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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 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 1-13175

VALERO ENERGY CORPORATION

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

74-1828067

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

**One Valero Way
San Antonio, Texas**

(Address of principal executive offices)

78249

(Zip Code)

(210) 345-2000

(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 ☒ No ☐

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

Indicate by check mark 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.

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ 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 ☒

The number of shares of the registrant's only class of common stock, \$0.01 par value, outstanding as of July 29, 2016 was 461,340,907 .

VALERO ENERGY CORPORATION

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PART I – FINANCIAL INFORMATION
Item 1. Financial Statements

VALERO ENERGY CORPORATION
CONSOLIDATED BALANCE SHEETS
(Millions of Dollars, Except Par Value)

	June 30, 2016	December 31, 2015
	(Unaudited)	
ASSETS		
Current assets:		
Cash and temporary cash investments	\$ 4,925	\$ 4,114
Receivables, net	4,880	4,464
Inventories	6,137	5,898
Income taxes receivable	48	218
Prepaid expenses and other	190	204
Total current assets	16,180	14,898
Property, plant, and equipment, at cost	37,363	36,907
Accumulated depreciation	(10,774)	(10,204)
Property, plant, and equipment, net	26,589	26,703
Deferred charges and other assets, net	2,683	2,626
Total assets	\$ 45,452	\$ 44,227
LIABILITIES AND EQUITY		
Current liabilities:		
Current portion of debt and capital lease obligations	\$ 864	\$ 127
Accounts payable	5,943	4,907
Accrued expenses	439	554
Taxes other than income taxes	1,050	1,069
Income taxes payable	356	337
Total current liabilities	8,652	6,994
Debt and capital lease obligations, less current portion	6,646	7,208
Deferred income taxes	7,279	7,060
Other long-term liabilities	1,471	1,611
Commitments and contingencies		
Equity:		
Valero Energy Corporation stockholders' equity:		
Common stock, \$0.01 par value; 1,200,000,000 shares authorized; 673,501,593 and 673,501,593 shares issued	7	7
Additional paid-in capital	7,055	7,064
Treasury stock, at cost; 211,195,867 and 200,462,208 common shares	(11,417)	(10,799)
Retained earnings	25,933	25,188
Accumulated other comprehensive loss	(1,002)	(933)
Total Valero Energy Corporation stockholders' equity	20,576	20,527
Noncontrolling interests	828	827
Total equity	21,404	21,354
Total liabilities and equity	\$ 45,452	\$ 44,227

See Condensed Notes to Consolidated Financial Statements.

VALERO ENERGY CORPORATION
CONSOLIDATED STATEMENTS OF INCOME
(Millions of Dollars, Except Per Share Amounts)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Operating revenues (a)	\$ 19,584	\$ 25,118	\$ 35,298	\$ 46,448
Costs and expenses:				
Cost of sales (excluding the lower of cost or market inventory valuation adjustment)	17,120	21,394	30,627	39,557
Lower of cost or market inventory valuation adjustment	(454)	—	(747)	—
Operating expenses	1,001	1,043	2,031	2,127
General and administrative expenses	159	178	315	325
Depreciation and amortization expense	471	425	956	866
Asset impairment loss	56	—	56	—
Total costs and expenses	18,353	23,040	33,238	42,875
Operating income	1,231	2,078	2,060	3,573
Other income, net	14	8	23	32
Interest and debt expense, net of capitalized interest	(111)	(113)	(219)	(214)
Income before income tax expense	1,134	1,973	1,864	3,391
Income tax expense	291	608	508	1,058
Net income	843	1,365	1,356	2,333
Less: Net income attributable to noncontrolling interests	29	14	47	18
Net income attributable to Valero Energy Corporation stockholders	\$ 814	\$ 1,351	\$ 1,309	\$ 2,315
Earnings per common share	\$ 1.74	\$ 2.67	\$ 2.79	\$ 4.53
Weighted-average common shares outstanding (in millions)	467	505	468	509
Earnings per common share – assuming dilution	\$ 1.73	\$ 2.66	\$ 2.78	\$ 4.52
Weighted-average common shares outstanding – assuming dilution (in millions)	470	508	471	512
Dividends per common share	\$ 0.60	\$ 0.40	\$ 1.20	\$ 0.80
Supplemental information:				
(a) Includes excise taxes on sales by certain of our international operations	\$ 1,470	\$ 1,513	\$ 2,865	\$ 2,939

See Condensed Notes to Consolidated Financial Statements.

VALERO ENERGY CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Millions of Dollars)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2016	2015	2016	2015
Net income	\$ 843	\$ 1,365	\$ 1,356	\$ 2,333
Other comprehensive income (loss):				
Foreign currency translation adjustment	(202)	197	(80)	(169)
Net gain on pension and other postretirement benefits	3	6	6	11
Other comprehensive income (loss) before income tax expense (benefit)	(199)	203	(74)	(158)
Income tax expense (benefit) related to items of other comprehensive income (loss)	1	2	(6)	4
Other comprehensive income (loss)	(200)	201	(68)	(162)
Comprehensive income	643	1,566	1,288	2,171
Less: Comprehensive income attributable to noncontrolling interests	29	14	48	18
Comprehensive income attributable to Valero Energy Corporation stockholders	\$ 614	\$ 1,552	\$ 1,240	\$ 2,153

See Condensed Notes to Consolidated Financial Statements.

VALERO ENERGY CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Millions of Dollars)
(Unaudited)

	Six Months Ended June 30,	
	2016	2015
Cash flows from operating activities:		
Net income	\$ 1,356	\$ 2,333
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization expense	956	866
Lower of cost or market inventory valuation adjustment	(747)	—
Asset impairment loss	56	—
Deferred income tax expense (benefit)	195	(82)
Changes in current assets and current liabilities	1,130	615
Changes in deferred charges and credits and other operating activities, net	13	30
Net cash provided by operating activities	2,959	3,762
Cash flows from investing activities:		
Capital expenditures	(610)	(828)
Deferred turnaround and catalyst costs	(325)	(400)
Other investing activities, net	4	14
Net cash used in investing activities	(931)	(1,214)
Cash flows from financing activities:		
Proceeds from debt issuances or borrowings	197	1,446
Repayments of debt and capital lease obligations	(24)	(479)
Proceeds from the exercise of stock options	3	20
Purchase of common stock for treasury	(665)	(992)
Common stock dividends	(564)	(409)
Distributions to noncontrolling interests (public unitholders) of Valero Energy Partners LP	(14)	(9)
Distributions to other noncontrolling interest	(33)	(25)
Other financing activities, net	(137)	16
Net cash used in financing activities	(1,237)	(432)
Effect of foreign exchange rate changes on cash	20	(41)
Net increase in cash and temporary cash investments	811	2,075
Cash and temporary cash investments at beginning of period	4,114	3,689
Cash and temporary cash investments at end of period	\$ 4,925	\$ 5,764

See Condensed Notes to Consolidated Financial Statements.

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. BASIS OF PRESENTATION AND SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

As used in this report, the terms “Valero,” “we,” “us,” or “our” may refer to Valero Energy Corporation, one or more of its consolidated subsidiaries, or all of them taken as a whole.

These unaudited financial statements have been prepared in accordance with United States (U.S.) generally accepted accounting principles (GAAP) for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X of the Securities Exchange Act of 1934. Accordingly, they do not include all of the information and notes required by U.S. GAAP for complete financial statements. In the opinion of management, all adjustments considered necessary for a fair presentation have been included. All such adjustments are of a normal recurring nature unless disclosed otherwise. Financial information for the three and six months ended June 30, 2016 and 2015 included in these Condensed Notes to Consolidated Financial Statements is derived from our unaudited financial statements. Operating results for the three and six months ended June 30, 2016 are not necessarily indicative of the results that may be expected for the year ending December 31, 2016.

The balance sheet as of December 31, 2015 has been derived from our audited financial statements as of that date. For further information, refer to our financial statements and notes thereto included in our annual report on Form 10-K for the year ended December 31, 2015 .

Reclassifications

Certain amounts reported as of December 31, 2015 have been reclassified in order to conform to the 2016 presentation, including the retrospective adoption of certain amendments to the Accounting Standards Codification (ASC) effective January 1, 2016. The adoption of the amendments to ASC Subtopic 835-30, “Interest–Imputation of Interest,” resulted in the reclassification of certain debt issuance costs from “deferred charges and other assets, net” to “debt and capital lease obligations, less current portion.” The adoption of the amendments to ASC Topic 740, “Income Taxes” resulted in the reclassification of current deferred income tax assets and current deferred income tax liabilities to noncurrent deferred income tax liabilities. The following table presents our previously reported balance sheet line items retrospectively adjusted for the adoption of these pronouncements (in millions):

	December 31, 2015		
	Previously Reported	Reclassifications	Currently Reported
Assets			
Current deferred income taxes	\$ 74	\$ (74)	\$ —
Deferred charges and other assets, net	2,668	(42)	2,626
Liabilities			
Current deferred income taxes	366	(366)	—
Debt and capital lease obligations, less current portion	7,250	(42)	7,208
Deferred income taxes	6,768	292	7,060

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires us to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates. On an ongoing basis, we review our estimates based on currently available information. Changes in facts and circumstances may result in revised estimates.

Accounting Pronouncements Adopted During the Period

In February 2015, the provisions of ASC Topic 810, "Consolidation," were amended to improve consolidation guidance for certain types of legal entities. The guidance modifies the evaluation of whether limited partnerships and similar legal entities are variable interest entities (VIEs) or voting interest entities, eliminates the presumption that a general partner should consolidate a limited partnership, affects the consolidation analysis of reporting entities that are involved with VIEs, particularly those that have fee arrangements and related party relationships. These provisions are effective for annual reporting periods beginning after December 15, 2015, and interim periods within those annual periods. With the adoption of this guidance effective January 1, 2016, we have determined that Valero Energy Partners LP (VLP) is a VIE. Since we previously consolidated the financial statements of VLP, the adoption of this guidance did not affect our financial position or results of operations. See Note 9 for disclosures related to our consolidated VIEs.

In April 2015, the provisions of ASC Subtopic 835-30, "Interest—Imputation of Interest," were amended to simplify the presentation of debt issuance costs. The guidance requires that debt issuance costs related to a note be reported in the balance sheet as a direct deduction from the face amount of that note, consistent with debt discounts, and that amortization of debt issuance costs be reported as interest expense. In August 2015, these provisions were further amended with guidance from the Securities and Exchange Commission staff, which provides that the staff would not object to an entity deferring and presenting debt issuance costs related to a line-of-credit arrangement as an asset and subsequently amortizing the deferred debt issuance costs ratably over the term of the line-of-credit arrangement, regardless of whether there are any outstanding borrowings on the line-of-credit arrangement. These provisions are to be applied retrospectively and are effective for annual reporting periods beginning after December 15, 2015, and interim periods within those annual periods. The adoption of this guidance effective January 1, 2016 did not materially affect our financial position and did not affect our results of operations because we already reported the amortization of debt issuance costs as interest expense. See "Basis of Presentation—Reclassifications" above for the reclassified presentation in our balance sheet. Debt issuance costs associated with our line-of-credit arrangements will continue to be reported in the balance sheet as "deferred charges and other assets, net."

In May 2015, the provisions of ASC Topic 820, "Fair Value Measurements," were amended to remove the requirement to categorize within the fair value hierarchy all investments for which fair value is measured using the net asset value per share practical expedient. The guidance also removes the requirement to make certain disclosures for all investments that are eligible to be measured using the net asset value per share practical expedient and limits those disclosures to investments for which the entity has elected to measure the fair value using that practical expedient. These provisions are to be applied retrospectively and are effective for annual reporting periods beginning after December 15, 2015, and interim periods within those annual periods. The adoption of this guidance effective January 1, 2016 did not affect our financial position or results of operations, but will result in revised annual disclosures related to the fair value presentation of

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

certain assets of our defined benefit pension plans for which fair value is measured using net asset value per share as a practical expedient. In accordance with the new guidance, these investments will no longer be categorized within the fair value hierarchy. Changes to prior period disclosures will be applied retrospectively in accordance with the guidance.

In September 2015, the provisions of ASC Topic 805, “Business Combinations,” were amended to simplify the accounting and reporting of adjustments made to provisional amounts recognized in a business combination. The amendment requires that an acquirer (i) record, in the same period’s financial statements, the effect on earnings of changes in depreciation, amortization, or other income effects, if any, as a result of the change to the provisional amounts, calculated as if the accounting had been completed at the acquisition date and (ii) present separately on the statement of income or disclose in the notes the portion of the amount recorded in current-period earnings by line item that would have been recorded in previous reporting periods if the adjustment to the provisional amounts had been recognized as of the acquisition date. These provisions are effective for annual reporting periods beginning after December 15, 2015, and interim periods within those annual periods, and should be applied prospectively to adjustments made to provisional amounts that occur after the effective date. The adoption of this guidance effective January 1, 2016 did not affect our financial position or results of operations; however, it may result in changes to the manner in which adjustments to provisional amounts recognized in a future business combination, if any, are presented in our financial statements.

In November 2015, the provisions of ASC Topic 740, “Income Taxes,” were amended to simplify the presentation of deferred income taxes. The amendments require that deferred tax liabilities and assets be classified as noncurrent in a classified balance sheet. The amendments are effective for financial statements for annual periods beginning after December 15, 2016, and interim periods within those annual periods, with early adoption permitted as of the beginning of any interim or annual period. The amendments may be applied either prospectively to all deferred tax liabilities and assets or retrospectively to all periods presented. Entities applying the guidance retrospectively should disclose in the first interim and first annual period of adoption the nature of and reason for the change in accounting principle and quantitative information about the effects of the accounting change on prior periods. Effective January 1, 2016, we adopted this guidance on a retrospective basis, but such adoption did not materially affect our financial position and it did not impact our results of operations. Upon adoption, our current deferred income tax assets of \$74 million and current deferred income tax liabilities of \$366 million as of December 31, 2015 were reclassified to noncurrent deferred income tax liabilities. See “Basis of Presentation–Reclassifications” above for the reclassified presentation. Adoption of this guidance simplifies the future presentation of our deferred income tax assets and liabilities.

In March 2016, the provisions of ASC Topic 718, “Compensation–Stock Compensation,” were amended to simplify the accounting and reporting for employee share-based payments. These amendments involve several aspects of the accounting for share-based payment transactions, including accounting for income taxes as it pertains to the recognition of excess tax benefits and tax deficiencies in the statements of income, forfeitures, minimum statutory tax withholding requirements, as well as classification of excess tax benefits and employee taxes paid in the statement of cash flows. These provisions are effective for public companies for annual reporting periods beginning after December 15, 2016, and interim periods within those annual periods, with early adoption permitted. An entity that elects early adoption must adopt all of the amendments in the same period. The amendments provide specific transition and disclosure guidance for each provision.

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Effective January 1, 2016, we adopted this guidance on a prospective basis, and such adoption did not materially affect our financial position, results of operations, or cash flows. Excess tax benefits, which were previously reported in cash flows from financing activities, are currently reported in cash flows from operating activities.

Accounting Pronouncements Not Yet Adopted

In May 2014, the ASC was amended and a new accounting standard, ASC Topic 606, “Revenue from Contracts with Customers,” was issued to clarify the principles for recognizing revenue. The standard is effective for annual reporting periods beginning after December 15, 2017, including interim reporting periods within those annual periods. We are currently evaluating the effect that adopting this standard will have on our financial statements and related disclosures.

In July 2015, the provisions of ASC Topic 330, “Inventory” were amended to simplify the measurement of inventory measured using the first-in, first-out or average cost methods. These provisions are to be applied prospectively and are effective for annual reporting periods beginning after December 15, 2016, and interim periods within those annual periods, with early adoption permitted. The adoption of this guidance effective January 1, 2017 will not affect our financial position or results of operations.

In January 2016, the provisions of ASC Subtopic 825-10, “Financial Instruments—Overall,” were amended to enhance the reporting model for financial instruments regarding certain aspects of recognition, measurement, presentation, and disclosure. These provisions are effective for annual reporting periods beginning after December 15, 2017, and interim periods within those annual periods. We are currently evaluating the effect that adopting this standard will have on our financial statements and related disclosures.

In February 2016, the ASC was amended and a new accounting standard, ASC Topic 842, “Leases,” was issued to increase the transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. The new standard is effective for public companies for annual reporting periods beginning after December 15, 2018, and interim reporting periods within those annual periods, with early adoption permitted. We are currently evaluating the effect that adopting this standard will have on our financial statements and related disclosures.

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

2. IMPAIRMENT

In 2012, we suspended the operations of the Aruba Refinery and reorganized the associated crude oil and refined products terminal assets into a terminaling and transshipment facility (collectively, the Aruba Terminal), which we continue to operate. We also wrote off all of the carrying value of the refining assets at that time because we determined they had no value after considering estimated salvage costs, and in 2014, we formally abandoned those refining assets. (We now refer to those refining assets as the Aruba Refinery.) Since that time, we have been in negotiations with the Government of Aruba (GOA) to settle our obligations under various agreements, including agreements that require us to dismantle our leasehold improvements under certain conditions.

In June 2016, the GOA entered into definitive agreements with an unrelated third party that provide for such third party to lease the Aruba Refinery and Aruba Terminal from the GOA, restart and operate the Aruba Refinery, and operate the Aruba Terminal. Because of this development, we now believe that it is more likely than not that we will ultimately transfer ownership of the Aruba Refinery and Aruba Terminal to the GOA and settle the obligations mentioned above. Therefore, we evaluated the Aruba Terminal for potential impairment as of June 30, 2016 and concluded that it was impaired, resulting in an asset impairment loss of \$56 million related to our refining segment. See Note 12 for disclosure related to the method to determine fair value. No income tax benefit was recorded for this asset impairment loss as we do not expect to realize a tax benefit.

We are continuing to negotiate with the GOA regarding the matters discussed above and with the unrelated third party, but the resolution of those matters is not yet known. In addition, a negotiated resolution, if reached, must ultimately be voted on and approved by the Aruba Parliament.

3. INVENTORIES

Inventories consisted of the following (in millions):

	June 30, 2016	December 31, 2015
Refinery feedstocks	\$ 2,389	\$ 2,404
Refined products and blendstocks	3,271	3,774
Ethanol feedstocks and products	226	242
Materials and supplies	251	244
Inventories, before lower of cost or market inventory valuation reserve	6,137	6,664
Lower of cost or market inventory valuation reserve	—	(766)
Inventories	\$ 6,137	\$ 5,898

Inventories are valued at the lower of cost or market. As of December 31, 2015, we had a valuation reserve of \$766 million in order to state our inventories at market. As of June 30, 2016, we reevaluated our inventories and determined that our cost was lower than market. As a result, for the six months ended June 30, 2016, we recorded a change in our lower of cost or market inventory valuation reserve that resulted in a net benefit to our results of operations of \$747 million. The income statement benefit for the six months ended June 30,

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

2016 differs from the change in the balance sheet reserve due to the foreign currency effect of inventories held by our international operations.

As of June 30, 2016, the replacement cost (market value) of last-in, first-out (LIFO) inventories exceeded their LIFO carrying amounts by \$713 million. As of June 30, 2016 and December 31, 2015, our non-LIFO inventories accounted for \$681 million and \$668 million, respectively, of our total inventories.

4. DEBT

Credit Facilities

Revolver

We have a \$3 billion revolving credit facility (the Revolver) that matures in November 2020. We have the option to increase the aggregate commitments under the Revolver to \$4.5 billion, subject to certain conditions. The Revolver also provides for the issuance of letters of credit of up to \$2.0 billion. No amounts were outstanding under the Revolver as of June 30, 2016 or December 31, 2015, and we had no borrowings under the Revolver during the six months ended June 30, 2016 and 2015.

VLP Revolver

VLP has a \$750 million senior unsecured revolving credit facility (the VLP Revolver) that matures in November 2020. The VLP Revolver is available only to the operations of VLP, and creditors of VLP do not have recourse against Valero. VLP has the option to increase the aggregate commitments under the VLP Revolver to \$1.0 billion, subject to certain conditions. The VLP Revolver also provides for the issuance of letters of credit of up to \$100 million. Outstanding borrowings under the VLP Revolver bear interest at a variable rate, which was 1.75 percent as of June 30, 2016.

During the six months ended June 30, 2016, VLP borrowed \$139 million under the VLP Revolver in connection with VLP's acquisition of the McKee Terminal Services Business from us in April 2016. During the six months ended June 30, 2015, VLP borrowed \$200 million under the VLP Revolver in connection with VLP's acquisition of the Houston and St. Charles Terminal Services Business from us. During the six months ended June 30, 2016 and 2015, VLP made no repayments under the VLP Revolver.

Canadian Revolver

One of our Canadian subsidiaries has a C\$50 million committed revolving credit facility (the Canadian Revolver) that matures in November 2016. No amounts were outstanding under the Canadian Revolver as of June 30, 2016 or December 31, 2015, and we had no borrowings under the Canadian Revolver during the six months ended June 30, 2016 and 2015.

Accounts Receivable Sales Facility

We have an accounts receivable sales facility with a group of third-party entities and financial institutions to sell eligible trade receivables on a revolving basis. In July 2016, we amended our agreement to decrease the facility from \$1.4 billion to \$1.3 billion and extended the maturity date to July 2017. Proceeds from the sale of receivables under this facility are reflected as debt. Under this program, one of our marketing subsidiaries (Valero Marketing) sells eligible receivables, without recourse, to another of our subsidiaries (Valero Capital), whereupon the receivables are no longer owned by Valero Marketing. Valero Capital, in turn, sells an undivided percentage ownership interest in the eligible receivables, without recourse, to the

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

third-party entities and financial institutions. To the extent that Valero Capital retains an ownership interest in the receivables it has purchased from Valero Marketing, such interest is included in our financial statements solely as a result of the consolidation of the financial statements of Valero Capital with those of Valero Energy Corporation; the receivables are not available to satisfy the claims of the creditors of Valero Marketing or Valero Energy Corporation.

During the six months ended June 30, 2016 and 2015, we had no proceeds from or repayments under the accounts receivable sales facility.

Summary of Credit Facilities

We had outstanding borrowings, letters of credit issued, and availability under our revolving credit facilities as follows (in millions):

	Facility Amount	Maturity Date	June 30, 2016			
			Outstanding Borrowings	Letters of Credit	Availability	
Committed facilities:						
Revolver	\$ 3,000	November 2020	\$ —	\$ 53	\$ 2,947	
VLP Revolver	\$ 750	November 2020	\$ 314	\$ —	\$ 436	
Canadian Revolver	C\$ 50	November 2016	C\$ —	C\$ 10	C\$ 40	
Accounts receivable sales facility (a)	\$ 1,400	July 2016	\$ 100	\$ —	\$ 1,110	
Letter of credit facilities (b)	\$ 275	June 2016 and November 2016	\$ —	\$ 16	\$ 259	
Uncommitted facilities:						
Letter of credit facilities	\$ 700	N/A	\$ —	\$ 189	\$ 511	

(a) As of June 30, 2016, the actual availability under the accounts receivable sales facility fell below the facility borrowing capacity to \$1.2 billion primarily due to a decrease in eligible trade receivables as a result of the current market price environment for the finished products that we produce.

(b) In July 2016, we amended one of our committed letter of credit facilities to extend the maturity date from June 2016 to June 2017.

Non-Bank Debt

During the six months ended June 30, 2016, we had no borrowings or repayments under our non-bank debt.

During the six months ended June 30, 2015, we issued \$600 million of 3.65 percent senior notes due March 15, 2025 and \$650 million of 4.9 percent senior notes due March 15, 2045. Proceeds from these debt issuances totaled \$1.246 billion. We also incurred \$12 million of debt issuance costs.

During the six months ended June 30, 2015, we made scheduled debt repayments of \$400 million related to our 4.5 percent senior notes and \$75 million related to our 8.75 percent debentures.

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Other Debt

In June 2016, a joint venture in Canada that we consolidate entered into a C\$72 million senior secured credit facility. This non-revolving credit facility bears interest at a fixed rate (as defined by the lender) plus the applicable margin and matures in June 2023. Borrowings under this facility totaled C\$72 million for the six months ended June 30, 2016. As of June 30, 2016, the effective interest rate of this facility was 3.85 percent.

Capitalized Interest

Capitalized interest was \$19 million and \$16 million for the three months ended June 30, 2016 and 2015, respectively, and \$39 million and \$32 million for the six months ended June 30, 2016 and 2015, respectively.

5. COMMITMENTS AND CONTINGENCIES

Environmental Matters

We are involved, together with several other companies, in an environmental cleanup in the Village of Hartford, Illinois (the Village) and during 2015, one of these companies assumed the ongoing remediation in the Village pursuant to a federal court order. We had previously conducted an initial response in the Village, along with other companies, pursuant to an administrative order issued by the U.S. Environmental Protection Agency (EPA). The parties involved in the initial response may have further claims between themselves for costs already incurred. We also continue to be engaged in site assessment and interim measures at the adjacent shutdown refinery site, which we acquired as part of an acquisition in 2005, and we are in litigation with other potentially responsible parties and the Illinois EPA relating to the remediation of the site. In each of these matters, we have various defenses and rights for contribution from the other responsible parties. We have recorded a liability for our own expected contribution obligations. However, because of the unpredictable nature of these cleanups, the methodology for allocation of liabilities, and the state of Illinois' failure to directly sue third parties responsible for historic contamination at the site, it is reasonably possible that we could incur a loss in a range of \$0 to \$200 million in excess of the amount of our accrual to ultimately resolve these matters. Factors underlying this estimated range are expected to change from time to time, and actual results may vary significantly from this estimate.

Litigation Matters

We are party to claims and legal proceedings arising in the ordinary course of business. We have not recorded a loss contingency liability with respect to some of these matters because we have determined that it is remote that a loss has been incurred. For other matters, we have recorded a loss contingency liability where we have determined that it is probable that a loss has been incurred and that the loss is reasonably estimable. These loss contingency liabilities are not material to our financial position. We re-evaluate and update our loss contingency liabilities as matters progress over time, and we believe that any changes to the recorded liabilities will not be material to our financial position, results of operations, or liquidity.

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

6. EQUITY

Reconciliation of Balances

The following is a reconciliation of the beginning and ending balances of equity attributable to our stockholders, equity attributable to noncontrolling interests, and total equity (in millions):

	Six Months Ended June 30,					
	2016			2015		
	Valero Stockholders ' Equity	Non- controlling Interests	Total Equity	Valero Stockholders ' Equity	Non- controlling Interests	Total Equity
Balance as of beginning of period	\$ 20,527	\$ 827	\$ 21,354	\$ 20,677	\$ 567	\$ 21,244
Net income	1,309	47	1,356	2,315	18	2,333
Dividends	(564)	—	(564)	(409)	—	(409)
Stock-based compensation expense	23	—	23	18	—	18
Tax deduction in excess of stock-based compensation expense	—	—	—	27	—	27
Transactions in connection with stock-based compensation plans:						
Stock issuances	3	—	3	20	—	20
Stock purchases	(43)	—	(43)	(105)	—	(105)
Stock purchases under purchase program	(610)	—	(610)	(928)	—	(928)
Contributions from noncontrolling interests	—	—	—	—	2	2
Distributions to noncontrolling interests	—	(47)	(47)	—	(34)	(34)
Other comprehensive income (loss)	(69)	1	(68)	(162)	—	(162)
Balance as of end of period	\$ 20,576	\$ 828	\$ 21,404	\$ 21,453	\$ 553	\$ 22,006

The noncontrolling interests relate to third-party ownership interests in VIEs for which we are the primary beneficiary and therefore consolidate. See Note 9 for information about our consolidated VIEs.

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Share Activity

Activity in the number of shares of common stock and treasury stock was as follows (in millions):

	Six Months Ended June 30,			
	2016		2015	
	Common Stock	Treasury Stock	Common Stock	Treasury Stock
Balance as of beginning of period	673	(200)	673	(159)
Transactions in connection with stock-based compensation plans:				
Stock issuances	—	1	—	2
Stock purchases	—	(1)	—	(2)
Stock purchases under purchase program	—	(11)	—	(15)
Balance as of end of period	673	(211)	673	(174)

Treasury Stock

We purchase shares of our common stock as authorized under our common stock purchase program and to meet our obligations under employee stock-based compensation plans.

Common Stock Dividends

On July 28, 2016, our board of directors declared a quarterly cash dividend of \$0.60 per common share payable on September 8, 2016 to holders of record at the close of business on August 11, 2016.

Income Tax Effects Related to Components of Other Comprehensive Income (Loss)

The tax effects allocated to each component of other comprehensive income (loss) were as follows (in millions):

	Three Months Ended June 30,					
	2016			2015		
	Before-Tax Amount	Tax Expense (Benefit)	Net Amount	Before-Tax Amount	Tax Expense (Benefit)	Net Amount
Foreign currency translation adjustment	\$ (202)	\$ —	\$ (202)	\$ 197	\$ —	\$ 197
Pension and other postretirement benefits:						
Amounts reclassified into income related to:						
Net actuarial loss	12	5	7	16	6	10
Prior service credit	(9)	(4)	(5)	(10)	(4)	(6)
Net gain on pension and other postretirement benefits	3	1	2	6	2	4
Other comprehensive income (loss)	\$ (199)	\$ 1	\$ (200)	\$ 203	\$ 2	\$ 201

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

	Six Months Ended June 30,					
	2016			2015		
	Before-Tax Amount	Tax Expense (Benefit)	Net Amount	Before-Tax Amount	Tax Expense (Benefit)	Net Amount
Foreign currency translation adjustment	\$ (80)	\$ —	\$ (80)	\$ (169)	\$ —	\$ (169)
Pension and other postretirement benefits:						
Miscellaneous gain arising during the period	—	(8)	8	—	—	—
Amounts reclassified into income related to:						
Net actuarial loss	24	9	15	31	11	20
Prior service credit	(18)	(7)	(11)	(20)	(7)	(13)
Net gain on pension and other postretirement benefits	6	(6)	12	11	4	7
Other comprehensive income (loss)	\$ (74)	\$ (6)	\$ (68)	\$ (158)	\$ 4	\$ (162)

Accumulated Other Comprehensive Loss

Changes in accumulated other comprehensive loss by component, net of tax, were as follows (in millions):

	Foreign Currency Translation Adjustment	Defined Benefit Plans Items	Total
Balance as of December 31, 2015	\$ (605)	\$ (328)	\$ (933)
Other comprehensive income (loss) before reclassifications	(81)	8	(73)
Amounts reclassified from accumulated other comprehensive loss	—	4	4
Net other comprehensive income (loss)	(81)	12	(69)
Balance as of June 30, 2016	\$ (686)	\$ (316)	\$ (1,002)

	Foreign Currency Translation Adjustment	Defined Benefit Plans Items	Total
Balance as of December 31, 2014	\$ 1	\$ (368)	\$ (367)
Other comprehensive loss before reclassifications	(169)	—	(169)
Amounts reclassified from accumulated other comprehensive loss	—	7	7
Net other comprehensive income (loss)	(169)	7	(162)
Balance as of June 30, 2015	\$ (168)	\$ (361)	\$ (529)

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

7. EMPLOYEE BENEFIT PLANS

The components of net periodic benefit cost related to our defined benefit plans were as follows (in millions):

	Pension Plans		Other Postretirement Benefit Plans	
	2016	2015	2016	2015
Three months ended June 30:				
Service cost	\$ 28	\$ 28	\$ 1	\$ 2
Interest cost	21	25	3	3
Expected return on plan assets	(34)	(34)	—	—
Amortization of:				
Prior service credit	(5)	(6)	(4)	(4)
Net actuarial loss	12	15	—	—
Net periodic benefit cost	<u>\$ 22</u>	<u>\$ 28</u>	<u>\$ —</u>	<u>\$ 1</u>
Six months ended June 30:				
Service cost	\$ 56	\$ 55	\$ 3	\$ 4
Interest cost	42	49	6	7
Expected return on plan assets	(69)	(67)	—	—
Amortization of:				
Prior service credit	(10)	(11)	(8)	(9)
Net actuarial loss	24	31	—	—
Net periodic benefit cost	<u>\$ 43</u>	<u>\$ 57</u>	<u>\$ 1</u>	<u>\$ 2</u>

Our anticipated contributions to our pension and other postretirement benefit plans during 2016 have not changed from amounts previously disclosed in our financial statements for the year ended December 31, 2015 . We contributed \$14 million and \$21 million , respectively, to our pension plans and \$8 million and \$6 million , respectively, to our other postretirement benefit plans during the six months ended June 30, 2016 and 2015 .

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

8. EARNINGS PER COMMON SHARE

Earnings per common share were computed as follows (dollars and shares in millions, except per share amounts):

	Three Months Ended June 30,			
	2016		2015	
	Participating Securities	Common Stock	Participating Securities	Common Stock
Earnings per common share:				
Net income attributable to Valero stockholders		\$ 814		\$ 1,351
Less dividends paid:				
Common stock		281		203
Participating securities		1		—
Undistributed earnings		\$ 532		\$ 1,148
Weighted-average common shares outstanding	1	467	2	505
Earnings per common share:				
Distributed earnings	\$ 0.60	\$ 0.60	\$ 0.40	\$ 0.40
Undistributed earnings	1.14	1.14	2.27	2.27
Total earnings per common share	\$ 1.74	\$ 1.74	\$ 2.67	\$ 2.67
Earnings per common share – assuming dilution:				
Net income attributable to Valero stockholders		\$ 814		\$ 1,351
Weighted-average common shares outstanding		467		505
Common equivalent shares:				
Stock options		2		2
Performance awards and nonvested restricted stock		1		1
Weighted-average common shares outstanding – assuming dilution		470		508
Earnings per common share – assuming dilution		\$ 1.73		\$ 2.66

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

	Six Months Ended June 30,			
	2016		2015	
	Participating Securities	Common Stock	Participating Securities	Common Stock
Earnings per common share:				
Net income attributable to Valero stockholders		\$ 1,309		\$ 2,315
Less dividends paid:				
Common stock		562		408
Participating securities		2		1
Undistributed earnings		\$ 745		\$ 1,906
Weighted-average common shares outstanding	1	468	2	509
Earnings per common share:				
Distributed earnings	\$ 1.20	\$ 1.20	\$ 0.80	\$ 0.80
Undistributed earnings	1.59	1.59	3.73	3.73
Total earnings per common share	\$ 2.79	\$ 2.79	\$ 4.53	\$ 4.53
Earnings per common share – assuming dilution:				
Net income attributable to Valero stockholders		\$ 1,309		\$ 2,315
Weighted-average common shares outstanding		468		509
Common equivalent shares:				
Stock options		2		2
Performance awards and nonvested restricted stock		1		1
Weighted-average common shares outstanding – assuming dilution		471		512
Earnings per common share – assuming dilution		\$ 2.78		\$ 4.52

Participating securities include restricted stock and performance awards granted under our 2011 Omnibus Stock Incentive Plan.

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

9. VARIABLE INTEREST ENTITIES

In the normal course of business, we have financial interests in certain entities that have been determined to be VIEs. We consolidate a VIE when we have a variable interest in an entity for which we are the primary beneficiary such that we have (a) the power to direct the activities of the VIE that most significantly impact the VIE's economic performance and (b) the obligation to absorb losses of or the right to receive benefits from the VIE that could potentially be significant to the VIE. In order to make this determination, we evaluated our contractual arrangements with the VIEs, including arrangements for the use of assets, purchases of products and services, debt, equity, or management of operating activities.

The following discussion summarizes our involvement with our VIEs:

- VLP is a publicly traded master limited partnership whose common limited partner units are traded on the New York Stock Exchange under "VLP." We formed VLP in July 2013 to own, operate, develop, and acquire crude oil and refined petroleum products pipelines, terminals, and other transportation and logistics assets. VLP's assets include crude oil and refined products pipeline and terminal systems in the U.S. Gulf Coast and U.S. Mid-Continent regions that are integral to the operations of nine of our refineries. As of June 30, 2016, we owned a 66.1 percent limited partner interest and a 2 percent general partner interest in VLP, and public unitholders owned a 31.9 percent limited partner interest.

VLP was determined to be a VIE because the public limited partners of VLP (*i.e.*, parties other than entities under common control with the general partner) lack the power to direct the activities of VLP that most significantly impact its economic performance because they do not have substantive kick-out rights over the general partner or substantive participating rights in VLP. Furthermore, we determined that we are the primary beneficiary of VLP because (a) we are the single decision maker and because our general partner interest provides us with the sole power to direct the activities that most significantly impact VLP's economic performance and (b) our 66.1 percent limited partner interest and 2 percent general partner interest provide us with significant economic rights and obligations. All of VLP's revenues are derived from us; therefore, there is limited risk to us associated with VLP's operations.

- Diamond Green Diesel Holdings LLC (DGD) is a joint venture with Darling Green Energy LLC, a subsidiary of Darling Ingredients Inc., that was formed to construct and operate a biodiesel plant that processes animal fats, used cooking oils, and other vegetable oils into renewable green diesel. The plant is located next to our St. Charles Refinery and began operations in June 2013. Our significant agreements with DGD include a debt agreement whereby we financed approximately 60 percent of the construction costs of the plant, an operations agreement that outlines our responsibilities as operator of the plant, and a marketing agreement.

In the event of certain conditions, the debt agreement provides us (as lender) with certain power to direct the activities that most significantly impact DGD's economic performance. Because the loan agreement conveys such power to us and is separate from our ownership rights, DGD was determined to be a VIE. For this reason and because we hold a 50 percent ownership interest that provides us with significant economic rights and obligations, we determined that we are the primary beneficiary

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

of DGD. DGD has risk associated with its operations because it generates revenues from third-party customers.

- We also have financial interests in other entities in which we hold a 50 percent ownership interest, which is a significant variable interest. These entities were determined to be VIEs because the entities' contractual arrangements transfer the power to direct the activities that most significantly impact their economic performance or reduce the exposure to operational variability and risk of loss created by the entity that otherwise would be held exclusively by the equity owners. Furthermore, we determined that we are the primary beneficiary of these VIEs because (a) certain contractual arrangements (exclusive of our ownership rights) provide us with the power to direct the activities that most significantly impact the economic performance of these entities and (b) our 50 percent ownership interests provide us with significant economic rights and obligations. The financial position, results of operations, and cash flows of these VIEs are not material to us.

The VIEs' assets can only be used to settle their own obligations and the VIEs' creditors have no recourse to our assets. We do not provide financial guarantees to our VIEs. Although we have provided credit facilities to the VIEs in support of their construction or acquisition activities, these transactions are eliminated in consolidation. Our financial position, results of operations, and cash flows are impacted by our consolidated VIEs' performance, net of intercompany eliminations, to the extent of our ownership interest in each VIE.

The following tables present summarized balance sheet information for the significant assets and liabilities of our VIEs, which are included in our balance sheets (in millions).

	June 30, 2016			
	VLP	DGD	Other	Total
Assets				
Cash and temporary cash investments	\$ 67	\$ 83	\$ 18	\$ 168
Other current assets	1	86	—	87
Property, plant, and equipment, net	801	356	139	1,296
Liabilities				
Current liabilities	\$ 10	\$ 16	\$ 7	\$ 33
Debt and capital lease obligations, less current portion	314	—	50	364

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

	December 31, 2015			
	VLP	DGD	Other	Total
Assets				
Cash and temporary cash investments	\$ 81	\$ 44	\$ 7	\$ 132
Other current assets	—	211	—	211
Property, plant, and equipment, net	747	356	140	1,243
Liabilities				
Current liabilities	\$ 13	\$ 12	\$ 18	\$ 43
Debt and capital lease obligations, less current portion	175	—	—	175

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

10. SEGMENT INFORMATION

The following table reflects activity related to our reportable segments (in millions):

	Refining	Ethanol	Corporate	Total
Three months ended June 30, 2016:				
Total segment revenues	\$ 18,664	\$ 965	\$ —	\$ 19,629
Less intersegment revenues	—	45	—	45
Operating revenues from external customers	\$ 18,664	\$ 920	\$ —	\$ 19,584
Lower of cost or market inventory valuation adjustment	\$ (434)	\$ (20)	\$ —	\$ (454)
Asset impairment loss	56	—	—	56
Operating income (loss)	1,332	69	(170)	1,231

Three months ended June 30, 2015:				
Total segment revenues	\$ 24,350	\$ 805	\$ —	\$ 25,155
Less intersegment revenues	—	37	—	37
Operating revenues from external customers	\$ 24,350	\$ 768	\$ —	\$ 25,118
Operating income (loss)	\$ 2,161	\$ 108	\$ (191)	\$ 2,078

Six months ended June 30, 2016:				
Total segment revenues	\$ 33,584	\$ 1,793	\$ —	\$ 35,377
Less intersegment revenues	—	79	—	79
Operating revenues from external customers	\$ 33,584	\$ 1,714	\$ —	\$ 35,298
Lower of cost or market inventory valuation adjustment	\$ (697)	\$ (50)	\$ —	\$ (747)
Asset impairment loss	56	—	—	56
Operating income (loss)	2,290	108	(338)	2,060

Six months ended June 30, 2015:				
Total segment revenues	\$ 44,879	\$ 1,634	\$ —	\$ 46,513
Less intersegment revenues	—	65	—	65
Operating revenues from external customers	\$ 44,879	\$ 1,569	\$ —	\$ 46,448
Operating income (loss)	\$ 3,802	\$ 120	\$ (349)	\$ 3,573

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Total assets by reportable segment were as follows (in millions):

	June 30, 2016	December 31, 2015
Refining	\$ 38,634	\$ 38,068
Ethanol	1,005	1,016
Corporate	5,813	5,143
Total assets	\$ 45,452	\$ 44,227

11. SUPPLEMENTAL CASH FLOW INFORMATION

In order to determine net cash provided by operating activities, net income is adjusted by, among other things, changes in current assets and current liabilities as follows (in millions):

	Six Months Ended June 30,	
	2016	2015
Decrease (increase) in current assets:		
Receivables, net	\$ (467)	\$ 77
Inventories	422	(19)
Income taxes receivable	169	79
Prepaid expenses and other	14	7
Increase (decrease) in current liabilities:		
Accounts payable	1,090	575
Accrued expenses	(113)	(75)
Taxes other than income taxes	7	15
Income taxes payable	8	(44)
Changes in current assets and current liabilities	\$ 1,130	\$ 615

The above changes in current assets and current liabilities differ from changes between amounts reflected in the applicable balance sheets for the respective periods for the following reasons:

- the amounts shown above exclude changes in cash and temporary cash investments, deferred income taxes, and current portion of debt and capital lease obligations;
- amounts accrued for capital expenditures and deferred turnaround and catalyst costs are reflected in investing activities when such amounts are paid;
- amounts accrued for common stock purchases in the open market that are not settled as of the balance sheet date are reflected in financing activities when the purchases are settled and paid; and
- certain differences between balance sheet changes and the changes reflected above result from translating foreign currency denominated balances at the applicable exchange rates as of each balance sheet date.

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

There were no significant noncash investing and financing activities for the six months ended June 30, 2016 and 2015 .

Cash flows reflected as “other financing activities, net” for the six months ended June 30, 2016 included the payoff of a long-term liability of \$137 million owed to a joint venture partner associated with an owner-method joint venture investment.

Cash flows related to interest and income taxes were as follows (in millions):

	Six Months Ended June 30,	
	2016	2015
Interest paid in excess of amount capitalized	\$ 213	\$ 202
Income taxes paid, net	137	1,079

12. FAIR VALUE MEASUREMENTS

General

U.S. GAAP requires or permits certain assets and liabilities to be measured at fair value on a recurring or nonrecurring basis in our balance sheets, and those assets and liabilities are presented below under “*Recurring Fair Value Measurements*” and “*Nonrecurring Fair Value Measurements*.” Assets and liabilities measured at fair value on a recurring basis, such as derivative financial instruments, are measured at fair value at the end of each reporting period. Assets and liabilities measured at fair value on a nonrecurring basis, such as the impairment of property, plant and equipment, are measured at fair value in particular circumstances.

U.S. GAAP also requires the disclosure of the fair values of financial instruments when an option to elect fair value accounting has been provided, but such election has not been made. A debt obligation is an example of such a financial instrument. The disclosure of the fair values of financial instruments not recognized at fair value in our balance sheet is presented below under “*Other Financial Instruments*.”

U.S. GAAP provides a framework for measuring fair value and establishes a three-level fair value hierarchy that prioritizes inputs to valuation techniques based on the degree to which objective prices in external active markets are available to measure fair value. Following is a description of each of the levels of the fair value hierarchy.

- *Level 1* - Observable inputs, such as unadjusted quoted prices in active markets for identical assets or liabilities.
- *Level 2* - Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.
- *Level 3* - Unobservable inputs for the asset or liability. Unobservable inputs reflect our own assumptions about what market participants would use to price the asset or liability. The inputs are developed based on the best information available in the circumstances, which might include

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

occasional market quotes or sales of similar instruments or our own financial data such as internally developed pricing models, discounted cash flow methodologies, as well as instruments for which the fair value determination requires significant judgment.

Recurring Fair Value Measurements

The tables below present information (in millions) about our assets and liabilities recognized at their fair values in our balance sheets categorized according to the fair value hierarchy of the inputs utilized by us to determine the fair values as of June 30, 2016 and December 31, 2015 .

We have elected to offset the fair value amounts recognized for multiple similar derivative contracts executed with the same counterparty, including any related cash collateral assets or obligations as shown below; however, fair value amounts by hierarchy level are presented in the tables below on a gross basis. We have no derivative contracts that are subject to master netting arrangements that are reflected gross on the balance sheet.

	June 30, 2016									
	Fair Value Hierarchy			Total Gross Fair Value	Effect of Counter- party Netting	Effect of Cash Collateral Netting	Net Carrying Value on Balance Sheet	Cash Collateral Paid or Received Not Offset		
	Level 1	Level 2	Level 3							
Assets:										
Commodity derivative contracts	\$ 565	\$ 30	\$ —	\$ 595	\$ (570)	\$ —	\$ 25	\$ —		
Foreign currency contracts	5	—	—	5	n/a	n/a	5	n/a		
Investments of certain benefit plans	63	—	11	74	n/a	n/a	74	n/a		
Total	<u>\$ 633</u>	<u>\$ 30</u>	<u>\$ 11</u>	<u>\$ 674</u>	<u>\$ (570)</u>	<u>\$ —</u>	<u>\$ 104</u>			
Liabilities:										
Commodity derivative contracts	\$ 606	\$ 25	\$ —	\$ 631	\$ (570)	\$ (61)	\$ —	\$ (108)		
Environmental credit obligations	—	30	—	30	n/a	n/a	30	n/a		
Physical purchase contracts	—	19	—	19	n/a	n/a	19	n/a		
Total	<u>\$ 606</u>	<u>\$ 74</u>	<u>\$ —</u>	<u>\$ 680</u>	<u>\$ (570)</u>	<u>\$ (61)</u>	<u>\$ 49</u>			

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

	December 31, 2015									
	Fair Value Hierarchy			Total Gross Fair Value	Effect of Counter- party Netting	Effect of Cash Collateral Netting	Net Carrying Value on Balance Sheet	Cash Collateral Paid or Received Not Offset		
	Level 1	Level 2	Level 3							
Assets:										
Commodity derivative contracts	\$ 649	\$ 33	\$ —	\$ 682	\$ (557)	\$ (12)	\$ 113	\$ —		
Foreign currency contracts	3	—	—	3	n/a	n/a	3	n/a		
Investments of certain benefit plans	64	—	11	75	n/a	n/a	75	n/a		
Total	\$ 716	\$ 33	\$ 11	\$ 760	\$ (557)	\$ (12)	\$ 191			
Liabilities:										
Commodity derivative contracts	\$ 522	\$ 35	\$ —	\$ 557	\$ (557)	\$ —	\$ —	\$ (31)		
Environmental credit obligations	—	2	—	2	n/a	n/a	2	n/a		
Physical purchase contracts	—	6	—	6	n/a	n/a	6	n/a		
Total	\$ 522	\$ 43	\$ —	\$ 565	\$ (557)	\$ —	\$ 8			

A description of our assets and liabilities recognized at fair value along with the valuation methods and inputs we used to develop their fair value measurements are as follows:

- Commodity derivative contracts consist primarily of exchange-traded futures and swaps, and as disclosed in Note 13, some of these contracts are designated as hedging instruments. These contracts are measured at fair value using the market approach. Exchange-traded futures are valued based on quoted prices from the exchange and are categorized in Level 1 of the fair value hierarchy. Swaps are priced using third-party broker quotes, industry pricing services, and exchange-traded curves, with appropriate consideration of counterparty credit risk, but because they have contractual terms that are not identical to exchange-traded futures instruments with a comparable market price, these financial instruments are categorized in Level 2 of the fair value hierarchy.
- Physical purchase contracts represent the fair value of fixed-price corn purchase contracts. The fair values of these purchase contracts are measured using a market approach based on quoted prices from the commodity exchange or an independent pricing service and are categorized in Level 2 of the fair value hierarchy.
- Investments of certain benefit plans consist of investment securities held by trusts for the purpose of satisfying a portion of our obligations under certain U.S. nonqualified benefit plans. The assets categorized in Level 1 of the fair value hierarchy are measured at fair value using a market approach based on quoted prices from national securities exchanges. The assets categorized in Level 3 of the fair value hierarchy represent insurance contracts, the fair value of which is provided by the insurer.

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

- Foreign currency contracts consist of foreign currency exchange and purchase contracts entered into for our international operations to manage our exposure to exchange rate fluctuations on transactions denominated in currencies other than the local (functional) currencies of those operations. These contracts are valued based on quoted prices from the exchange and are categorized in Level 1 of the fair value hierarchy.
- Environmental credit obligations represent our liability for the purchase of (i) biofuel credits (primarily Renewable Identification Numbers (RINs) in the U.S.) needed to satisfy our obligation to blend biofuels into the products we produce and (ii) emission credits under the California Global Warming Solutions Act (the California cap-and-trade system, also known as AB 32) and Quebec's *Regulation respecting the cap-and-trade system for greenhouse gas emission allowances* (the Quebec cap-and-trade system), (collectively, the cap-and-trade systems). To the degree we are unable to blend biofuels (such as ethanol and biodiesel) at percentages required under the biofuel programs, we must purchase biofuel credits to comply with these programs. Under the cap-and-trade systems, we must purchase emission credits to comply with these systems. These programs are further described in Note 13 under "Environmental Compliance Program Price Risk." The liability for environmental credits is based on our deficit for such credits as of the balance sheet date, if any, after considering any credits acquired or under contract, and is equal to the product of the credits deficit and the market price of these credits as of the balance sheet date. The environmental credit obligations are categorized in Level 2 of the fair value hierarchy and are measured at fair value using the market approach based on quoted prices from an independent pricing service.

There were no transfers between Level 1 and Level 2 for assets and liabilities held as of June 30, 2016 and December 31, 2015 that were measured at fair value on a recurring basis.

There was no activity during the three and six months ended June 30, 2016 and 2015 related to the fair value amounts categorized in Level 3 as of June 30, 2016 and December 31, 2015 .

Nonrecurring Fair Value Measurements

As discussed in Note 2 , we concluded that the Aruba Terminal was impaired as of June 30, 2016 , which resulted in an asset impairment loss of \$56 million that was recorded in June 2016. The fair value of the Aruba Terminal was determined using an income approach and is classified in Level 3. We employed a probability-weighted approach to possible future cash flow scenarios, including transferring ownership of the business to the GOA or continuing to operate.

There were no liabilities that were measured at fair value on a nonrecurring basis as of June 30, 2016 .

There were no assets or liabilities that were measured at fair value on a nonrecurring basis as of December 31, 2015 .

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Other Financial Instruments

Financial instruments that we recognize in our balance sheets at their carrying amounts are shown in the table below along with their associated fair values (in millions):

	June 30, 2016		December 31, 2015	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Financial assets:				
Cash and temporary cash investments	\$ 4,925	\$ 4,925	\$ 4,114	\$ 4,114
Financial liabilities:				
Debt (excluding capital leases)	7,430	8,332	7,292	7,759

The methods and significant assumptions used to estimate the fair value of these financial instruments are as follows:

- The fair value of cash and temporary cash investments approximates the carrying value due to the low level of credit risk of these assets combined with their short maturities and market interest rates (Level 1).
- The fair value of debt is determined primarily using the market approach based on quoted prices provided by third-party brokers and vendor pricing services (Level 2).

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

13. PRICE RISK MANAGEMENT ACTIVITIES

We are exposed to market risks primarily related to the volatility in the price of commodities, foreign currency exchange rates, and the price of credits needed to comply with various government and regulatory programs. We enter into derivative instruments to manage some of these risks, including derivative instruments related to the various commodities we purchase or produce, and foreign currency exchange and purchase contracts, as described below under *“Risk Management Activities by Type of Risk.”* These derivative instruments are recorded as either assets or liabilities measured at their fair values (see Note 12), as summarized below under *“Fair Values of Derivative Instruments,”* with changes in fair value recognized currently in income, except for derivative instruments designated as cash flow hedges whose changes in fair value are recognized in income in the period in which the hedged forecasted transactions affect income. The effect of these derivative instruments on our income is summarized below under *“Effect of Derivative Instruments on Income.”* The cash flow effects of all of our derivative instruments are reflected in operating activities in our statements of cash flows for all periods presented.

Risk Management Activities by Type of Risk

Commodity Price Risk

We are exposed to market risks related to the volatility in the price of crude oil, refined products (primarily gasoline and distillate), grain (primarily corn), soybean oil, and natural gas used in our operations. To reduce the impact of price volatility on our results of operations and cash flows, we use commodity derivative instruments, including futures, swaps, and options. We use the futures markets for the available liquidity, which provides greater flexibility in transacting our hedging and trading operations. We use swaps primarily to manage our price exposure. Our positions in commodity derivative instruments are monitored and managed on a daily basis by our risk control group to ensure compliance with our stated risk management policy that has been approved by our board of directors.

To manage commodity price risk, we use economic hedges, which are not designated as fair value or cash flow hedges, and we use fair value and cash flow hedges from time to time. We also enter into certain commodity derivative instruments for trading purposes. Our objectives for entering into hedges or trading derivatives are described below.

- *Economic Hedges* – Economic hedges represent commodity derivative instruments that are used to manage price volatility in certain (i) feedstock and refined product inventories, (ii) fixed-price purchase contracts, and (iii) forecasted feedstock, refined product or natural gas purchases and refined product sales. The objectives of our economic hedges are to hedge price volatility in certain feedstock and refined product inventories and to lock in the price of forecasted feedstock, refined product, or natural gas purchases or refined product sales at existing market prices that we deem favorable. Economic hedges are not designated as fair value or cash flow hedges for accounting purposes, usually due to the difficulty of establishing the required documentation at the date the derivative instrument is entered into for them to qualify as hedging instruments for accounting purposes.

As of June 30, 2016 , we had the following outstanding commodity derivative instruments that were used as economic hedges, as well as commodity derivative instruments related to the physical purchase of corn at a fixed price. The information presents the notional volume of outstanding contracts by type of instrument and year of maturity (volumes in thousands of barrels, except those identified as natural gas

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

contracts that are presented in billions of British thermal units, corn contracts that are presented in thousands of bushels and soybean oil contracts that are presented in thousands of pounds).

Derivative Instrument	Notional Contract Volumes by Year of Maturity	
	2016	2017
Crude oil and refined products:		
Swaps – long	20,083	—
Swaps – short	17,503	—
Futures – long	85,999	12
Futures – short	89,243	—
Options – long	2,200	—
Options – short	2,200	—
Corn:		
Futures – long	29,010	40
Futures – short	62,475	4,675
Physical contracts – long	30,270	4,640
Soybean oil:		
Futures – long	235,380	—
Futures – short	286,140	—

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

- *Trading Derivatives* – Our objective for entering into commodity derivative instruments for trading purposes is to take advantage of existing market conditions related to future results of operations and cash flows.

As of June 30, 2016, we had the following outstanding commodity derivative instruments that were entered into for trading purposes. The information presents the notional volume of outstanding contracts by type of instrument and year of maturity (volumes represent thousands of barrels, except those identified as natural gas contracts that are presented in billions of British thermal units and corn contracts that are presented in thousands of bushels).

Derivative Instrument	Notional Contract Volumes by Year of Maturity	
	2016	2017
Crude oil and refined products:		
Swaps – long	2,570	300
Swaps – short	2,570	300
Futures – long	37,265	9,970
Futures – short	37,321	9,970
Options – long	23,850	108,350
Options – short	23,550	108,350
Natural gas:		
Futures – long	600	—
Futures – short	250	—

We had no commodity derivative contracts outstanding as of June 30, 2016 and 2015 or during the six months ended June 30, 2016 and 2015 that were designated as fair value or cash flow hedges.

Foreign Currency Risk

We are exposed to exchange rate fluctuations on transactions entered into by our international operations that are denominated in currencies other than the local (functional) currencies of those operations. To manage our exposure to these exchange rate fluctuations, we use foreign currency exchange and purchase contracts. These contracts are not designated as hedging instruments for accounting purposes and therefore are classified as economic hedges. As of June 30, 2016, we had forward contracts to purchase \$356 million of U.S. dollars. These contracts matured on or before July 31, 2016.

Environmental Compliance Program Price Risk

We are exposed to market risk related to the volatility in the price of credits needed to comply with various governmental and regulatory environmental compliance programs. To manage this risk, we enter into contracts to purchase these credits when prices are deemed favorable. Some of these contracts are derivative instruments; however, we elect the normal purchase exception and do not record these contracts at their fair values. Certain of these programs require us to blend biofuels into the products we produce, and we are subject to such programs in most of the countries in which we operate. These countries set annual quotas for the percentage of biofuels that must be blended into the motor fuels consumed in these countries. As a producer of motor fuels from petroleum, we are obligated to blend biofuels into the products we produce at

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

a rate that is at least equal to the applicable quota. To the degree we are unable to blend at the applicable rate, we must purchase biofuel credits (primarily RINs in the U.S.). We are exposed to the volatility in the market price of these credits, and we manage that risk by purchasing biofuel credits when prices are deemed favorable. The cost of meeting our obligations under these compliance programs was \$173 million and \$56 million for the three months ended June 30, 2016 and 2015, respectively, and \$334 million and \$189 million for the six months ended June 30, 2016 and 2015, respectively. These amounts are reflected in cost of sales.

Effective January 1, 2015, we became subject to additional requirements under greenhouse gas emission programs, including the cap-and-trade systems, as discussed in Note 12. Under these cap-and-trade systems, we purchase various greenhouse gas emission credits available on the open market. Therefore, we are exposed to the volatility in the market price of these credits. The cost to implement certain provisions of the cap-and-trade systems are significant; however, we recovered the majority of these costs from our customers for the six months ended June 30, 2016 and 2015 and expect to continue to recover the majority of these costs in the future. For the three and six months ended June 30, 2016 and 2015, the net cost of meeting our obligations under these compliance programs was immaterial.

Fair Values of Derivative Instruments

The following tables provide information about the fair values of our derivative instruments as of June 30, 2016 and December 31, 2015 (in millions) and the line items in the balance sheets in which the fair values are reflected. See Note 12 for additional information related to the fair values of our derivative instruments.

As indicated in Note 12, we net fair value amounts recognized for multiple similar derivative contracts executed with the same counterparty under master netting arrangements, including cash collateral assets and obligations. The tables below, however, are presented on a gross asset and gross liability basis, which results in the reflection of certain assets in liability accounts and certain liabilities in asset accounts.

		June 30, 2016	
	Balance Sheet Location	Asset Derivatives	Liability Derivatives
Derivatives not designated as hedging instruments			
Commodity contracts:			
Futures	Receivables, net	\$ 562	\$ 604
Swaps	Receivables, net	23	22
Options	Receivables, net	10	5
Physical purchase contracts	Inventories	—	19
Foreign currency contracts	Receivables, net	5	—
Total		\$ 600	\$ 650

VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

	Balance Sheet Location	December 31, 2015	
		Asset Derivatives	Liability Derivatives
Derivatives not designated as hedging instruments			
Commodity contracts:			
Futures	Receivables, net	\$ 648	\$ 522
Swaps	Receivables, net	30	33
Options	Receivables, net	4	2
Physical purchase contracts	Inventories	—	6
Foreign currency contracts	Receivables, net	3	—
Total		\$ 685	\$ 563

Market and Counterparty Risk

Our price risk management activities involve the receipt or payment of fixed price commitments into the future. These transactions give rise to market risk, which is the risk that future changes in market conditions may make an instrument less valuable. We closely monitor and manage our exposure to market risk on a daily basis in accordance with policies approved by our board of directors. Market risks are monitored by our risk control group to ensure compliance with our stated risk management policy. We do not require any collateral or other security to support derivative instruments into which we enter. We also do not have any derivative instruments that require us to maintain a minimum investment-grade credit rating.

Effect of Derivative Instruments on Income

The following tables provide information about the gain or loss recognized in income on our derivative instruments and the income statement line items in which such gains and losses are reflected (in millions).

Derivatives Designated as Economic Hedges	Location of Gain (Loss) Recognized in Income on Derivatives	Three Months Ended June 30,		Six Months Ended June 30,	
		2016	2015	2016	2015
Commodity contracts	Cost of sales	\$ (113)	\$ (27)	\$ (252)	\$ 37
Foreign currency contracts	Cost of sales	4	(15)	1	7

Trading Derivatives	Location of Gain Recognized in Income on Derivatives	Three Months Ended June 30,		Six Months Ended June 30,	
		2016	2015	2016	2015
Commodity contracts	Cost of sales	\$ (3)	\$ 1	\$ 38	\$ 21

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

CAUTIONARY STATEMENT FOR THE PURPOSE OF SAFE HARBOR PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995

This Form 10-Q, including without limitation our disclosures below under the heading "OVERVIEW AND OUTLOOK," includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. You can identify our forward-looking statements by the words "anticipate," "believe," "expect," "plan," "intend," "estimate," "project," "projection," "predict," "budget," "forecast," "goal," "guidance," "target," "could," "should," "may," and similar expressions.

These forward-looking statements include, among other things, statements regarding:

- future refining margins, including gasoline and distillate margins;
- future ethanol margins;
- expectations regarding feedstock costs, including crude oil differentials, and operating expenses;
- anticipated levels of crude oil and refined product inventories;
- our anticipated level of capital investments, including deferred costs for refinery turnarounds and catalyst, capital expenditures for environmental and other purposes, and joint venture investments, and the effect of those capital investments on our results of operations;
- anticipated trends in the supply of and demand for crude oil and other feedstocks and refined products in the regions where we operate, as well as globally;
- expectations regarding environmental, tax, and other regulatory initiatives; and
- the effect of general economic and other conditions on refining and ethanol industry fundamentals.

We based our forward-looking statements on our current expectations, estimates, and projections about ourselves and our industry. We caution that these statements are not guarantees of future performance and involve risks, uncertainties, and assumptions that we cannot predict. In addition, we based many of these forward-looking statements on assumptions about future events that may prove to be inaccurate. Accordingly, our actual results may differ materially from the future performance that we have expressed or forecast in the forward-looking statements. Differences between actual results and any future performance suggested in these forward-looking statements could result from a variety of factors, including the following:

- acts of terrorism aimed at either our facilities or other facilities that could impair our ability to produce or transport refined products or receive feedstocks;
- political and economic conditions in nations that produce crude oil or consume refined products;
- demand for, and supplies of, refined products such as gasoline, diesel, jet fuel, petrochemicals, and ethanol;
- demand for, and supplies of, crude oil and other feedstocks;
- the ability of the members of the Organization of Petroleum Exporting Countries to agree on and to maintain crude oil price and production controls;
- the level of consumer demand, including seasonal fluctuations;
- refinery overcapacity or undercapacity;
- our ability to successfully integrate any acquired businesses into our operations;
- the actions taken by competitors, including both pricing and adjustments to refining capacity in response to market conditions;
- the level of competitors' imports into markets that we supply;

- accidents, unscheduled shutdowns, or other catastrophes affecting our refineries, machinery, pipelines, equipment, and information systems, or those of our suppliers or customers;
- changes in the cost or availability of transportation for feedstocks and refined products;
- the price, availability, and acceptance of alternative fuels and alternative-fuel vehicles;
- the levels of government subsidies for alternative fuels;
- the volatility in the market price of biofuel credits (primarily Renewable Identification Numbers (RINs) needed to comply with the United States (U.S.) federal Renewable Fuel Standard) and greenhouse gas (GHG) emission credits needed to comply with the requirements of various GHG emission programs;
- delay of, cancellation of, or failure to implement planned capital projects and realize the various assumptions and benefits projected for such projects or cost overruns in constructing such planned capital projects;
- earthquakes, hurricanes, tornadoes, and irregular weather, which can unforeseeably affect the price or availability of natural gas, crude oil, grain and other feedstocks, and refined products and ethanol;
- rulings, judgments, or settlements in litigation or other legal or regulatory matters, including unexpected environmental remediation costs, in excess of any reserves or insurance coverage;
- legislative or regulatory action, including the introduction or enactment of legislation or rulemakings by governmental authorities, including tax and environmental regulations, such as those implemented under the California Global Warming Solutions Act (also known as AB 32), Quebec's *Regulation respecting the cap-and-trade system for greenhouse gas emission allowances* (the Quebec cap-and-trade system), and the U.S. EPA's regulation of GHGs, which may adversely affect our business or operations;
- changes in the credit ratings assigned to our debt securities and trade credit;
- changes in currency exchange rates, including the value of the Canadian dollar, the pound sterling, and the euro relative to the U.S. dollar;
- overall economic conditions, including the stability and liquidity of financial markets; and
- other factors generally described in the "Risk Factors" section included in our annual report on Form 10-K for the year ended December 31, 2015 that is incorporated by reference herein.

Any one of these factors, or a combination of these factors, could materially affect our future results of operations and whether any forward-looking statements ultimately prove to be accurate. Our forward-looking statements are not guarantees of future performance, and actual results and future performance may differ materially from those suggested in any forward-looking statements. We do not intend to update these statements unless we are required by the securities laws to do so.

All subsequent written and oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the foregoing. We undertake no obligation to publicly release any revisions to any such forward-looking statements that may be made to reflect events or circumstances after the date of this report or to reflect the occurrence of unanticipated events.

This Form 10-Q includes references to financial measures that are not defined under U.S. generally accepted accounting principles (GAAP). These non-GAAP financial measures include adjusted net income attributable to Valero Energy Corporation stockholders, adjusted earnings per common share –assuming dilution, adjusted operating income, and gross margin. We have included these non-GAAP financial measures to help facilitate the comparison of operating results between periods. See the accompanying financial tables in "RESULTS OF OPERATIONS" for a reconciliation of these non-GAAP financial measures to the most directly comparable U.S. GAAP financial measures. In note (c) to the accompanying tables, we disclose the reasons why we believe our use of the non-GAAP financial measures provides useful information.

OVERVIEW AND OUTLOOK

Overview

Second Quarter Results

In the second quarter of 2016, we reported net income attributable to Valero stockholders of \$814 million, or \$1.73 per share (assuming dilution), compared to \$1.4 billion, or \$2.66 per share (assuming dilution), in the second quarter of 2015, which represents a decrease of \$537 million. However, adjusted net income attributable to Valero stockholders in the second quarter of 2016 of \$503 million, or \$1.07 per share (assuming dilution), decreased by \$848 million from the comparable 2015 period.

Our results for the second quarter of 2016 include a noncash benefit of \$454 million from a lower of cost or market inventory valuation adjustment, of which \$434 million was attributable to our refining segment and \$20 million was attributable to our ethanol segment. This benefit less related tax expense of \$87 million resulted in an after-tax benefit of \$367 million, or \$0.78 per share (assuming dilution). In addition, our results for the second quarter of 2016 include a noncash charge of \$56 million, or \$0.12 per share (assuming dilution), from an asset impairment loss related to our Aruba Terminal, which was attributable to our refining segment. These matters are more fully described in Notes 3 and 2, respectively, of Condensed Notes to Consolidated Financial Statements. These items are excluded from our actual results to determine the adjusted amounts.

The decrease of \$537 million in net income attributable to Valero stockholders and the decrease of \$848 million in adjusted net income attributable to Valero stockholders in the second quarter of 2016 from the second quarter of 2015 were due to decreases in our operating income and adjusted operating income, respectively. Our second quarter 2016 operating income decreased \$847 million from the second quarter of 2015 as outlined by segment in the following table (in millions).

	Three Months Ended June 30,		
	2016	2015	Change
Operating income by segment:			
Refining	\$ 1,332	\$ 2,161	\$ (829)
Ethanol	69	108	(39)
Corporate	(170)	(191)	21
Total	\$ 1,231	\$ 2,078	\$ (847)

Our adjusted operating income, however, decreased by \$1.2 billion as outlined by segment in the table below (in millions).

	Three Months Ended June 30,		
	2016	2015	Change
Adjusted operating income by segment:			
Refining	\$ 954	\$ 2,161	\$ (1,207)
Ethanol	49	108	(59)
Corporate	(170)	(191)	21
Total	\$ 833	\$ 2,078	\$ (1,245)

The \$1.2 billion decrease in refining segment adjusted operating income was due primarily to lower margins on refined products and lower discounts on light sweet crude oils relative to Brent crude oil. Our ethanol segment adjusted operating income decreased \$59 million due primarily to lower ethanol margins that resulted from higher corn prices and lower co-product prices.

First Six Months Results

For the first six months of 2016, we reported net income attributable to Valero stockholders of \$1.3 billion, or \$2.78 per share (assuming dilution), compared to \$2.3 billion, or \$4.52 per share (assuming dilution), for the first six months of 2015, which represents a decrease of \$1.0 billion. However, adjusted net income attributable to Valero stockholders for the first six months of 2016 of \$786 million, or \$1.67 per share (assuming dilution), decreased by \$1.5 billion from the comparable 2015 period.

Our results for the first six months of 2016 include a noncash benefit of \$747 million from a lower of cost or market inventory valuation adjustment, of which \$697 million was attributable to our refining segment and \$50 million was attributable to our ethanol segment. This benefit less related tax expense of \$168 million resulted in an after-tax benefit of \$579 million, or \$1.23 per share (assuming dilution). In addition, our results for the first six months of 2016 include a noncash charge of \$56 million, or \$0.12 per share (assuming dilution), from an asset impairment loss related to our Aruba Terminal, which was attributable to our refining segment. These matters are more fully described in Notes 3 and 2, respectively, of Condensed Notes to Consolidated Financial Statements. These items are excluded from our actual results to determine the adjusted amounts.

The decrease of \$1.0 billion in net income attributable to Valero stockholders and the decrease of \$1.5 billion in adjusted net income attributable to Valero stockholders in the first six months of 2016 from the first six months of 2015 were due to decreases in our operating income and adjusted operating income, respectively. Our first six months of 2016 operating income decreased \$1.5 billion from the first six months of 2015 as outlined by segment in the following table (in millions).

	Six Months Ended June 30,		
	2016	2015	Change
Operating income by segment:			
Refining	\$ 2,290	\$ 3,802	\$ (1,512)
Ethanol	108	120	(12)
Corporate	(338)	(349)	11
Total	\$ 2,060	\$ 3,573	\$ (1,513)

Our adjusted operating income, however, decreased by \$2.2 billion as outlined by segment in the table below (in millions).

	Six Months Ended June 30,		
	2016	2015	Change
Adjusted operating income by segment:			
Refining	\$ 1,649	\$ 3,802	\$ (2,153)
Ethanol	58	120	(62)
Corporate	(338)	(349)	11
Total	\$ 1,369	\$ 3,573	\$ (2,204)

The \$2.2 billion decrease in refining segment adjusted operating income was due primarily to lower margins on refined products and lower discounts on light sweet crude oils relative to Brent crude oil. Our ethanol segment adjusted operating income decreased \$62 million due primarily to lower ethanol margins that resulted from lower ethanol prices and lower co-product prices.

Additional Information and non-GAAP Reconciliations

Additional details and analysis of the changes in the operating income and adjusted operating income of our business segments and other components of net income and adjusted net income attributable to Valero

stockholders, including a reconciliation of non-GAAP financial measures used in this Overview to their most comparable amounts reported under U.S. GAAP, are provided below under “RESULTS OF OPERATIONS.”

Outlook

Energy markets and margins were volatile during the second quarter of 2016, and we expect them to continue to be volatile during the remainder of 2016. Below is a summary of factors that have impacted or may impact our results of operations during the third quarter of 2016:

- Gasoline margins are expected to decline seasonally due to high industry-wide inventory levels and the end to the summer driving season. Distillate margins are expected to improve as industry-wide inventory levels have declined.
- Medium and heavy sour crude oil discounts are expected to remain wide as sour crude oil remains oversupplied. Fuel oil price weakness continues to put pressure on heavy sour crude oil discounts. Sweet crude oil discounts are expected to remain narrow with the expectation of a continued decline in domestic sweet crude oil production.
- Ethanol margins are expected to improve slightly primarily due to lower expected corn prices.
- A decline in market prices of refined products may negatively impact the carrying value of our inventories.

RESULTS OF OPERATIONS

The following tables highlight our results of operations, our operating performance, and market prices that directly impact our operations. In addition, these tables include financial measures that are not defined under U.S. GAAP and represent non-GAAP financial measures. These non-GAAP financial measures are reconciled to their most comparable U.S. GAAP financial measures and include adjusted net income attributable to Valero Energy Corporation stockholders, adjusted earnings per common share – assuming dilution, adjusted operating income, and gross margin. In note (c) to these tables, we disclose the reasons why we believe our use of the non-GAAP financial measures provides useful information. The narrative following these tables provides an analysis of our results of operations.

Financial Highlights (millions of dollars, except share and per share amounts)

	Three Months Ended June 30,		
	2016	2015	Change
Operating revenues	\$ 19,584	\$ 25,118	\$ (5,534)
Costs and expenses:			
Cost of sales (excluding the lower of cost or market inventory valuation adjustment)	17,120	21,394	(4,274)
Lower of cost or market inventory valuation adjustment (a)	(454)	—	(454)
Operating expenses:			
Refining	902	935	(33)
Ethanol	99	108	(9)
General and administrative expenses	159	178	(19)
Depreciation and amortization expense:			
Refining	441	408	33
Ethanol	19	4	15
Corporate	11	13	(2)
Asset impairment loss (b)	56	—	56
Total costs and expenses	18,353	23,040	(4,687)
Operating income	1,231	2,078	(847)
Other income, net	14	8	6
Interest and debt expense, net of capitalized interest	(111)	(113)	2
Income before income tax expense	1,134	1,973	(839)
Income tax expense	291	608	(317)
Net income	843	1,365	(522)
Less: Net income attributable to noncontrolling interests	29	14	15
Net income attributable to Valero Energy Corporation stockholders	\$ 814	\$ 1,351	\$ (537)
Earnings per common share – assuming dilution	\$ 1.73	\$ 2.66	\$ (0.93)
Weighted-average common shares outstanding – assuming dilution (in millions)	470	508	(38)

See note references on page 62 .

Reconciliation of Non-GAAP Measures to Most Comparable Amounts
Reported under U.S. GAAP (c)
(millions of dollars, except per share amounts)

	Three Months Ended	
	June 30,	
	2016	2015
Reconciliation of net income attributable to Valero Energy Corporation stockholders to adjusted net income attributable to Valero Energy Corporation stockholders:		
Net income attributable to Valero Energy Corporation stockholders	\$ 814	\$ 1,351
Exclude adjustments:		
Lower of cost or market inventory valuation adjustment (a)	454	—
Income tax expense related to lower of cost or market inventory valuation adjustment	(87)	—
Lower of cost or market inventory valuation adjustment, net of taxes	367	—
Asset impairment loss (b)	(56)	—
Total adjustments	311	—
Adjusted net income attributable to Valero Energy Corporation stockholders	<u>\$ 503</u>	<u>\$ 1,351</u>
Reconciliation of earnings per common share – assuming dilution to adjusted earnings per common share – assuming dilution:		
Earnings per common share – assuming dilution	\$ 1.73	\$ 2.66
Exclude adjustments:		
Lower of cost or market inventory valuation adjustment, net of taxes (a)	0.78	—
Asset impairment loss (b)	(0.12)	—
Total adjustments	0.66	—
Adjusted earnings per common share – assuming dilution	<u>\$ 1.07</u>	<u>\$ 2.66</u>

See note references on page 62 .

Reconciliation of Non-GAAP Measures to Most Comparable Amounts
Reported under U.S. GAAP (c)
(millions of dollars)

	Three Months Ended June 30,	
	2016	2015
Reconciliation of operating income to gross margin and reconciliation of operating income to adjusted operating income by segment:		
Refining segment:		
Operating income	\$ 1,332	\$ 2,161
Add back:		
Lower of cost or market inventory valuation adjustment (a)	(434)	—
Operating expenses	902	935
Depreciation and amortization expense	441	408
Asset impairment loss (b)	56	—
Gross margin	<u>\$ 2,297</u>	<u>\$ 3,504</u>
Operating income	\$ 1,332	\$ 2,161
Exclude:		
Lower of cost or market inventory valuation adjustment (a)	434	—
Asset impairment loss (b)	(56)	—
Adjusted operating income	<u>\$ 954</u>	<u>\$ 2,161</u>
Ethanol segment:		
Operating income	\$ 69	\$ 108
Add back:		
Lower of cost or market inventory valuation adjustment (a)	(20)	—
Operating expenses	99	108
Depreciation and amortization expense	19	4
Gross margin	<u>\$ 167</u>	<u>\$ 220</u>
Operating income	\$ 69	\$ 108
Exclude: Lower of cost or market inventory valuation adjustment (a)	20	—
Adjusted operating income	<u>\$ 49</u>	<u>\$ 108</u>

See note references on page 62 .

Reconciliation of Non-GAAP Measures to Most Comparable Amounts
Reported under U.S. GAAP (c)
(millions of dollars)

	Three Months Ended	
	June 30,	
	2016	2015
Reconciliation of operating income to gross margin and reconciliation of operating income to adjusted operating income by refining segment region (d):		
U.S. Gulf Coast region:		
Operating income	\$ 483	\$ 1,086
Add back:		
Lower of cost or market inventory valuation adjustment (a)	(18)	—
Operating expenses	523	526
Depreciation and amortization expense	265	238
Asset impairment loss (b)	56	—
Gross margin	<u>\$ 1,309</u>	<u>\$ 1,850</u>
Operating income	\$ 483	\$ 1,086
Exclude:		
Lower of cost or market inventory valuation adjustment (a)	18	—
Asset impairment loss (b)	(56)	—
Adjusted operating income	<u>\$ 521</u>	<u>\$ 1,086</u>
U.S. Mid-Continent region:		
Operating income	\$ 142	\$ 398
Add back:		
Lower of cost or market inventory valuation adjustment (a)	(4)	—
Operating expenses	143	142
Depreciation and amortization expense	66	66
Gross margin	<u>\$ 347</u>	<u>\$ 606</u>
Operating income	\$ 142	\$ 398
Exclude: Lower of cost or market inventory valuation adjustment (a)	4	—
Adjusted operating income	<u>\$ 138</u>	<u>\$ 398</u>

See note references on page 62 .

Reconciliation of Non-GAAP Measures to Most Comparable Amounts
Reported under U.S. GAAP (c)
(millions of dollars)

	Three Months Ended	
	June 30,	
	2016	2015
Reconciliation of operating income to gross margin and reconciliation of operating income to adjusted operating income by refining segment region (d) (continued):		
North Atlantic region:		
Operating income	\$ 566	\$ 382
Add back:		
Lower of cost or market inventory valuation adjustment (a)	(410)	—
Operating expenses	119	126
Depreciation and amortization expense	52	52
Gross margin	\$ 327	\$ 560
Operating income	\$ 566	\$ 382
Exclude: Lower of cost or market inventory valuation adjustment (a)	410	—
Adjusted operating income	\$ 156	\$ 382
U.S. West Coast region:		
Operating income	\$ 141	\$ 295
Add back:		
Lower of cost or market inventory valuation adjustment (a)	(2)	—
Operating expenses	117	141
Depreciation and amortization expense	58	52
Gross margin	\$ 314	\$ 488
Operating income	\$ 141	\$ 295
Exclude: Lower of cost or market inventory valuation adjustment (a)	2	—
Adjusted operating income	\$ 139	\$ 295

See note references on page 62 .

Refining Segment Operating Highlights
(millions of dollars, except per barrel amounts)

	Three Months Ended June 30,		
	2016	2015	Change
Throughput volumes (thousand barrels per day):			
Feedstocks:			
Heavy sour crude oil	380	448	(68)
Medium/light sour crude oil	505	468	37
Sweet crude oil	1,196	1,177	19
Residuals	272	269	3
Other feedstocks	170	131	39
Total feedstocks	2,523	2,493	30
Blendstocks and other	304	315	(11)
Total throughput volumes	2,827	2,808	19
Yields (thousand barrels per day):			
Gasolines and blendstocks	1,408	1,368	40
Distillates	1,071	1,087	(16)
Other products (e)	379	394	(15)
Total yields	2,858	2,849	9
Refining segment operating statistics:			
Gross margin (c)	\$ 2,297	\$ 3,504	\$ (1,207)
Adjusted operating income (c)	\$ 954	\$ 2,161	\$ (1,207)
Throughput volumes (thousand barrels per day)	2,827	2,808	19
Throughput margin per barrel (f)	\$ 8.93	\$ 13.71	\$ (4.78)
Operating costs per barrel:			
Operating expenses	3.51	3.66	(0.15)
Depreciation and amortization expense	1.71	1.59	0.12
Total operating costs per barrel	5.22	5.25	(0.03)
Adjusted operating income per barrel (g)	\$ 3.71	\$ 8.46	\$ (4.75)

See note references on page 62 .

Ethanol Segment Operating Highlights
(millions of dollars, except per gallon amounts)

	Three Months Ended June 30,		
	2016	2015	Change
Ethanol segment operating statistics (a):			
Gross margin (c)	\$ 167	\$ 220	\$ (53)
Adjusted operating income (c)	\$ 49	\$ 108	\$ (59)
Production volumes (thousand gallons per day)	3,826	3,793	33
Gross margin per gallon of production (f)	\$ 0.48	\$ 0.64	\$ (0.16)
Operating costs per gallon of production:			
Operating expenses	0.28	0.31	(0.03)
Depreciation and amortization expense	0.06	0.02	0.04
Total operating costs per gallon of production	0.34	0.33	0.01
Adjusted operating income per gallon of production (g)	\$ 0.14	\$ 0.31	\$ (0.17)

See note references on page 62 .

Refining Segment Operating Highlights
(millions of dollars, except per barrel amounts)

	Three Months Ended June 30,		
	2016	2015	Change
Refining segment operating statistics by region (d):			
U.S. Gulf Coast region:			
Gross margin (c)	\$ 1,309	\$ 1,850	\$ (541)
Adjusted operating income (c)	\$ 521	\$ 1,086	\$ (565)
Throughput volumes (thousand barrels per day)	1,605	1,611	(6)
Throughput margin per barrel (f)	\$ 8.97	\$ 12.62	\$ (3.65)
Operating costs per barrel:			
Operating expenses	3.58	3.59	(0.01)
Depreciation and amortization expense	1.82	1.62	0.20
Total operating costs per barrel	5.40	5.21	0.19
Adjusted operating income per barrel (g)	\$ 3.57	\$ 7.41	\$ (3.84)
U.S. Mid-Continent region:			
Gross margin (c)	\$ 347	\$ 606	\$ (259)
Adjusted operating income (c)	\$ 138	\$ 398	\$ (260)
Throughput volumes (thousand barrels per day)	462	436	26
Throughput margin per barrel (f)	\$ 8.25	\$ 15.27	\$ (7.02)
Operating costs per barrel:			
Operating expenses	3.39	3.58	(0.19)
Depreciation and amortization expense	1.58	1.66	(0.08)
Total operating costs per barrel	4.97	5.24	(0.27)
Adjusted operating income per barrel (g)	\$ 3.28	\$ 10.03	\$ (6.75)

See note references on page 62 .

Refining Segment Operating Highlights
(millions of dollars, except per barrel amounts)

	Three Months Ended June 30,		
	2016	2015	Change
Refining segment operating statistics by region (d)			
(continued):			
North Atlantic region:			
Gross margin (c)	\$ 327	\$ 560	\$ (233)
Adjusted operating income (c)	\$ 156	\$ 382	\$ (226)
Throughput volumes (thousand barrels per day)	487	473	14
Throughput margin per barrel (f)	\$ 7.39	\$ 13.02	\$ (5.63)
Operating costs per barrel:			
Operating expenses	2.69	2.93	(0.24)
Depreciation and amortization expense	1.17	1.21	(0.04)
Total operating costs per barrel	3.86	4.14	(0.28)
Adjusted operating income per barrel (g)	\$ 3.53	\$ 8.88	\$ (5.35)
U.S. West Coast region:			
Gross margin (c)	\$ 314	\$ 488	\$ (174)
Adjusted operating income (c)	\$ 139	\$ 295	\$ (156)
Throughput volumes (thousand barrels per day)	273	288	(15)
Throughput margin per barrel (f)	\$ 12.67	\$ 18.63	\$ (5.96)
Operating costs per barrel:			
Operating expenses	4.74	5.35	(0.61)
Depreciation and amortization expense	2.33	2.05	0.28
Total operating costs per barrel	7.07	7.40	(0.33)
Adjusted operating income per barrel (g)	\$ 5.60	\$ 11.23	\$ (5.63)

See note references on page 62 .

Average Market Reference Prices and Differentials
(dollars per barrel, except as noted)

	Three Months Ended June 30,		
	2016	2015	Change
Feedstocks:			
Brent crude oil	\$ 46.94	\$ 63.50	\$ (16.56)
Brent less West Texas Intermediate (WTI) crude oil	1.47	5.66	(4.19)
Brent less Alaska North Slope (ANS) crude oil	1.22	0.60	0.62
Brent less Louisiana Light Sweet (LLS) crude oil (h)	(0.39)	0.53	(0.92)
Brent less Mars crude oil (h)	4.92	3.87	1.05
Brent less Maya crude oil	9.21	8.25	0.96
LLS crude oil (h)	47.33	62.97	(15.64)
LLS less Mars crude oil (h)	5.31	3.34	1.97
LLS less Maya crude oil (h)	9.60	7.72	1.88
WTI crude oil	45.47	57.84	(12.37)
Natural gas (dollars per million British thermal units (MMBtu))	2.08	2.69	(0.61)
Products:			
U.S. Gulf Coast:			
CBOB gasoline less Brent	11.13	12.76	(1.63)
Ultra-low-sulfur diesel less Brent	9.47	13.41	(3.94)
Propylene less Brent	(11.79)	(11.10)	(0.69)
CBOB gasoline less LLS (h)	10.74	13.29	(2.55)
Ultra-low-sulfur diesel less LLS (h)	9.08	13.94	(4.86)
Propylene less LLS (h)	(12.18)	(10.57)	(1.61)
U.S. Mid-Continent:			
CBOB gasoline less WTI	13.77	19.87	(6.10)
Ultra-low-sulfur diesel less WTI	11.72	18.18	(6.46)
North Atlantic:			
CBOB gasoline less Brent	14.63	16.13	(1.50)
Ultra-low-sulfur diesel less Brent	11.17	16.17	(5.00)
U.S. West Coast:			
CARBOB 87 gasoline less ANS	21.56	30.63	(9.07)
CARB diesel less ANS	14.71	18.16	(3.45)
CARBOB 87 gasoline less WTI	21.81	35.69	(13.88)
CARB diesel less WTI	14.96	23.22	(8.26)
New York Harbor corn crush (dollars per gallon)	0.23	0.33	(0.10)

See note references on page 62 .

General

Operating revenues decreased \$5.5 billion (or 22 percent) and cost of sales decreased \$4.3 billion (or 20 percent) in the second quarter of 2016 compared to the second quarter of 2015 primarily due to a decrease in refined product prices and crude oil feedstock costs, respectively. Operating income decreased \$847 million in the second quarter of 2016 compared to the second quarter of 2015, with refining segment operating income decreasing by \$829 million and ethanol segment operating income decreasing by \$39 million. Adjusted operating income decreased \$1.2 billion in the second quarter of 2016 compared to the second quarter of 2015, with refining segment adjusted operating income decreasing \$1.2 billion and ethanol segment adjusted operating income decreasing \$59 million. The reasons for these changes in the adjusted operating results of our segments, as well as other items that affected our income, are discussed below.

Refining

Refining segment adjusted operating income decreased \$1.2 billion for the second quarter of 2016 compared to the second quarter of 2015 primarily due to a \$1.2 billion decrease in refining gross margin and a \$33 million increase in depreciation and amortization expense, offset by a \$33 million decrease in operating expenses.

Refining gross margin decreased \$1.2 billion (a \$4.78 per barrel decrease) for the second quarter of 2016 compared to the second quarter of 2015, due primarily to the following:

- *Decrease in distillate margins* - We experienced a decrease in distillate margins in all of our regions in the second quarter of 2016 compared to the second quarter of 2015. For example, the Brent-based benchmark reference margin for U.S. Gulf Coast ultra-low-sulfur diesel was \$9.47 per barrel in the second quarter of 2016 compared to \$13.41 per barrel in the second quarter of 2015, representing an unfavorable decrease of \$3.94 per barrel. We estimate that the decrease in distillate margins in the second quarter of 2016 compared to the second quarter of 2015 had an unfavorable impact to our refining margin of approximately \$400 million.
- *Decrease in gasoline margins* - We experienced a decrease in gasoline margins in all of our regions in the second quarter of 2016 compared to the second quarter of 2015. For example, the WTI-based reference margin for U.S. Mid-Continent CBOB gasoline was \$13.77 per barrel in the second quarter of 2016 compared to \$19.87 per barrel in the second quarter of 2015, representing an unfavorable decrease of \$6.10 per barrel. Another example is the ANS-based reference margin for U.S. West Coast CARBOB gasoline that was \$21.56 per barrel in the second quarter of 2016 compared to \$30.63 per barrel in the second quarter of 2015, representing an unfavorable decrease of \$9.07 per barrel. We estimate that the decrease in gasoline margins per barrel in the second quarter of 2016 compared to the second quarter of 2015 had an unfavorable impact to our refining margin of approximately \$350 million.
- *Lower discounts on light sweet crude oils* - The market prices for refined products generally track the price of Brent crude oil, which is a benchmark sweet crude oil, and we benefit when we process crude oils that are priced at a discount to Brent crude oil, such as WTI and LLS crude oils in periods when pricing terms are favorable. During the second quarter of 2016, we benefited from processing WTI; however, that benefit declined when compared to the benefit from processing WTI during the second quarter of 2015. For example, WTI crude oil processed in our U.S. Mid-Continent region sold at a discount of \$1.47 per barrel to Brent crude oil in the second quarter of 2016 compared to a discount of \$5.66 per barrel in the second quarter of 2015, representing an unfavorable decrease of \$4.19 per barrel. LLS crude oil processed during the second quarter of 2016 priced at a premium to Brent crude oil of \$0.39 per barrel compared to a discount of \$0.53 per barrel during the second quarter of 2015, representing an unfavorable decrease of \$0.92 per barrel. We estimate that the cost to process light sweet

crude oils in the second quarter of 2016 had an unfavorable impact to our refining margin of approximately \$330 million.

- *Higher costs of biofuel credits* - As more fully described in Note 13 of Notes to Consolidated Financial Statements, we must purchase biofuel credits in order to meet our biofuel blending obligation under various government and regulatory compliance programs, and the cost of these credits (primarily RINs in the U.S.) increased by \$117 million from \$56 million in the second quarter of 2015 to \$173 million in second quarter of 2016 . This increase was due to an increase in the market price of RINs caused by an expected shortage in the market of available RINs.

The decrease of \$33 million in operating expenses was primarily due to a \$26 million decrease in energy costs driven by lower natural gas prices (\$2.08 per MMBtu in the second quarter of 2016 compared to \$2.69 per MMBtu in the second quarter of 2015).

The increase of \$33 million in depreciation and amortization expense was primarily due to an increase of \$14 million in depreciation expense associated with new capital projects and \$9 million in refinery turnaround and catalyst amortization expense resulting from the completion of turnaround projects at several of our refineries.

Ethanol

Ethanol segment adjusted operating income decreased \$59 million for the second quarter of 2016 compared to the second quarter of 2015 primarily due to a \$53 million (or \$0.16 per gallon) decrease in gross margin, partially offset by a \$9 million decrease in operating expenses.

The decrease in ethanol segment gross margin of \$53 million was due primarily to the following:

- *Higher corn prices* - Corn prices were higher in the second quarter of 2016 compared to the second quarter of 2015 primarily due to forecasted unfavorable weather conditions on the current corn crop in the corn-producing regions of the U.S. Mid-Continent combined with increased export demand for U.S. corn supplies. For example, the Chicago Board of Trade corn price was \$3.91 per bushel in the second quarter of 2016 compared to \$3.66 per bushel in the second quarter of 2015 . We estimate that the increase in the price of corn that we processed during the second quarter of 2016 had an unfavorable impact to our ethanol margin of approximately \$30 million.
- *Lower co-product prices* - A decrease in export demand had an unfavorable effect on the prices we received for corn-related co-products, primarily distillers grains. We estimate that the decrease in distillers grain prices had an unfavorable impact to our ethanol margin of approximately \$30 million.

The \$9 million decrease in operating expenses was primarily due to a \$6 million decrease in energy costs related to lower natural gas prices (\$2.08 per MMBtu in the second quarter of 2016 compared to \$2.69 per MMBtu in the second quarter of 2015).

The increase of \$15 million in depreciation and amortization expense was primarily due a \$10 million gain on sale of certain plant assets in the second quarter of 2015 that was reflected in depreciation and amortization expense thereby reducing depreciation and amortization expense in that quarter.

Other

We evaluated the Aruba Terminal for potential impairment as of June 30, 2016 and concluded that it was impaired, resulting in an asset impairment loss of \$56 million related to our refining segment. This matter is more fully described in Note 2 of Condensed Notes to Consolidated Financial Statements.

Income tax expense decreased \$317 million from the second quarter of 2015 to the second quarter of 2016 primarily as a result of lower income before income tax expense. The effective tax rates of 26 percent in the second quarter of 2016 and 31 percent in the second quarter of 2015 are lower than the U.S. statutory rate of 35 percent because income from our international operations is taxed at statutory rates that are lower than in the U.S. The effective tax rate in the second quarter of 2016 was lower than the rate in the second quarter of 2015 primarily due to the impact from the reversal of the lower of cost or market inventory valuation reserve of \$454 million in the second quarter of 2016. The majority of that amount impacted our international operations, which increased the amount of income before income tax expense generated by our operations with lower statutory tax rates.

Financial Highlights
(millions of dollars, except share and per share amounts)

	Six Months Ended June 30,		
	2016	2015	Change
Operating revenues	\$ 35,298	\$ 46,448	\$ (11,150)
Costs and expenses:			
Cost of sales (excluding the lower of cost or market inventory valuation adjustment)	30,627	39,557	(8,930)
Lower of cost or market inventory valuation adjustment (a)	(747)	—	(747)
Operating expenses:			
Refining	1,833	1,899	(66)
Ethanol	198	228	(30)
General and administrative expenses	315	325	(10)
Depreciation and amortization expense:			
Refining	902	825	77
Ethanol	31	17	14
Corporate	23	24	(1)
Asset impairment loss (b)	56	—	56
Total costs and expenses	33,238	42,875	(9,637)
Operating income	2,060	3,573	(1,513)
Other income, net	23	32	(9)
Interest and debt expense, net of capitalized interest	(219)	(214)	(5)
Income before income tax expense	1,864	3,391	(1,527)
Income tax expense	508	1,058	(550)
Net income	1,356	2,333	(977)
Less: Net income attributable to noncontrolling interests	47	18	29
Net income attributable to Valero Energy Corporation stockholders	\$ 1,309	\$ 2,315	\$ (1,006)
Earnings per common share – assuming dilution	\$ 2.78	\$ 4.52	\$ (1.74)
Weighted-average common shares outstanding – assuming dilution (in millions)	471	512	(41)

See note references on page 62 .

Reconciliation of Non-GAAP Measures to Most Comparable Amounts
Reported under U.S. GAAP (c)
(millions of dollars, except per share amounts)

	Six Months Ended June 30,	
	2016	2015
Reconciliation of net income attributable to Valero Energy Corporation stockholders to adjusted net income attributable to Valero Energy Corporation stockholders:		
Net income attributable to Valero Energy Corporation stockholders	\$ 1,309	\$ 2,315
Exclude adjustments:		
Lower of cost or market inventory valuation adjustment (a)	747	—
Income tax expense related to lower of cost or market inventory valuation adjustment	(168)	—
Lower of cost or market inventory valuation adjustment, net of taxes	579	—
Asset impairment loss (b)	(56)	—
Total adjustments	523	—
Adjusted net income attributable to Valero Energy Corporation stockholders	<u>\$ 786</u>	<u>\$ 2,315</u>
Reconciliation of earnings per common share – assuming dilution to adjusted earnings per common share – assuming dilution:		
Earnings per common share – assuming dilution:	\$ 2.78	\$ 4.52
Exclude adjustments:		
Lower of cost or market inventory valuation adjustment, net of taxes (a)	1.23	—
Asset impairment loss (b)	(0.12)	—
Total adjustments	1.11	—
Adjusted earnings per common share – assuming dilution	<u>\$ 1.67</u>	<u>\$ 4.52</u>

See note references on page 62 .

Reconciliation of Non-GAAP Measures to Most Comparable Amounts
Reported under U.S. GAAP (c)
(millions of dollars)

	Six Months Ended	
	June 30,	
	2016	2015
Reconciliation of operating income to gross margin and reconciliation of operating income to adjusted operating income by segment:		
Refining segment:		
Operating income	\$ 2,290	\$ 3,802
Add back:		
Lower of cost or market inventory valuation adjustment (a)	(697)	—
Operating expenses	1,833	1,899
Depreciation and amortization expense	902	825
Asset impairment loss (b)	56	—
Gross margin	<u>\$ 4,384</u>	<u>\$ 6,526</u>
Operating income	\$ 2,290	\$ 3,802
Exclude:		
Lower of cost or market inventory valuation adjustment (a)	697	—
Asset impairment loss (b)	(56)	—
Adjusted operating income	<u>\$ 1,649</u>	<u>\$ 3,802</u>
Ethanol segment:		
Operating income	\$ 108	\$ 120
Add back:		
Lower of cost or market inventory valuation adjustment (a)	(50)	—
Operating expenses	198	228
Depreciation and amortization expense	31	17
Gross margin	<u>\$ 287</u>	<u>\$ 365</u>
Operating income	\$ 108	\$ 120
Exclude: Lower of cost or market inventory valuation adjustment (a)	50	—
Adjusted operating income	<u>\$ 58</u>	<u>\$ 120</u>

See note references on page 62 .

Reconciliation of Non-GAAP Measures to Most Comparable Amounts
Reported under U.S. GAAP (c)
(millions of dollars)

	Six Months Ended	
	June 30,	
	2016	2015
Reconciliation of operating income to gross margin and reconciliation of operating income to adjusted operating income by refining segment region (d):		
U.S. Gulf Coast region:		
Operating income	\$ 939	\$ 1,958
Add back:		
Lower of cost or market inventory valuation adjustment (a)	(37)	—
Operating expenses	1,059	1,053
Depreciation and amortization expense	530	485
Asset impairment loss (b)	56	—
Gross margin	<u>\$ 2,547</u>	<u>\$ 3,496</u>
Operating income	\$ 939	\$ 1,958
Exclude:		
Lower of cost or market inventory valuation adjustment (a)	37	—
Asset impairment loss (b)	(56)	—
Adjusted operating income	<u>\$ 958</u>	<u>\$ 1,958</u>
U.S. Mid-Continent region:		
Operating income	\$ 220	\$ 715
Add back:		
Lower of cost or market inventory valuation adjustment (a)	(9)	—
Operating expenses	285	296
Depreciation and amortization expense	138	132
Gross margin	<u>\$ 634</u>	<u>\$ 1,143</u>
Operating income	\$ 220	\$ 715
Exclude: Lower of cost or market inventory valuation adjustment (a)	9	—
Adjusted operating income	<u>\$ 211</u>	<u>\$ 715</u>

See note references on page 62 .

Reconciliation of of Non-GAAP Measures to Most Comparable Amounts
Reported under U.S. GAAP (c)
(millions of dollars)

	Six Months Ended	
	June 30,	
	2016	2015
Reconciliation of operating income to gross margin and reconciliation of operating income to adjusted operating income by refining segment region (d) (continued):		
North Atlantic region:		
Operating income	\$ 969	\$ 752
Add back:		
Lower of cost or market inventory valuation adjustment (a)	(646)	—
Operating expenses	244	259
Depreciation and amortization expense	102	104
Gross margin	<u>\$ 669</u>	<u>\$ 1,115</u>
Operating income	\$ 969	\$ 752
Exclude: Lower of cost or market inventory valuation adjustment (a)	646	—
Adjusted operating income	<u>\$ 323</u>	<u>\$ 752</u>
U.S. West Coast region:		
Operating income	\$ 162	\$ 377
Add back:		
Lower of cost or market inventory valuation adjustment (a)	(5)	—
Operating expenses	245	291
Depreciation and amortization expense	132	104
Gross margin	<u>\$ 534</u>	<u>\$ 772</u>
Operating income	\$ 162	\$ 377
Exclude: Lower of cost or market inventory valuation adjustment (a)	5	—
Adjusted operating income	<u>\$ 157</u>	<u>\$ 377</u>

See note references on page 62 .

Refining Segment Operating Highlights
(millions of dollars, except per barrel amounts)

	Six Months Ended June 30,		
	2016	2015	Change
Throughput volumes (thousand barrels per day):			
Feedstocks:			
Heavy sour crude oil	404	439	(35)
Medium/light sour crude oil	519	423	96
Sweet crude oil	1,184	1,161	23
Residuals	281	263	18
Other feedstocks	152	153	(1)
Total feedstocks	2,540	2,439	101
Blendstocks and other	313	320	(7)
Total throughput volumes	2,853	2,759	94
Yields (thousand barrels per day):			
Gasolines and blendstocks	1,393	1,342	51
Distillates	1,069	1,057	12
Other products (e)	425	400	25
Total yields	2,887	2,799	88
Refining segment operating statistics:			
Gross margin (c)	\$ 4,384	\$ 6,526	\$ (2,142)
Adjusted operating income (c)	\$ 1,649	\$ 3,802	\$ (2,153)
Throughput volumes (thousand barrels per day)	2,853	2,759	94
Throughput margin per barrel (f)	\$ 8.44	\$ 13.07	\$ (4.63)
Operating costs per barrel:			
Operating expenses	3.53	3.80	(0.27)
Depreciation and amortization expense	1.73	1.66	0.07
Total operating costs per barrel	5.26	5.46	(0.20)
Adjusted operating income per barrel (g)	\$ 3.18	\$ 7.61	\$ (4.43)

See note references on page 62 .

Ethanol Segment Operating Highlights
(millions of dollars, except per gallon amounts)

	Six Months Ended June 30,		
	2016	2015	Change
Ethanol segment operating statistics (a):			
Gross margin (c)	\$ 287	\$ 365	\$ (78)
Adjusted operating income (c)	\$ 58	\$ 120	\$ (62)
Production volumes (thousand gallons per day)	3,783	3,785	(2)
Gross margin per gallon of production (f)	\$ 0.42	\$ 0.53	\$ (0.11)
Operating costs per gallon of production:			
Operating expenses	0.29	0.33	(0.04)
Depreciation and amortization expense	0.05	0.03	0.02
Total operating costs per gallon of production	0.34	0.36	(0.02)
Adjusted operating income per gallon of production (g)	\$ 0.08	\$ 0.17	\$ (0.09)

See note references on page 62 .

Refining Segment Operating Highlights
(millions of dollars, except per barrel amounts)

	Six Months Ended June 30,		
	2016	2015	Change
Refining segment operating statistics by region (d):			
U.S. Gulf Coast region:			
Gross margin (c)	\$ 2,547	\$ 3,496	\$ (949)
Adjusted operating income (c)	\$ 958	\$ 1,958	\$ (1,000)
Throughput volumes (thousand barrels per day)	1,649	1,569	80
Throughput margin per barrel (f)	\$ 8.49	\$ 12.31	\$ (3.82)
Operating costs per barrel:			
Operating expenses	3.53	3.71	(0.18)
Depreciation and amortization expense	1.77	1.71	0.06
Total operating costs per barrel	5.30	5.42	(0.12)
Adjusted operating income per barrel (g)	\$ 3.19	\$ 6.89	\$ (3.70)
U.S. Mid-Continent region:			
Gross margin (c)	\$ 634	\$ 1,143	\$ (509)
Adjusted operating income (c)	\$ 211	\$ 715	\$ (504)
Throughput volumes (thousand barrels per day)	458	434	24
Throughput margin per barrel (f)	\$ 7.60	\$ 14.55	\$ (6.95)
Operating costs per barrel:			
Operating expenses	3.41	3.77	(0.36)
Depreciation and amortization expense	1.66	1.68	(0.02)
Total operating costs per barrel	5.07	5.45	(0.38)
Adjusted operating income per barrel (g)	\$ 2.53	\$ 9.10	\$ (6.57)

See note references on page 62 .

Refining Segment Operating Highlights
(millions of dollars, except per barrel amounts)

	Six Months Ended June 30,		
	2016	2015	Change
Refining segment operating statistics by region (d)			
(continued):			
North Atlantic region:			
Gross margin (c)	\$ 669	\$ 1,115	\$ (446)
Adjusted operating income (c)	\$ 323	\$ 752	\$ (429)
Throughput volumes (thousand barrels per day)	480	484	(4)
Throughput margin per barrel (f)	\$ 7.66	\$ 12.73	\$ (5.07)
Operating costs per barrel:			
Operating expenses	2.79	2.95	(0.16)
Depreciation and amortization expense	1.17	1.19	(0.02)
Total operating costs per barrel	3.96	4.14	(0.18)
Adjusted operating income per barrel (g)	\$ 3.70	\$ 8.59	\$ (4.89)
U.S. West Coast region:			
Gross margin (c)	\$ 534	\$ 772	\$ (238)
Adjusted operating income (c)	\$ 157	\$ 377	\$ (220)
Throughput volumes (thousand barrels per day)	266	272	(6)
Throughput margin per barrel (f)	\$ 11.05	\$ 15.69	\$ (4.64)
Operating costs per barrel:			
Operating expenses	5.08	5.92	(0.84)
Depreciation and amortization expense	2.73	2.11	0.62
Total operating costs per barrel	7.81	8.03	(0.22)
Adjusted operating income per barrel (g)	\$ 3.24	\$ 7.66	\$ (4.42)

See note references on page 62 .

Average Market Reference Prices and Differentials
(dollars per barrel, except as noted)

	Six Months Ended June 30,		
	2016	2015	Change
Feedstocks:			
Brent crude oil	\$ 41.04	\$ 59.32	\$ (18.28)
Brent less WTI crude oil	1.68	6.12	(4.44)
Brent less ANS crude oil	0.96	1.02	(0.06)
Brent less LLS crude oil (h)	(0.17)	1.44	(1.61)
Brent less Mars crude oil (h)	5.09	4.94	0.15
Brent less Maya crude oil	9.15	9.63	(0.48)
LLS crude oil (h)	41.21	57.88	(16.67)
LLS less Mars crude oil (h)	5.26	3.50	1.76
LLS less Maya crude oil (h)	9.32	8.19	1.13
WTI crude oil	39.36	53.20	(13.84)
Natural gas (dollars per MMBtu)	2.01	2.73	(0.72)
Products:			
U.S. Gulf Coast:			
CBOB gasoline less Brent	9.47	10.23	(0.76)
Ultra-low-sulfur diesel less Brent	8.70	14.58	(5.88)
Propylene less Brent	(7.09)	1.00	(8.09)
CBOB gasoline less LLS (h)	9.30	11.67	(2.37)
Ultra-low-sulfur diesel less LLS (h)	8.53	16.02	(7.49)
Propylene less LLS (h)	(7.26)	2.44	(9.70)
U.S. Mid-Continent:			
CBOB gasoline less WTI	11.89	17.29	(5.40)
Ultra-low-sulfur diesel less WTI	11.38	20.36	(8.98)
North Atlantic:			
CBOB gasoline less Brent	12.47	12.09	0.38
Ultra-low-sulfur diesel less Brent	10.35	19.11	(8.76)
U.S. West Coast:			
CARBOB 87 gasoline less ANS	19.45	25.02	(5.57)
CARB diesel less ANS	12.95	18.66	(5.71)
CARBOB 87 gasoline less WTI	20.17	30.12	(9.95)
CARB diesel less WTI	13.67	23.76	(10.09)
New York Harbor corn crush (dollars per gallon)	0.18	0.23	(0.05)

See note references on page 62 .

The following notes relate to references on pages 39 through 48 and pages 52 through 61 .

- (a) In accordance with U.S. GAAP, we are required to state our inventories at the lower of cost or market. When the market price of our inventory falls below cost, we record a lower of cost or market inventory valuation adjustment to write down the value to market. In subsequent periods, the value of our inventory is reassessed and a lower of cost or market inventory valuation adjustment is recorded to reflect the net change in the lower of cost or market inventory valuation reserve between periods. In recent periods, the market price of our inventory has risen above cost; therefore, we did not record a lower of cost or market inventory valuation reserve as of June 30, 2016. During the three months ended June 30, 2016, we recorded a change in our inventory valuation reserve that resulted in a noncash benefit of \$454 million , of which \$434 million and \$20 million were attributable to our refining segment and ethanol segment, respectively. During the six months ended June 30, 2016, we recorded a change in our inventory valuation reserve that resulted in a noncash benefit of \$747 million , of which \$697 million and \$50 million were attributable to our refining segment and ethanol segment, respectively. This adjustment is further discussed in Note 3 of Condensed Notes to Consolidated Financial Statements.
- (b) In June 2016, the Government of Aruba (GOA) entered into definitive agreements with an unrelated third party that provide for such third party to lease the Aruba Refinery and Aruba Terminal from the GOA, restart and operate the Aruba Refinery, and operate the Aruba Terminal. Because of this development, we believe that it is more likely than not that we will ultimately transfer ownership of the Aruba Refinery and Aruba Terminal to the GOA and settle our obligations under various agreements with the GOA. Therefore, we evaluated the Aruba Terminal for potential impairment as of June 30, 2016 and concluded that it was impaired. We further determined that the Aruba Terminal's carrying value of \$56 million was not recoverable and we wrote off the entire amount, resulting in an impairment loss of \$56 million relating to our refining segment in the six months ended June 30, 2016. No income tax benefit was recorded for this asset impairment loss as we do not expect to realize a tax benefit.
- (c) Defined terms are as follows:
- **Adjusted net income attributable to Valero Energy Corporation stockholders** is defined as net income attributable to Valero Energy Corporation stockholders excluding the lower of cost or market inventory valuation adjustment, its related income tax effect, and the asset impairment loss.
 - **Adjusted earnings per common share – assuming dilution** is defined as adjusted net income attributable to Valero Energy Corporation stockholders divided by the number of weighted average shares outstanding in the applicable period, assuming dilution.
 - **Gross margin** is defined as operating income excluding the lower of cost or market inventory valuation adjustment, operating expenses, depreciation and amortization expense, and asset impairment loss.
 - **Adjusted operating income** is defined as operating income excluding lower of cost or market inventory valuation adjustment and asset impairment loss.

These terms are not defined under U.S. GAAP and are considered non-GAAP measures. Management has defined these terms and believes that the presentation of the associated measures are useful to external users of our financial statements, such as industry analysts, investors, lenders, and rating agencies, to assess our ongoing financial performance that, when reconciled to their most comparable U.S. GAAP measures, provide improved comparability between periods through the exclusion of certain items that management believes are not indicative of our core operating performance and that may obscure underlying business results and trends.

Adjusted net income attributable to Valero Energy Corporation stockholders, adjusted earnings per common share – assuming dilution, gross margin, and adjusted operating income should not be considered as alternatives to net income attributable to Valero Energy Corporation stockholders, earnings per common share – assuming dilution, or operating income presented in accordance with U.S. GAAP and should not be considered in isolation or as a substitute for analysis of our results of operations as reported under U.S. GAAP. Additionally, because adjusted net income attributable to Valero Energy Corporation stockholders, adjusted earnings per common share – assuming dilution, gross margin, and adjusted operating income may be defined differently by other companies in our industry, our definitions of these terms may not be comparable to similarly titled measures of other companies, thereby diminishing their utility.

- (d) The regions reflected herein contain the following refineries: the U.S. Gulf Coast region includes the Corpus Christi East, Corpus Christi West, Houston, Meraux, Port Arthur, St. Charles, Texas City, and Three Rivers Refineries; the U.S. Mid-Continent region includes the Ardmore, McKee, and Memphis Refineries; the North Atlantic region includes the Pembroke and Quebec City Refineries; and the U.S. West Coast region includes the Benicia and Wilmington Refineries.
- (e) Other products primarily include petrochemicals, gas oils, No. 6 fuel oil, petroleum coke, sulfur, and asphalt.
- (f) Throughput margin per barrel represents gross margin (as defined in (c) above) for our refining segment or refining regions divided by the respective throughput volumes. Gross margin per gallon of production represents gross margin for our ethanol segment divided by production volumes. Throughput and production volumes are calculated by multiplying throughput and production volumes per day (as provided in the accompanying tables) by the number of days in the applicable period.
- (g) Adjusted operating income per barrel represents adjusted operating income (defined in (c) above) for our refining segment or refining regions divided by the respective throughput volumes. Adjusted operating income per gallon represents adjusted operating income (defined in (c) above) for our ethanol segment divided by production volumes. Throughput and production volumes are calculated by multiplying throughput and production volumes per day (as provided in the accompanying tables) by the number of days in the applicable period.
- (h) Average market reference prices for LLS crude oil, along with price differentials between the price of LLS and other types of crude oils, and price differentials between Mars crude oil and other types of crude oils are reflected without adjusting for the impact of the futures pricing for the corresponding delivery month. Therefore, the prices reported reflect the prompt month pricing only, without an adjustment for futures pricing (known in industry as the Calendar Month Average (CMA) “roll” adjustment). We previously had provided average market reference prices that included the CMA “roll” adjustment. Accordingly, the average market reference price for LLS crude oil and price differentials for LLS and Mars crude oils for the six months ended June 30, 2015 have been adjusted to conform to the current presentation.

General

Operating revenues decreased \$11.2 billion (or 24 percent) and cost of sales decreased \$8.9 billion (or 23 percent) in the first six months of 2016 compared to the first six months of 2015 primarily due to a decrease in refined product prices and crude oil feedstock costs, respectively. Operating income decreased \$1.5 billion in the first six months of 2016 compared to the first six months of 2015, with refining segment operating income decreasing by \$1.5 billion and ethanol segment operating income decreasing by \$12 million. Adjusted operating income decreased \$2.2 billion in the first six months of 2016 compared to the first six months of 2015, with refining segment adjusted operating income decreasing \$2.2 billion and ethanol segment adjusted operating income decreasing \$62 million. The reasons for these changes in the operating results of our segments, as well as other items that affected our income, are discussed below.

Refining

Refining segment adjusted operating income decreased \$2.2 billion in the first six months of 2016 compared to the first six months of 2015 primarily due to a \$2.1 billion decrease in refining gross margin and a \$77 million increase in depreciation and amortization expense, partially offset by a \$66 million decrease in operating expenses.

Refining gross margin decreased \$2.1 billion (a \$4.63 per barrel decrease) in the first six months of 2016 compared to the first six months of 2015, due primarily to the following:

- *Decrease in distillate margins* - We experienced a decrease in distillate margins throughout all of our regions for the first six months of 2016 compared to the first six months of 2015. For example, the Brent-based benchmark reference margin for U.S. Gulf Coast ultra-low-sulfur diesel was \$8.70 per barrel for

the first six months of 2016 compared to \$14.58 per barrel for the first six months of 2015, representing an unfavorable decrease of \$ 5.88 per barrel. Another example is the WTI-based benchmark reference margin for U.S. Mid-Continent ultra-low-sulfur diesel that was \$11.38 per barrel for the first six months of 2016 compared to \$20.36 per barrel for the first six months of 2015, representing an unfavorable decrease of \$8.98 per barrel. We estimate that the decrease in distillate margins per barrel in the first six months of 2016 compared to the first six months of 2015 had an unfavorable impact to our refining margin of approximately \$1.3 billion.

- *Decrease in gasoline margins* - We experienced a decrease in gasoline margins throughout most of our regions during the first six months of 2016 compared to the first six months of 2015. For example, the WTI-based benchmark reference margin for U.S. Mid-Continent CBOB gasoline was \$11.89 per barrel during the first six months of 2016 compared to \$17.29 per barrel during the first six months of 2015, representing an unfavorable decrease of \$5.40 per barrel. Another example is the ANS-based reference margin for U.S. West Coast CARBOB 87 gasoline that was \$19.45 per barrel during the first six months of 2016 compared to \$25.02 per barrel during the first six months of 2015, representing an unfavorable decrease of \$5.57 per barrel. We estimate that the decrease in gasoline margins per barrel during the first six months of 2016 compared to the first six months of 2015 had an unfavorable impact to our refining margin of approximately \$460 million.
- *Lower discounts on light sweet crude oils* - The market prices for refined products generally track the price of Brent crude oil, which is a benchmark sweet crude oil, and we benefit when we process crude oils that are priced at a discount to Brent crude oil, such as WTI and LLS crude oils in periods when pricing terms are favorable. During the first six months of 2016, we benefited from processing WTI; however, that benefit declined compared to the benefit from processing WTI during the first six months of 2015. For example, WTI crude oil processed in our U.S. Mid-Continent region sold at a discount of \$1.68 per barrel to Brent crude oil in the first six months of 2016 compared to a discount of \$6.12 per barrel in the first six months of 2015, representing an unfavorable decrease of \$4.44 per barrel. LLS crude oil processed during the first six months of 2016 priced at a premium to Brent crude oil of \$0.17 per barrel compared to a discount of \$1.44 per barrel during the first six months of 2015 representing an unfavorable decrease of \$1.61 per barrel. We estimate that the cost to process light sweet crude oils during the first six months of 2016 had an unfavorable impact to our refining margin of approximately \$450 million.
- *Higher costs of biofuel credits* - As more fully described in Note 13 of Notes to Consolidated Financial Statements, we must purchase biofuel credits in order to meet our biofuel blending obligation under various government and regulatory compliance programs, and the cost of these credits (primarily RINs in the U.S.) increased by \$145 million from \$189 million in the first six months of 2015 to \$334 million in the first six months of 2016. This increase was due to an increase in the market price of RINs caused by an expected shortage in the market of available RINs.
- *Higher throughput volumes* - Refining throughput volumes increased by 94,000 barrels per day during the first six months of 2016. We estimate that the increase in refining throughput volumes had a favorable impact to our refining margin of approximately \$140 million.

The decrease of \$66 million in operating expenses was primarily due to a \$52 million decrease in energy costs driven by lower natural gas prices (\$2.01 per MMBtu for the first six months of 2016 compared to \$2.73 per MMBtu for the first six months of 2015).

The increase of \$77 million in depreciation and amortization expense was primarily due to an increase of \$31 million in depreciation expense associated with new capital projects and \$28 million in refinery turnaround and catalyst amortization expense resulting from the completion of turnaround projects at several of our refineries.

Ethanol

Ethanol segment adjusted operating income decreased \$62 million primarily due to a \$78 million (or \$0.11 per gallon) decrease in gross margin and a \$14 million increase in depreciation and amortization expense, partially offset by a \$30 million decrease in operating expenses.

The decrease in ethanol segment gross margin of \$78 million was due primarily to the following:

- *Lower ethanol prices* - Ethanol prices were lower in the first six months of 2016 primarily due to the decrease in crude oil and gasoline prices in the first six months of 2016 compared to the first six months of 2015. For example, the New York Harbor ethanol price was \$1.55 per gallon in the first six months of 2016 compared to \$1.59 per gallon in the first six months of 2015. We estimate that the decrease in the price of ethanol per gallon during the first six months of 2016 had an unfavorable impact to our ethanol margin of approximately \$30 million.
- *Lower co-product prices* - A decrease in export demand had an unfavorable effect on the prices we received for corn-related co-products, primarily distillers grains. We estimate that the decrease in distillers grain prices had an unfavorable impact to our ethanol margin of approximately \$50 million.

The \$30 million decrease in operating expenses was primarily due to a \$20 million decrease in energy costs related to lower natural gas prices (\$2.01 per MMBtu for the first six months of 2016 compared to \$2.73 per MMBtu for the first six months of 2015).

The increase of \$14 million in depreciation and amortization expense was primarily due a \$10 million gain on sale of certain plant assets in the first six months of 2015 that was reflected in depreciation and amortization expense thereby reducing depreciation and amortization expense in that period combined with an increase of \$7 million in depreciation expense associated with new capital projects.

Other

We evaluated the Aruba Terminal for potential impairment as of June 30, 2016 and concluded that it was impaired, resulting in an asset impairment loss of \$56 million related to our refining segment. This matter is more fully described in Note 2 of Condensed Notes to Consolidated Financial Statements.

Income tax expense decreased \$550 million from the first six months of 2015 to the first six months of 2016 primarily as a result of lower income before income tax expense. The effective tax rates of 27 percent in the first six months of 2016 and 31 percent in the first six months of 2015 are lower than the U.S. statutory rate of 35 percent because income from our international operations is taxed at statutory rates that are lower than in the U.S. The effective tax rate in the first six months of 2016 was lower than the rate in the first six months of 2015 primarily due to the impact from the reversal of the lower of cost or market inventory valuation reserve of \$747 million in the first six months of 2016. The majority of that amount impacted our international operations, which increased the amount of income before income tax expense generated by our operations with lower statutory tax rates.

LIQUIDITY AND CAPITAL RESOURCES

Cash Flows for the Six Months Ended June 30, 2016

Our operations generated \$3.0 billion of cash in the first six months of 2016, driven primarily by net income of \$1.4 billion and excluding \$460 million of noncash charges to income, along with a positive change in working capital of \$1.1 billion. Noncash charges include \$956 million of depreciation and amortization expense, \$56 million for the asset impairment loss associated with our Aruba Terminal, and \$195 million of deferred income tax expense, partially offset by a benefit of \$747 million from a lower of cost or market inventory valuation adjustment. See “RESULTS OF OPERATIONS” for further discussion of our operations. The change in our working capital is further detailed in Note 11 of Condensed Notes to Consolidated Financial Statements. This source of cash mainly resulted from:

- an increase in accounts payable, partially offset by an increase in receivables, primarily as a result of increasing commodity prices; and
- the partial liquidation of our inventories.

The \$3.0 billion of cash generated by our operations, along with debt borrowings of \$197 million (primarily \$139 million under the VLP Revolver, as discussed in Note 4 of Condensed Notes to Consolidated Financial Statements), were used mainly to:

- fund \$940 million in capital investments, which include capital expenditures, deferred turnaround and catalyst costs, and equity-method joint venture investments;
- pay off a long-term liability of \$137 million owed to a joint venture partner for an owner-method joint venture investment;
- purchase common stock for treasury of \$665 million;
- pay common stock dividends of \$564 million;
- pay distributions of \$47 million to noncontrolling interests; and
- increase available cash on hand by \$811 million.

Cash Flows for the Six Months Ended June 30, 2015

Our operations generated \$3.8 billion of cash in the first six months of 2015, driven primarily by net income of \$2.3 billion and excluding \$784 million of noncash charges to income. Noncash charges include \$866 million of depreciation and amortization expense, partially offset by a deferred income tax benefit of \$82 million. See “RESULTS OF OPERATIONS” for further discussion of our operations. The change in our working capital in the first six months of 2015 had a positive impact to cash generated by our operations of \$615 million. This source of cash mainly resulted from an increase in accounts payable as a result of increased crude purchase activity during June 2015 compared to December 2014.

The \$3.8 billion of cash generated by our operations in the first six months of 2015, along with \$1.45 billion in proceeds from the issuance of debt (\$600 million of 3.65 percent senior notes due March 15, 2025, \$650 million of 4.9 percent senior notes due March 15, 2045, and borrowings under the VLP Revolver of \$200 million as discussed in Note 4 of Condensed Notes to Consolidated Financial Statements), were used mainly to:

- fund \$1.2 billion in capital investments, which include capital expenditures, deferred turnaround and catalyst costs, and equity-method joint venture investments;
- make note repayments of \$400 million related to our 4.5 percent senior notes, \$75 million related to our 8.75 percent debentures, and \$2 million related to other non-bank debt;
- purchase common stock for treasury of \$992 million;
- pay common stock dividends of \$409 million; and
- increase available cash on hand by \$2.1 billion.

Capital Investments

For 2016, we expect to incur approximately \$2.6 billion for capital investments, including capital expenditures, deferred turnaround and catalyst costs, and equity-method joint venture investments. This consists of approximately \$1.6 billion for stay-in-business capital and \$1.0 billion for growth strategies, including our continued investment in Diamond Pipeline LLC (Diamond Pipeline) described below. This capital investment estimate excludes potential strategic acquisitions. We continuously evaluate our capital budget and make changes as conditions warrant.

We hold equity-method investments in joint ventures and we invest in these joint ventures or enter into new joint venture arrangements to enhance our operations. In December 2015, we exercised our option to purchase a 50 percent interest in Diamond Pipeline, which was formed by Plains Pipeline, L.P. (Plains) to construct and operate a 440-mile, 20-inch crude oil pipeline expected to provide capacity of up to 200,000 barrels per day of domestic sweet crude oil from the Plains Cushing, Oklahoma terminal to our Memphis Refinery, with the ability to connect into the Capline Pipeline. The pipeline is expected to be completed in 2017 for an estimated \$925 million, pending receipt of necessary regulatory approvals. We contributed \$136 million upon exercise of our option and expect to invest an additional \$170 million in 2016.

Contractual Obligations

As of June 30, 2016, our contractual obligations included debt, capital lease obligations, operating leases, purchase obligations, and other long-term liabilities. There were no material changes outside the ordinary course of business with respect to these contractual obligations during the six months ended June 30, 2016.

Currently, we have an accounts receivable sales facility with a group of third-party entities and financial institutions to sell eligible trade receivables on a revolving basis up to \$1.3 billion. As of June 30, 2016, the actual availability under the facility fell below the facility borrowing capacity to \$1.2 billion primarily due to a decrease in eligible trade receivables as a result of the current market price environment for the finished products that we produce.

Our debt and financing agreements do not have rating agency triggers that would automatically require us to post additional collateral. However, in the event of certain downgrades of our senior unsecured debt by the ratings agencies, the cost of borrowings under some of our bank credit facilities and other arrangements would increase. All of the ratings on our senior unsecured debt are at or above investment grade level as follows:

Rating Agency	Rating
Moody's Investors Service	Baa2 (stable outlook)
Standard & Poor's Ratings Services	BBB (stable outlook)
Fitch Ratings	BBB (stable outlook)

We cannot provide assurance that these ratings will remain in effect for any given period of time or that one or more of these ratings will not be lowered or withdrawn entirely by a rating agency. We note that these credit ratings are not recommendations to buy, sell, or hold our securities and may be revised or withdrawn at any time by the rating agency. Each rating should be evaluated independently of any other rating. Any future reduction below investment grade or withdrawal of one or more of our credit ratings could have a material adverse impact on our ability to obtain short- and long-term financing and the cost of such financings.

Summary of Credit Facilities

As of June 30, 2016, we had outstanding borrowings and letters of credit issued under our credit facilities as follows (in millions):

	Facility Amount	Maturity Date	June 30, 2016			
			Outstanding Borrowings	Letters of Credit	Availability	
Committed facilities:						
Revolver	\$ 3,000	November 2020	\$ —	\$ 53	\$ 2,947	
VLP Revolver	\$ 750	November 2020	\$ 314	\$ —	\$ 436	
Canadian Revolver	C\$ 50	November 2016	C\$ —	C\$ 10	C\$ 40	
Accounts receivable sales facility	\$ 1,400	July 2016	\$ 100	\$ —	\$ 1,110	
Letter of credit facilities	\$ 275	June 2016 and November 2016	\$ —	\$ 16	\$ 259	
Uncommitted facilities:						
Letter of credit facilities	\$ 700	N/A	\$ —	\$ 189	\$ 511	

In July 2016, we amended one of our committed letter of credit facilities to extend the maturity date from June 2016 to June 2017. Letters of credit issued as of June 30, 2016 expire in 2016 through 2018.

Other Matters Impacting Liquidity and Capital Resources

Stock Purchase Program

As of June 30, 2016, we had approximately \$692 million of our common stock remaining to be purchased under our \$2.5 billion common stock purchase program, but we have no obligation to make purchases under this program.

Pension Plan Funding

We plan to contribute approximately \$36 million to our pension plans and \$20 million to our other postretirement benefit plans during 2016. We contributed \$14 million to our pension plans and \$8 million to our other postretirement benefit plans during the six months ended June 30, 2016.

Environmental Matters

Our operations are subject to extensive environmental regulations by governmental authorities relating to the discharge of materials into the environment, waste management, pollution prevention measures, GHG emissions, and characteristics and composition of gasolines and distillates. Because environmental laws and regulations are becoming more complex and stringent and new environmental laws and regulations are continuously being enacted or proposed, the level of future expenditures required for environmental matters could increase in the future as previously discussed above in “OUTLOOK.” In addition, any major upgrades in any of our operating facilities could require material additional expenditures to comply with environmental laws and regulations. See Note 5 of Condensed Notes to Consolidated Financial Statements for a further discussion of our environmental matters.

Tax Matters

The Internal Revenue Service (IRS) has ongoing tax audits related to our U.S. federal tax returns from 2008 through 2011, and we have received Revenue Agent Reports (RARs) in connection with these audits. We are contesting certain tax positions and assertions included in the RARs and continue to make progress in

resolving certain of these matters with the IRS. We expect to settle our audit for tax years 2008 and 2009 within the next 12 months. In addition, our net uncertain tax position liabilities, including related penalties and interest, did not change significantly during the six months ended June 30, 2016. Should we ultimately settle these audits for amounts consistent with our estimates, we believe that we will have sufficient cash on hand at that time to make such payments.

Cash Held by Our International Subsidiaries

We operate in countries outside the U.S. through subsidiaries incorporated in these countries, and the earnings of these subsidiaries are taxed by the countries in which they are incorporated. We intend to reinvest these earnings indefinitely in our international operations even though we are not restricted from repatriating such earnings to the U.S. in the form of cash dividends. Should we decide to repatriate such earnings, we would incur and pay taxes on the amounts repatriated. In addition, such repatriation could cause us to record deferred tax expense that could significantly impact our results of operations. We believe, however, that a substantial portion of our international cash can be returned to the U.S. without significant tax consequences through means other than a repatriation of earnings. As of June 30, 2016, \$2.0 billion of our cash and temporary cash investments was held by our international subsidiaries.

Concentration of Customers

Our operations have a concentration of customers in the refining industry and customers who are refined product wholesalers and retailers. These concentrations of customers may impact our overall exposure to credit risk, either positively or negatively, in that these customers may be similarly affected by changes in economic or other conditions. However, we believe that our portfolio of accounts receivable is sufficiently diversified to the extent necessary to minimize potential credit risk. Historically, we have not had any significant problems collecting our accounts receivable.

Sources of Liquidity

We believe that we have sufficient funds from operations and, to the extent necessary, from borrowings under our credit facilities, to fund our ongoing operating requirements. We expect that, to the extent necessary, we can raise additional funds from time to time through equity or debt financings in the public and private capital markets or the arrangement of additional credit facilities. However, there can be no assurances regarding the availability of any future financings or additional credit facilities or whether such financings or additional credit facilities can be made available on terms that are acceptable to us.

CRITICAL ACCOUNTING POLICIES

The preparation of financial statements in conformity with U.S. GAAP requires us to make estimates and assumptions that affect the amounts reported in our financial statements and accompanying notes. Actual results could differ from those estimates. As of June 30, 2016, there were no significant changes to our critical accounting policies since the date our annual report on Form 10-K for the year ended December 31, 2015 was filed.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

COMMODITY PRICE RISK

We are exposed to market risks related to the volatility in the price of crude oil, refined products (primarily gasoline and distillate), grain (primarily corn), soybean oil, and natural gas used in our operations. To reduce the impact of price volatility on our results of operations and cash flows, we use commodity derivative instruments, including swaps, futures, and options to manage the volatility of:

- inventories and firm commitments to purchase inventories generally for amounts by which our current year inventory levels (determined on a last-in, first-out (LIFO) basis) differ from our previous year-end LIFO inventory levels, and
- forecasted feedstock and refined product purchases, refined product sales, natural gas purchases, and corn purchases to lock in the price of those forecasted transactions at existing market prices that we deem favorable.

We use the futures markets for the available liquidity, which provides greater flexibility in transacting our price risk activities. We use swaps primarily to manage our price exposure. We also enter into certain commodity derivative instruments for trading purposes to take advantage of existing market conditions related to future results of operations and cash flows.

Our positions in commodity derivative instruments are monitored and managed on a daily basis by our risk control group to ensure compliance with our stated risk management policy that has been approved by our board of directors.

The following sensitivity analysis includes all positions at the end of the reporting period with which we have market risk (in millions):

	Derivative Instruments Held For	
	Non-Trading Purposes	Trading Purposes
June 30, 2016:		
Gain (loss) in fair value resulting from:		
10% increase in underlying commodity prices	\$ (11)	\$ (5)
10% decrease in underlying commodity prices	10	—
December 31, 2015:		
Gain (loss) in fair value resulting from:		
10% increase in underlying commodity prices	(45)	—
10% decrease in underlying commodity prices	45	5

See Note 13 of Condensed Notes to Consolidated Financial Statements for notional volumes associated with these derivative contracts as of June 30, 2016 .

COMPLIANCE PROGRAM PRICE RISK

We are exposed to market risk related to the volatility in the price of biofuel credits and GHG emission credits needed to comply with various governmental and regulatory programs. To manage these risks, we enter into contracts to purchase these credits when prices are deemed favorable. Some of these contracts are derivative instruments; however, we elect the normal purchase exception and do not record these contracts at their fair values. As of June 30, 2016, there was an immaterial amount of gain or loss in the fair value of derivative instruments that would result from a 10 percent increase or decrease in the underlying price of the contracts. See Note 13 of Condensed Notes to Consolidated Financial Statements for a discussion about these compliance programs.

INTEREST RATE RISK

The following table provides information about our debt instruments, the fair values of which are sensitive to changes in interest rates. Principal cash flows and related weighted-average interest rates by expected maturity dates are presented.

June 30, 2016									
	Expected Maturity Dates						There- after	Total	Fair Value
	2016	2017	2018	2019	2020				
Debt:									
Fixed rate	\$ —	\$ 950	\$ —	\$ 750	\$ 850	\$ 4,474	\$ 7,024	\$ 7,862	
Average interest rate	—%	6.4%	—%	9.4%	6.1%	6.3%	6.6%		
Floating rate (a)	\$ 100	\$ —	\$ —	\$ —	\$ 314	\$ 56	\$ 470	\$ 470	
Average interest rate	1.2%	—%	—%	—%	1.8%	3.4%	1.8%		

(a) As of June 30, 2016, we had an interest rate swap associated with \$56 million of our floating rate debt, resulting in an effective interest rate of 3.85 percent. The fair value of the swap was immaterial.

December 31, 2015									
	Expected Maturity Dates						There- after	Total	Fair Value
	2016	2017	2018	2019	2020				
Debt:									
Fixed rate	\$ —	\$ 950	\$ —	\$ 750	\$ 850	\$ 4,474	\$ 7,024	\$ 7,467	
Average interest rate	—%	6.4%	—%	9.4%	6.1%	6.3%	6.6%		
Floating rate	\$ 117	\$ —	\$ —	\$ —	\$ 175	\$ —	\$ 292	\$ 292	
Average interest rate	1.7%	—%	—%	—%	1.5%	—%	1.6%		

FOREIGN CURRENCY RISK

As of June 30, 2016, we had commitments to purchase \$356 million of U.S. dollars. Our market risk was minimal on these contracts, as all of them matured on or before July 31, 2016.

Item 4. Controls and Procedures

(a) Evaluation of disclosure controls and procedures.

Our management has evaluated, with the participation of our principal executive officer and principal financial officer, the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934) as of the end of the period covered by this report, and has concluded that our disclosure controls and procedures were effective as of June 30, 2016 .

(b) Changes in internal control over financial reporting.

There has been no change in our internal control over financial reporting that occurred during our last fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

The information below describes new proceedings or material developments in proceedings that we previously reported in our annual report on Form 10-K for the year ended December 31, 2015 .

Litigation

We hereby incorporate by reference into this Item our disclosures made in Part I, Item 1 of this report included in Note 5 of Condensed Notes to Consolidated Financial Statements under the caption “*Litigation Matters.*”

Environmental Enforcement Matters

While it is not possible to predict the outcome of the following environmental proceedings, if any one or more of them were decided against us, we believe that there would be no material effect on our financial position, results of operations, or liquidity. We are reporting these proceedings to comply with SEC regulations, which require us to disclose certain information about proceedings arising under federal, state, or local provisions regulating the discharge of materials into the environment or protecting the environment if we reasonably believe that such proceedings will result in monetary sanctions of \$100,000 or more.

U.S. Environmental Protection Agency (EPA) (Ardmore Refinery) . In May 2016, we received a penalty demand in the amount of \$730,820 from the EPA for alleged reporting violations at our Ardmore Refinery. We are currently working with the EPA to resolve the matter.

EPA (Benicia Refinery) . In May 2016, we received settlement communications from the EPA regarding various alleged reporting and storage violations at our Benicia Refinery, which we reasonably believe will result in penalties in excess of \$100,000. We are currently working with the EPA to resolve the matter.

Bay Area Air Quality Management District (BAAQMD) (Benicia Refinery). We currently have multiple outstanding Violation Notices (VNs) issued by the BAAQMD from 2011 to the present. These VNs are for alleged reporting violations and excess emissions at our Benicia Refinery and asphalt plant. In the second quarter of 2016, we entered into an Agreement with BAAQMD to resolve various VNs and continue to work with the BAAQMD to resolve the remaining VNs.

South Coast Air Quality Management District (SCAQMD) (Wilmington Refinery). We currently have multiple Notices of Violations (NOVs) issued by the SCAQMD from 2013 to present. These NOVs are for alleged reporting violations and excess emissions at our Wilmington Refinery. In the second quarter of 2016, we entered into an Agreement with SCAQMD to resolve various NOVs and continue to work with the SCAQMD to resolve the remaining NOVs.

Texas Commission on Environmental Quality (TCEQ) (McKee Refinery). In May 2016, we received a proposed Agreed Order in the amount of \$121,314 from the TCEQ as an administrative penalty for alleged excess emissions at our McKee Refinery. We are working with the TCEQ to resolve the matter.

TCEQ (Port Arthur Refinery). In our quarterly report for the quarter ended March 31, 2016, we reported that we received a Notice of Enforcement (NOE) from the TCEQ for excess emissions at our Port Arthur Refinery. We have resolved this NOE with the TCEQ.

Item 1A. Risk Factors

We disclose the following risk factor in addition to the risk factors we have disclosed in our annual report on Form 10-K for the year ended December 31, 2015 .

Compliance with the U.S. Environmental Protection Agency (EPA) Renewable Fuel Standard (RFS) could adversely affect our performance.

The U.S. Environmental Protection Agency (EPA) has implemented a Renewable Fuel Standard (RFS) pursuant to the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007. The RFS program sets annual quotas for the quantity of renewable fuels (such as ethanol) that must be blended into transportation fuels consumed in the United States. A Renewable Identification Number (RIN) is assigned to each gallon of renewable fuel produced in or imported into the United States. As a producer of petroleum-based transportation fuels, we are obligated to blend renewable fuels into the products we produce at a rate that is at least commensurate to the EPA's quota and, to the extent we do not, we must purchase RINs in the open market to satisfy our obligation under the RFS program.

We are exposed to the volatility in the market price of RINs. We cannot predict the future prices of RINs. RINs prices are dependent upon a variety of factors, including EPA regulations, the availability of RINs for purchase, the price at which RINs can be purchased, and levels of transportation fuels produced, all of which can vary significantly from quarter to quarter. If sufficient RINs are unavailable for purchase or if we have to pay a significantly higher price for RINs, or if we are otherwise unable to meet the EPA's RFS mandates, our results of operations and cash flows could be adversely affected.

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

(a) *Unregistered Sales of Equity Securities* . Not applicable.

(b) *Use of Proceeds* . Not applicable.

(c) *Issuer Purchases of Equity Securities* . The following table discloses purchases of shares of our common stock made by us or on our behalf during the second quarter of 2016 .

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Not Purchased as Part of Publicly Announced Plans or Programs (a)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (b)
April 2016	8,675	\$ 61.79	8,675	—	\$1.1 billion
May 2016	476,626	\$ 55.43	7,351	469,275	\$1.1 billion
June 2016	7,061,052	\$ 52.97	637	7,060,415	\$692 million
Total	7,546,353	\$ 53.13	16,663	7,529,690	\$692 million

- (a) The shares reported in this column represent purchases settled in the second quarter of 2016 relating to (i) our purchases of shares in open-market transactions to meet our obligations under stock-based compensation plans, and (ii) our purchases of shares from our employees and non-employee directors in connection with the exercise of stock options, the vesting of restricted stock, and other stock compensation transactions in accordance with the terms of our stock-based compensation plans.
- (b) On July 13, 2015, we announced that our board of directors authorized our purchase of up to \$2.5 billion of our outstanding common stock. This authorization has no expiration date. The \$692 million amount stated above describes the approximate dollar value of shares that may yet be purchased under that authorization as of June 30, 2016 .

Item 6. Exhibits

Exhibit

No. Description

- *31.01 Rule 13a-14(a) Certification (under Section 302 of the Sarbanes-Oxley Act of 2002) of principal executive officer.
- *31.02 Rule 13a-14(a) Certification (under Section 302 of the Sarbanes-Oxley Act of 2002) of principal financial officer.
- **32.01 Section 1350 Certifications (as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002).
- ***101 Interactive Data Files

* Filed herewith.

** Furnished herewith.

***Submitted electronically herewith.

SIGNATURE

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.

VALERO ENERGY CORPORATION
(Registrant)

By: /s/ Michael S. Ciskowski
Michael S. Ciskowski
Executive Vice President and
Chief Financial Officer
(Duly Authorized Officer and Principal
Financial and Accounting Officer)

Date: August 4, 2016

**CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002**

I, Joseph W. Gorder, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Valero Energy Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 4, 2016

/s/ Joseph W. Gorder

Joseph W. Gorder
Chief Executive Officer and President

**CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002**

I, Michael S. Ciskowski, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Valero Energy Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 4, 2016

/s/ Michael S. Ciskowski

Michael S. Ciskowski
Executive Vice President and Chief Financial Officer

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Valero Energy Corporation (the Company) on Form 10-Q for the quarter ended June 30, 2016 , as filed with the Securities and Exchange Commission on the date hereof (the Report), the undersigned hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Joseph W. Gorder

Joseph W. Gorder

Chief Executive Officer and President

August 4, 2016

A signed original of the written statement required by Section 906 has been provided to Valero Energy Corporation and will be retained by Valero Energy Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Valero Energy Corporation (the Company) on Form 10-Q for the quarter ended June 30, 2016 , as filed with the Securities and Exchange Commission on the date hereof (the Report), the undersigned hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Michael S. Ciskowski

Michael S. Ciskowski

Executive Vice President and Chief Financial Officer

August 4, 2016

A signed original of the written statement required by Section 906 has been provided to Valero Energy Corporation and will be retained by Valero Energy Corporation and furnished to the Securities and Exchange Commission or its staff upon request.