX to impair a portion of the $2.21 billion of goodwill, as adjusted, recorded in connection with the MarkWest Merger. The third quarter and first nine months of 2015 included a $144 million impairment charge related to the cancellation of the ROUX project at our Garyville refinery. See the Critical Accounting Estimates section for a discussion of the interim impairment assessment of goodwill and equity method investments.

Liquidity and Capital Resources

Cash Flows

Our cash and cash equivalents balance was $709 million at September 30, 2016 compared to $1.13 billion at December 31, 2015. Net cash provided by (used in) operating activities, investing activities and financing activities for the first nine months of 2016 and 2015 are presented in the following table.

	Nine Months Ended September 30,	
(In millions)	2016	2015
Net cash provided by (used in):		
Operating activities	$2,995	$3,253
Investing activities	(2,217)	(1,428)
Financing activities	(1,196)	(1,275)
Total	$(418)	$550

Net cash provided by operating activities decreased $258 million in the first nine months of 2016 compared to the first nine months of 2015, primarily due to a decrease in operating results, partially offset by a favorable change in working capital of $786 million. Changes in working capital were a net $105 million source of cash in the first nine months of

2016 compared to a net $681 million use of cash in the first nine months of 2015. The changes in working capital were primarily due to increases in accounts payable and accrued liabilities and a decrease in inventories, excluding the Company’s reversal of the non-cash LCM inventory valuation reserve, partially offset by an increase in current receivables. The above changes in working capital exclude changes in short-term debt. Changes from December 31, 2015 to September 30, 2016 per the consolidated balance sheets were as follows:

- Accounts payable increased $312 million from year-end 2015, primarily due to higher crude oil prices and higher volumes.

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- Current receivables increased $209 million from year-end 2015, primarily due to higher refined product and crude oil prices.
- Excluding the change in the Company's LCM inventory valuation reserve of $370 million, inventories decreased $71 million primarily due to a decrease in refined product inventory volumes.

The net $681 million use of cash in the first nine months of 2015 was primarily due to a decrease in accounts payable and accrued liabilities, partially offset by decreases in current receivables and inventory. Changes from December 31, 2014 to September 30, 2015 per the consolidated balance sheets were as follows:

- Accounts payable decreased $1.67 billion from year-end 2014, primarily due to lower crude oil prices.
- Current receivables decreased $934 million from year-end 2014, primarily due to lower crude oil and refined product prices.
- Inventories decreased $86 million from year-end 2014, primarily due to decreases in refined product and crude oil inventory volumes.

Net cash used in investing activities was $789 million higher in the first nine months of 2016 compared to the first nine months of 2015. Increases in additions to property, plant and equipment, primarily due to the inclusion of MarkWest capital spending, and acquisitions and investments in affiliates, were partially offset by an increase in proceeds from the disposal of assets.

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 reported total capital expenditures and investments follows.

	Nine Months Ended September 30,	
(In millions)	2016	2015
Additions to property, plant and equipment per consolidated statements of cash flows	$2,147	$1,277
Non-cash additions to property, plant and equipment	—	5
Asset retirement expenditures	4	1
Decrease in capital accruals	(169)	(22)
Total capital expenditures	1,982	1,261
Acquisitions[a]	10	—
Investments in equity method	240	221

investees		
Total capital expenditures and investments	$2,232	$1,482

(a) Acquisitions include adjustments to the fair values of the property, plant and equipment, equity investments, intangibles and goodwill acquired in connection with the MarkWest Merger. See Note 4 to the unaudited consolidated financial statements.

Capital expenditures and investments are summarized by segment below.

	Nine Months Ended September 30,	
(In millions)	2016	2015
Refining & Marketing	$788	$686
Speedway	191	275
Midstream	1,147	400
Corporate and Other[(a)]	106	121
Total	$2,232	$1,482

(a) Includes capitalized interest of $47 million and $26 million for the nine months ended September 30, 2016 and 2015, respectively.

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Net cash used for additions to property, plant and equipment increased $870 million for the first nine months of 2016 compared to the first nine months of 2015, primarily due to the inclusion of MarkWest capital spending in our Midstream segment. Net cash contributed to equity method investments increased $3 million for the first nine months of 2016 compared to the first nine months of 2015, primarily due to contributions to our marine joint ventures of $117 million, MPLX equity affiliates of $56 million and Illinois Extension Pipeline of $32 million to fund the SAX pipeline project as compared to our contributions to Illinois Extension Pipeline of $94 million, our contributions to North Dakota Pipeline of $69 million and our contributions to Crowley Ocean Partners of $38 million in connection with the delivery of a new Jones Act product tanker in the first nine months of 2015. Cash from disposal of assets increased primarily due to the sale of a Speedway retail location in the first quarter of 2016.

Financing activities were a net $1.20 billion use of cash in the first nine months of 2016 compared to a net $1.28 billion use of cash in the first nine months of 2015. In 2016, sources of cash from financing activities including approximately $1.48 billion in net proceeds from the issuances of the MPLX Preferred Units and MPLX common units and $714 million of long-term debt borrowings were more than offset by uses of cash in financing activities including long-term debt repayments of $2.11 billion, dividend payments, distributions to noncontrolling interests and common stock repurchases under our share repurchase authorizations. Financing cash flows in the first nine months of 2016 also reflect $164 million related to the contingent consideration payment to the seller of the Galveston Bay refinery.

Long-term debt borrowings and repayments, including debt issuance costs, were a net $1.41 billion use of cash in the first nine months of 2016 compared to a net $91 million source of cash in the first nine months of 2015. During the first nine months of 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. During the first nine months of 2015, MPLX used proceeds from its $500 million of MPLX senior notes to repay amounts outstanding under the MPLX Credit Agreement, as well as for general partnership purposes.

Cash used in common stock repurchases decreased $596 million in the first nine months of 2016 compared to the first nine months of 2015. The table below summarizes our total share repurchases for these periods. See Note 8 to the unaudited consolidated financial statements for further discussion of the share repurchase authorizations.

	Nine Months Ended September 30,	
(In millions, except per share data)	2016	2015
Number of shares repurchased	4	15
Cash paid for shares repurchased	$177	$773
Effective average cost per delivered share	$41.14	$49.97

Cash used in distributions to noncontrolling interests increased $360 million in the first nine months of 2016 compared to the first nine months of 2015 due to the MarkWest Merger, which increased both the total amount of limited partner distributions from MPLX and the ownership percentage held by the noncontrolling interests of MPLX. As of September 30, 2016, noncontrolling interests held a 76 percent interest in MPLX, compared to a 28.5 percent interest as of September 30, 2015.

Cash used in dividend payments increased $86 million in the first nine months of 2016 compared to the first nine months of 2015, primarily due to a $0.18 per share increase in our quarterly dividend payment, partially offset by a decrease in the number of outstanding shares of our common stock attributable to share repurchases. Our dividend payments were $1.00 per common share in the first nine months of 2016 compared to $0.82 per common share in the first nine months of 2015.

Derivative Instruments

See Item 3. Quantitative and Qualitative Disclosures about Market Risk for a discussion of derivative instruments and associated market risk.

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Capital Resources

Our liquidity totaled $4.95 billion at September 30, 2016 consisting of:

(In millions)	September 30, 2016 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[(b)]	740	—	740
Total	$4,240	$ ——	$ 4,240
Cash and cash equivalents			709
Total liquidity			$ 4,949

(a) Excludes MPLX's $2.0 billion bank revolving credit facility, which had $2.0 billion available as of September 30, 2016.

(b) Availability under our $750 million trade receivables facility is a function of eligible trade receivables, which will be lower in a sustained lower price environment for refined products. As of October 31, 2016, eligible trade receivables supported borrowings of $665 million.

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.

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.

On July 20, 2016, we amended our trade receivables facility to, among other things, reduce the capacity from $1.0 billion to $750 million and to extend the maturity date to July 19, 2019. The reduction in capacity reflects the lower refined product price environment.

On July 20, 2016, we entered into a credit agreement with a syndicate of lenders to replace our existing MPC bank revolving credit facility due in 2017. The new agreement provides for a four-year $2.5 billion bank revolving credit facility maturing on July 20, 2020. Additionally, we entered into a 364-day $1.0 billion bank revolving credit facility maturing on July 19, 2017. The financial covenants contained in these agreements remain the same as under the previous bank revolving credit facility.

On February 26, 2016, we established a commercial paper program that allows us to have a maximum of $2.0 billion in commercial paper outstanding. We do not intend to have outstanding commercial paper borrowings in excess of available capacity under our bank revolving credit facility. As of September 30, 2016, we had no commercial paper borrowings outstanding.

The MPC term loan agreement (the "Term Loan Agreement"), MPC bank revolving credit facility and MPLX credit agreement, which provides for the MPLX bank revolving credit facility and the MPLX term loan facility ("MPLX Credit Agreement"), 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 Term Loan Agreement and the MPC bank revolving credit facility 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 Term Loan Agreement and the MPC bank revolving credit facility) of no greater than 0.65 to 1.00. As of September 30, 2016, we were in compliance with this debt covenant with a ratio of Consolidated Net Debt to Total Capitalization of 0.32 to 1.00, as well as the other covenants contained in the Term Loan Agreement and the MPC bank revolving credit facility.

The financial covenant included in the MPLX Credit Agreement requires MPLX to maintain a ratio of Consolidated Total Debt (as defined in the MPLX Credit Agreement) as of the end of each fiscal quarter to Consolidated EBITDA (as defined in the MPLX Credit Agreement) for the prior four fiscal quarters of not greater than 5.0 to 1.0 (or 5.5 to 1.0 during the six-month period following certain acquisitions). Consolidated EBITDA is subject to adjustments for certain acquisitions completed and capital projects undertaken during the relevant period. As of September 30, 2016, MPLX was in compliance with this debt covenant with a ratio of Consolidated Total Debt to Consolidated EBITDA of 3.5 to 1.0, as well as the other covenants contained in the MPLX Credit Agreement.

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Our intention is to maintain an investment grade credit profile. As of September 30, 2016, the credit ratings on our senior unsecured debt were at or above investment grade level as follows.

Company	Rating Agency	Rating
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.

Neither the Term Loan Agreement, MPC bank revolving credit facility, MPLX Credit Agreement nor our trade receivables facility contain 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 ratings would increase the applicable interest rates, yields and other fees payable under the Term Loan Agreement, the MPC bank revolving credit facility, our trade receivables facility and debt held by one of our ocean vessel joint ventures. 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 or result in us having to post letters of credit under existing transportation services agreements.

Debt-to-Total-Capital Ratio

Our debt-to-total capital ratio (total debt to total debt-plus-equity) was 34 percent at September 30, 2016 and 38 percent at December 31, 2015.

(In millions)	September 30, 2016	December 31, 2015
Debt due within one year	$ 28	$ 29
Long-term debt	10,538	11,896
Total debt	$ 10,566	$ 11,925
Calculation of debt-to-total-capital ratio:		
Total debt	$ 10,566	$ 11,925
Redeemable noncontrolling interest	1,000	—
Total equity	19,957	19,675
Total capital	$ 31,523	$ 31,600
Debt-to-total-capital ratio	34 %	38 %

Capital Requirements

Our board approved a 2016 capital spending and investment plan of $4.2 billion towards the end of 2015. In February, we reduced our forecasted 2016 capital spending and investments to approximately $3.0 billion, excluding capitalized interest. The expected 2016 capital spending and investments also excludes our anticipated $500 million investment in the Bakken Pipeline system. This reduced forecast for capital spending and investments includes spending on refining, retail marketing and midstream projects as well as amounts designated for corporate projects. During the nine months ended September 30, 2016, our capital expenditures and investments were $2.19 billion, excluding capitalized interest. There have been no material changes to our 2016 capital and investment budget since our Annual Report on Form 10-K for the year ended December 31, 2015 was filed. We continuously evaluate our capital budget and make changes as conditions warrant.

During the second quarter of 2016, we paid BP $200 million for the third year’s contingent earnout. Including this second quarter payment, we have paid BP approximately $569 million in total leaving $131 million remaining under the total cap of $700 million. See Note 15 to the unaudited consolidated financial statements.

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Centennial experienced a significant reduction in shipment volumes in the second half of 2011 that has continued through the third quarter of 2016. At September 30, 2016, 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 September 30, 2016, our equity investment in Centennial was $35 million and we had a $30 million guarantee associated with 50 percent of Centennial's outstanding debt. See Note 22 to the unaudited consolidated financial statements for additional information on the debt guarantee.

We have no required funding requirements for our funded pension plans for 2016, but during the nine months ended September 30, 2016, we chose to make a $100 million voluntary contribution. We may choose to make voluntary contributions for future years at our discretion.

On October 26, 2016, our board of directors approved a dividend of $0.36 per share on common stock. The dividend is payable December 12, 2016, to shareholders of record as of the close of business on November 16, 2016.

During the first nine months of 2016, we paid $177 million to acquire 4 million common shares through open market share repurchases. The effective average cost was $41.14 per delivered share. See Note 8 to the unaudited consolidated financial statements.

We may utilize various methods to effect additional share repurchases, which could include open market purchases, 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 share repurchases, if any, will depend upon several factors, including market and business conditions, and such repurchases may be discontinued at any time.

The above discussion contains forward-looking statements with respect to our capital requirements, including our capital spending and budget plan, the carrying value of our Centennial equity investment, future contributions to our funded pension plans and share repurchases. Forward-looking statements about our capital requirements are based on current expectations, estimates and projections and are not guarantees of future performance. Factors that could cause actual results to differ materially from those included in our forward-looking statements regarding capital requirements include the availability of liquidity, business conditions, a further decline or improvement in the long-term outlook of the potential uses of Centennial's assets and the pursuit of different strategic alternatives for such assets, market price of our common stock, prices of and demand for crude oil and refinery feedstocks and refined products, continued/further volatility in and/or degradation of market and industry conditions, the effects of the lifting of the U.S. crude oil export ban, completion of pipeline capacity to areas outside the U.S. Midwest, our ability to successfully achieve the strategic and other expected objectives relating to the MarkWest Merger, modifications to MPLX earnings and distribution growth objectives, actions of competitors, delays in obtaining necessary third-party approvals, changes in labor, materials, and equipment costs and availability, planned and unplanned outages, the delay of, cancellation of or failure to implement planned capital projects, project cost overruns, disruptions or interruptions of our refining operations due to the shortage of skilled labor and unforeseen hazards such as weather conditions, acts of war or terrorist acts and the governmental or military response, and other operating and economic considerations. These factors, among others, could cause actual results to differ materially from those set forth in the forward-looking statements.

Contractual Cash Obligations

As of September 30, 2016, our contractual cash obligations included long-term debt, capital and operating lease obligations, purchase obligations and other long-term liabilities. During the first nine months of 2016, our long-term debt commitments decreased $1.88 billion primarily due to repayment of borrowings under the MPLX bank revolving credit facility and our decision to prepay $500 million on the MPC term loan. Also, during the first nine months of 2016, our long-term transportation commitments decreased $432 million due to the suspension of a pipeline project for which the Company had made a commitment under a transportation services agreement previously scheduled to begin in 2018.

As discussed in Note 4 to the unaudited consolidated financial statements, in September 2016, Enbridge Energy Partners announced that its affiliate would withdraw certain pending regulatory applications for the Sandpiper pipeline project and that the project would be deferred indefinitely resulting in a $605 million decrease in our capital commitments to fund a portion of the construction costs of this pipeline beginning in 2016.

MPLX currently expects to participate in a joint venture to acquire an equity interest in the Bakken Pipeline system for $500 million. Furthermore, MPC expects to become a committed shipper on the Bakken Pipeline system. Subject to the closing of this investment, Enbridge agreed to cancel our commitment under a long-term transportation services agreement related to the Sandpiper pipeline project. The effect of these transactions will be reflected in updates to our contractual commitments when they are effective.

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There were no other material changes to our contractual cash obligations outside the ordinary course of business.

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 U.S. GAAP. 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 our spinoff from Marathon Oil, we entered into various indemnities and guarantees to Marathon Oil. These arrangements are described in Note 22 to the unaudited consolidated financial statements.

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.

Transactions with Related Parties

We believe that transactions with related parties were conducted under terms comparable to those with unrelated 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.

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 $600 million to $700 million between 2014 and 2021 for capital expenditures necessary to comply with these standards, which includes estimated capital expenditures of approximately $200 million in 2017.

There have been no other significant changes to our environmental matters and compliance costs during the nine months ended September 30, 2016.

Critical Accounting Estimates

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

As of September 30, 2016, there have been no significant changes to our critical accounting estimates since our Annual Report on Form 10-K for the year ended December 31, 2015, except as noted below.

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.

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 the three 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

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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.

The fair value of the reporting units for the 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 is 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. The fair value of the intangibles was determined based on applying the multi-period excess earnings method, which is an income approach. Key assumptions include attrition rates by reporting unit ranging from 5.0 percent to 10.0 percent and discount rates by reporting unit ranging from 11.5 percent to 12.8 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 interim goodwill impairment test will prove to be an accurate prediction of the future.

MPLX did not record an impairment charge for one reporting unit assigned goodwill. As of March 31, 2016, MPLX's allocation of the purchase price was provisional. Based on MPLX's assessment as of that date, this reporting unit had $1.81 billion of goodwill assigned to it (which amount was not adjusted as of June 30, 2016 when MPLX finalized its purchase price allocation). Step one of the first quarter interim impairment analysis resulted in the carrying value of this reporting unit exceeding its fair value by 0.62%; therefore, MPLX completed step two of the goodwill impairment analysis. Step two of the goodwill impairment analysis requires MPLX to determine the fair value of all assets, liabilities and noncontrolling interests, if any, of the reporting unit, whether or not currently recognized. The implied fair value of goodwill is the residual value of the reporting unit's fair value, less the fair value of the assets, liabilities and noncontrolling interests, if any. The results of MPLX's step two first quarter interim impairment analysis concluded that the fair value of the goodwill of this reporting unit exceeded its carrying value of $1.81 billion by approximately $20 million, or 1.2%. An increase of 0.50% to the discount rate used to estimate this reporting unit's fair value as of MPLX's first quarter interim impairment analysis would have resulted in an additional goodwill impairment charge of more than $400 million for the three months ended March 31, 2016. The other significant assumption used to estimate this reporting unit's fair value included estimates of future cash flows. If estimates for future cash flows, which are impacted primarily by commodity prices and producers' production plans, for this reporting unit were to decline, the overall reporting unit's fair value would decrease, resulting in a potential goodwill impairment charge. Additionally, an increase in the cost of capital would result in a decrease in the fair value of the reporting unit, causing its value to decline and goodwill to potentially be impaired.

During the second quarter of 2016, MPLX determined that an interim impairment analysis of the goodwill recorded in connection with the MarkWest Merger was not necessary. The stabilization and, in some cases, improvement in the second quarter of the circumstances considered during its first quarter impairment analysis, the date of its last full goodwill impairment analysis, lead to its conclusion that it is not more likely than not that the fair value of the reporting units is less than their respective carrying values.

In the second quarter of 2016, MPLX completed its purchase price accounting for the MarkWest Merger. The completion of this accounting resulted in additional goodwill attributed to certain reporting units for which an impairment charge had been taken in the first quarter of 2016. MPLX therefore recorded an additional $1 million of impairment expense in the second quarter of 2016.

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 flows of an asset group. Equity method investments are assessed for impairment whenever factors indicate an other than temporary loss in value. In the first quarter of 2016, MPLX also considered whether there was any indication of impairment of long-lived assets and equity method investments recorded in connection with the MarkWest Merger and determined that there were none.

MPLX's investments in Centrahoma, Jefferson Dry Gas, MarkWest Utica EMG, Ohio Condensate and MarkWest Pioneer were recorded at fair value based on the MarkWest Merger on December 4, 2015. If expected cash flows used to determine the fair value as of December 4, 2015 are not realized, its equity method investments may be subject to future impairment charges. Based on a review of cash flow forecasts as of the second quarter of 2016, MPLX has concluded that no indicators of an other than temporary impairment exist except for Ohio Condensate as discussed further below.

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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, MPLX 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 MPLX's 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.

MPLX's investment in Ohio Condensate, which was established at fair value in connection with the MarkWest Merger, exceeded its share of the underlying net assets. Therefore, in conjunction with the ASC Topic 360 impairment analysis, MPLX 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" within 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%. An increase to the discount rate of 50 basis points would have resulted in an additional charge of $1 million on the consolidated statements of income. 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, there can be no assurance that the estimates and assumptions made for purposes of the interim impairment test will prove to be an accurate prediction of the future.

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, which owns the investments made to date in the Sandpiper pipeline project, 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, 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. Also, in accordance with ASC Topic 323, we completed an assessment to determine the potential 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. North Dakota Pipeline expects to dispose of these assets through orderly transactions.

Accounting Standards Not Yet Adopted

As discussed in Note 2 to the unaudited consolidated financial statements, certain new financial accounting pronouncements will be effective for our financial statements in the future.

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Item 3. Quantitative and Qualitative Disclosures about Market Risk

For a detailed discussion of our risk management strategies and our derivative instruments, see Item 7A. Quantitative and Qualitative Disclosures about Market Risk in our Annual Report on Form 10-K for the year ended December 31, 2015.

See Notes 15 and 16 to the unaudited consolidated financial statements 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.

Sensitivity analysis of the 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 September 30, 2016 is provided in the following table.

	Change in IFO from a Hypothetical Price Increase of		Change in IFO from a Hypothetical Price Decrease of	
(In millions)	10%	25%	10%	25%
As of September 30, 2016				
Crude	$8,929	$23,128	$22,459	$154,968
Refined products	(4,190)	(10,476)	4,190	10,476
Embedded derivatives	(4,333)	(10,833)	4,333	10,833

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 September 30, 2016 would cause future IFO effects to differ from those presented above.

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 September 30, 2016 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.

(In millions)	Fair Value as of September 30, 2016[a]	Change in Fair Value[b]	Change in Net Income for the Nine Months Ended September 30, 2016[c]
Long-term debt			
Fixed-rate	$ 10,606	$ 874	n/a
Variable-rate	450	n/a	10

(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 September 30, 2016.

(c)

Assumes a 100-basis-point change in interest rates. The change to net income was based on the weighted average balance of debt outstanding for the nine months ended September 30, 2016.

At September 30, 2016, our portfolio of long-term debt was comprised of fixed-rate instruments and variable-rate borrowings under the Term Loan Agreement and the MPLX term loan 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 Term Loan Agreement and the MPLX term loan facility, but may affect our results of operations and cash flows.

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Item 4. 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 September 30, 2016, the end of the period covered by this report.

Internal Control over Financial Reporting and Changes in Internal Control over Financial Reporting

During the quarter ended September 30, 2016, 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.

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Supplementary Statistics (Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In millions)	2016	2015	2016	2015
Income from Operations by segment				
Refining & Marketing[a][b]	$306	$1,434	$1,324	$3,907
Speedway[b]	209	243	569	538
Midstream[a][c]	258	93	626	286
Items not allocated to segments:				
Corporate and other unallocated items[a][c]	(67)	(75)	(201)	(229)
Pension settlement expenses	(4)	(2)	(7)	(4)
Impairments[d]	(267)	(144)	(486)	(144)
Income from operations	$435	$1,549	$1,825	$4,354
Capital Expenditures and Investments[e]				
Refining & Marketing[a]	$267	$256	$788	$686
Speedway	71	130	191	275
Midstream[a]	394	156	1,147	400
Corporate and Other[f]	29	43	106	121
Total	$761	$585	$2,232	$1,482

(a) We revised our operating segment presentation in the first quarter of 2016 in connection with the contribution of our inland marine business to MPLX; our inland marine business, which was previously included in Refining & Marketing, is now included in Midstream. Comparable prior period information has been recast to reflect our revised segment presentation.

(b) The Refining & Marketing and Speedway segments include inventory LCM benefit of $345 million and $25 million, respectively, for the nine months ended September 30, 2016.

(c) Corporate overhead expenses attributable to MPLX are included in the Midstream segment. Corporate overhead expenses are not allocated to the Refining & Marketing and Speedway segments.

(d) 2016 relates to impairments of goodwill and equity method investments. 2015 relates to the cancellation of the Residual Oil Upgrader Expansion project. See Notes 14 and 15, respectively, to the unaudited consolidated financial statements.

(e) Capital expenditures include changes in capital accruals, acquisitions and investments in affiliates.

(f) Includes capitalized interest of $15 million and $10 million for the three months ended September 30, 2016 and 2015, respectively, and $47 million and $26 million for the nine months ended September 30, 2016 and 2015, respectively.

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Supplementary Statistics (Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
MPC Consolidated Refined Product Sales Volumes (mbpd)[a]	2,316	2,359	2,274	2,316
Refining & Marketing Operating Statistics				
Refining & Marketing refined product sales volume (mbpd)[b]	2,307	2,345	2,265	2,303
Refining & Marketing gross margin (dollars per barrel)[c][d]	$10.75	$17.27	$11.20	$16.08
Crude oil capacity utilization percent[e]	100	101	95	100
Refinery throughputs (mbpd):[f]				
Crude oil refined	1,791	1,744	1,708	1,735
Other charge and blendstocks	135	168	156	170
Total	1,926	1,912	1,864	1,905
Sour crude oil throughput percent	59	56	60	55
WTI-priced crude oil throughput percent	20	20	20	20
Refined product yields (mbpd):[f]				
Gasoline	907	911	908	906
Distillates	647	611	616	598
Propane	38	33	35	36
Feedstocks and special products	253	292	245	307
Heavy fuel oil	43	32	36	30
Asphalt	70	66	58	58
Total	1,958	1,945	1,898	1,935
Refinery direct operating costs (dollars per barrel):[g]				
Planned turnaround and major maintenance	$1.62	$1.37	$1.72	$0.94
Depreciation and amortization	1.42	1.36	1.46	1.37
Other manufacturing[h]	4.01	4.17	4.03	4.12
Total	$7.05	$6.90	$7.21	$6.43
Refining & Marketing Operating Statistics By Region - Gulf Coast				
Refinery throughputs (mbpd):[i]				
Crude oil refined	1,073	1,072	1,057	1,065
Other charge and blendstocks	185	180	199	177
Total	1,258	1,252	1,256	1,242
Sour crude oil throughput percent	72	68	73	68
WTI-priced crude oil throughput percent	8	6	7	6
Refined product yields (mbpd):[i]				
Gasoline	511	544	530	526
Distillates	411	408	407	386
Propane	27	25	26	26
Feedstocks and special products	289	271	283	299
Heavy fuel oil	30	16	24	14
Asphalt	17	19	15	16
Total	1,285	1,283	1,285	1,267
Refinery direct operating costs (dollars per barrel):[g]				
Planned turnaround and major maintenance	$2.05	$0.80	$1.87	$0.70
Depreciation and amortization	1.14	1.07	1.13	1.09

Other manufacturing[h]	3.70	4.00	3.62	3.92
Total	$6.89	$5.87	$6.62	$5.71

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Supplementary Statistics (Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Refining & Marketing Operating Statistics By Region – Midwest				
Refinery throughputs (mbpd):[i]				
Crude oil refined	718	672	651	670
Other charge and blendstocks	39	28	37	33
Total	757	700	688	703
Sour crude oil throughput percent	39	36	39	35
WTI-priced crude oil throughput percent	39	43	41	42
Refined product yields (mbpd):[i]				
Gasoline	396	367	378	380
Distillates	236	203	209	212
Propane	13	10	11	11
Feedstocks and special products	51	59	40	46
Heavy fuel oil	13	16	12	17
Asphalt	53	47	43	42
Total	762	702	693	708
Refinery direct operating costs (dollars per barrel):[g]				
Planned turnaround and major maintenance	$0.72	$2.30	$1.26	$1.32
Depreciation and amortization	1.72	1.80	1.90	1.79
Other manufacturing[h]	4.04	4.25	4.29	4.24
Total	$6.48	$8.35	$7.45	$7.35
Speedway Operating Statistics				
Convenience stores at period-end	2,773	2,756		
Gasoline and distillate sales (millions of gallons)	1,575	1,555	4,605	4,501
Gasoline and distillate gross margin (dollars per gallon)[d][j]	$0.1773	$0.2146	$0.1668	$0.1822
Merchandise sales (in millions)	$1,338	$1,294	$3,777	$3,669
Merchandise gross margin (in millions)	$386	$358	$1,085	$1,028
Merchandise gross margin percent	28.9 %	27.7 %	28.7 %	28.0 %
Same store gasoline sales volume (period over period)	(0.6 %)	0.5 %	0.2 %	(0.3 %)
Same store merchandise sales (period over period)[k]	4.0 %	3.6 %	3.0 %	4.7 %
Midstream Operating Statistics				
Crude oil and refined product pipeline throughputs (mbpd)[l]	2,433	2,259	2,298	2,231
Gathering system throughput (MMcf/d)[m]	3,306		3,313	
Natural gas processed (MMcf/d)[m]	5,906		5,691	
C2 (ethane) + NGLs (natural gas liquids) fractionated (mbpd)[m]	348		330	

(a) Total average daily volumes of refined product sales to wholesale, branded and retail (Speedway segment) customers.

(b) Includes intersegment sales.

(c) Sales revenue less cost of refinery inputs and purchased products, divided by total refinery throughputs.

(d) Excludes LCM inventory valuation adjustments.

(e) Based on calendar day capacity, which is an annual average that includes downtime for planned maintenance and other normal operating activities.

(f) Excludes inter-refinery volumes of 89 mbpd and 40 mbpd for the three months ended September 30, 2016 and 2015, respectively, and 80 mbpd and 40 mbpd for the nine months ended September 30, 2016 and 2015, respectively.

(g) Per barrel of total refinery throughputs.
(h) Includes utilities, labor, routine maintenance and other operating costs.
(i) Includes inter-refinery transfer volumes.
(j) 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. Same store sales comparison includes only locations owned at least 13 months.
(l) On owned common-carrier pipelines, excluding equity method investments.
(m) Includes amounts related to unconsolidated equity method investments. Includes the results of the MarkWest assets beginning on the Dec. 4, 2015 acquisition date.

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Part II – Other Information

Item 1. 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. Specific matters discussed below are either new proceedings or material developments in proceedings previously reported.

Litigation

We are a party to a number of lawsuits and 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.

Environmental Proceedings

As reported in our Quarterly Report on Form 10-Q for the period ended June 30, 2016, on May 18, 2016, MarkWest Liberty Midstream & Resources, L.L.C., a wholly-owned subsidiary of MPLX ("MarkWest Liberty Midstream"), received a draft Consent Order from the West Virginia Department of Environmental Protection ("WVDEP") alleging certain air permitting and emissions violations at our Sherwood Facility, a gas processing facility located in West Virginia, including failure to comply with monitoring, tagging, recordkeeping and repair requirements with respect to certain equipment at the facility as well as the failure to comply with certain permit application requirements. On September 6, 2016, MarkWest Liberty Midstream executed a final Consent Order with the WVDEP resolving these matters. Pursuant to the final Consent Order, MarkWest Liberty Midstream paid a $95,000 civil penalty and agreed to implement certain enhancements in connection with our existing leak monitoring program, provide additional training, and provide funding for certain programs and equipment for the WVDEP which is expected to cost approximately $140,000.

As reported in our Quarterly Report on Form 10-Q for the period ended June 30, 2016, on July 6, 2016, the EPA presented a draft administrative enforcement order to Cincinnati Renewable Fuels LLC, a wholly-owned subsidiary of MPC that operates a biofuels production facility in Cincinnati, Ohio ("CRF"). The order alleged CRF and its predecessors failed to implement air regulations for a period beginning in May 2008 and prior to our acquisition of the facility. In the third quarter of 2016, CRF settled the enforcement action with the EPA. The settlement includes a $110,000 civil penalty and a $450,000 supplemental environmental project.

As previously reported, in July 2015 representatives from the EPA and the United States Department of Justice conducted a raid on a MarkWest Liberty Midstream pipeline launcher/receiver site utilized for pipeline maintenance operations in Washington County, Pennsylvania pursuant to a search warrant issued by a magistrate of the United States District Court for the Western District of Pennsylvania. As part of this initiative, the U.S. Attorney's Office for the Western District of Pennsylvania, with the assistance of EPA's Criminal Investigation Division proceeded with an investigation of MarkWest's launcher/receiver, pipeline and compressor station operations. In response to the investigation, MarkWest initiated independent studies which demonstrated that there was no risk to worker safety and no threat of public harm associated with MarkWest's launcher/receiver operations. These findings were supported by a subsequent inspection and review by the Occupational Safety and Health Administration. After providing these studies, and other substantial documentation related to MarkWest's pipeline and compressor stations, and arranging site visits and conducting several meetings with the government's representatives, on September 13, 2016, the U.S. Attorney's Office for the Western District of Pennsylvania rendered a declination decision, dropping its criminal investigation and declining to pursue charges in this matter.

MarkWest Liberty Midstream continues to discuss with the EPA and the State of Pennsylvania alleged omissions associated with permits or related regulatory obligations for its launcher/receiver and compressor station facilities in the region. It is possible that in connection with any potential or asserted enforcement action associated with this matter, MarkWest Liberty Midstream will incur material assessments, penalties or fines, incur material defense costs and expenses, be required to modify operations or construction activities which could increase operating costs and capital expenditures, or be subject to other obligations or restrictions that could restrict or prohibit our activities, any

or all of which could adversely affect our results of operations, financial position or cash flows. The amount of any potential assessments, penalties, fines, restrictions, requirements, modifications, costs or expenses that may be incurred in connection with any potential enforcement action cannot be reasonably estimated or determined at this time.

We are involved in a number of environmental proceedings arising in the ordinary course of business. While the 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.

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Item 1A. Risk Factors

We are subject to various risks and uncertainties in the course of our business. The discussion of such risks and uncertainties may be found under Item 1A. Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2015.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

The following table sets forth a summary of our purchases during the quarter ended September 30, 2016, 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]
07/01/16 - 07/31/16	6,570	$ 37.73	—	$ 2,635,136,805
08/01/16 - 08/31/16	2,908	39.06	—	2,635,136,805
09/01/16 - 09/30/16	1,194,061	42.76	1,192,530	2,584,139,110
Total	1,196,007	42.76	1,192,530	

(a) The amounts in this column include 1,550, 296 and 1,631 shares of our common stock delivered by employees to MPC, upon vesting of restricted stock, to satisfy tax withholding requirements in July, August and September, 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 July 30, 2015, we announced that our board of directors had approved an additional $2.0 billion share repurchase authorization through July 31, 2017, resulting in $10.0 billion of total share repurchase authorizations since January 1, 2012. This authorization is in addition to the previous authorization, announced July 30, 2014, which had approximately $584 million remaining as of September 30, 2016.

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Item 6. Exhibits

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith	Furnished Herewith
		Form	Exhibit	Filing Date	SEC File No.		
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	2/29/2016	001-35054		
10.1	$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		
10.2	$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		
10.3		8-K	10.3	7/26/2016	001-35054		

	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 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.		
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	

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

October 31, 2016 MARATHON PETROLEUM CORPORATION

By: /s/ John J. Quaid
John J. Quaid
Vice President and Controller