

VALERO ENERGY CORP/TX
Form 10-Q
August 07, 2017

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, 2017

OR

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

For the transition period from _____ to _____

Commission File Number 1-13175

VALERO ENERGY CORPORATION

(Exact name of registrant as specified in its charter)

Delaware 74-1828067

(State or other jurisdiction of (I.R.S. Employer incorporation or organization) 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, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer

Smaller reporting company Emerging growth company

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the 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 31, 2017 was 441,663,968.

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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, 2017 (unaudited)	December 31, 2016
ASSETS		
Current assets:		
Cash and temporary cash investments	\$ 5,207	\$ 4,816
Receivables, net	4,573	5,901
Inventories	5,674	5,709
Prepaid expenses and other	277	374
Total current assets	15,731	16,800
Property, plant, and equipment, at cost	38,979	37,733
Accumulated depreciation	(11,925)	(11,261)
Property, plant, and equipment, net	27,054	26,472
Deferred charges and other assets, net	3,189	2,901
Total assets	\$ 45,974	\$ 46,173
LIABILITIES AND EQUITY		
Current liabilities:		
Current portion of debt and capital lease obligations	\$ 121	\$ 115
Accounts payable	5,456	6,357
Accrued expenses	955	694
Taxes other than income taxes	1,076	1,084
Income taxes payable	75	78
Total current liabilities	7,683	8,328
Debt and capital lease obligations, less current portion	8,366	7,886
Deferred income taxes	7,254	7,361
Other long-term liabilities	1,906	1,744
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	7,096	7,088
Treasury stock, at cost; 231,498,415 and 222,000,024 common shares	(12,660)	(12,027)
Retained earnings	26,603	26,366
Accumulated other comprehensive loss	(1,123)	(1,410)
Total Valero Energy Corporation stockholders' equity	19,923	20,024
Noncontrolling interests	842	830
Total equity	20,765	20,854
Total liabilities and equity	\$ 45,974	\$ 46,173

See Condensed Notes to Consolidated Financial Statements.

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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,	
	2017	2016	2017	2016
Operating revenues (a)	\$22,254	\$19,584	\$44,026	\$35,298
Costs and expenses:				
Cost of sales (excluding the lower of cost or market inventory valuation adjustment)	19,609	17,120	39,037	30,627
Lower of cost or market inventory valuation adjustment	—	(454)	—	(747)
Operating expenses	1,097	1,001	2,214	2,031
General and administrative expenses	178	159	368	315
Depreciation and amortization expense	499	471	999	956
Asset impairment loss	—	56	—	56
Total costs and expenses	21,383	18,353	42,618	33,238
Operating income	871	1,231	1,408	2,060
Other income, net	16	14	33	23
Interest and debt expense, net of capitalized interest	(119)	(111)	(240)	(219)
Income before income tax expense	768	1,134	1,201	1,864
Income tax expense	196	291	308	508
Net income	572	843	893	1,356
Less: Net income attributable to noncontrolling interests	24	29	40	47
Net income attributable to Valero Energy Corporation stockholders	\$548	\$814	\$853	\$1,309
Earnings per common share	\$1.23	\$1.74	\$1.90	\$2.79
Weighted-average common shares outstanding (in millions)	444	467	446	468
Earnings per common share – assuming dilution	\$1.23	\$1.73	\$1.90	\$2.78
Weighted-average common shares outstanding – assuming dilution (in millions)	446	470	448	471
Dividends per common share	\$0.70	\$0.60	\$1.40	\$1.20
<hr/>				
Supplemental information:				
(a) Includes excise taxes on sales by certain of our international operations	\$1,384	\$1,470	\$2,656	\$2,865

See Condensed Notes to Consolidated Financial Statements.

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VALERO ENERGY CORPORATION
 CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
 (millions of dollars)
 (unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Net income	\$572	\$843	\$893	\$1,356
Other comprehensive income (loss):				
Foreign currency translation adjustment	208	(202)	282	(80)
Net gain on pension and other postretirement benefits	4	3	7	6
Other comprehensive income (loss) before income tax expense (benefit)	212	(199)	289	(74)
Income tax expense (benefit) related to items of other comprehensive income (loss)	1	1	2	(6)
Other comprehensive income (loss)	211	(200)	287	(68)
Comprehensive income	783	643	1,180	1,288
Less: Comprehensive income attributable to noncontrolling interests	24	29	40	48
Comprehensive income attributable to Valero Energy Corporation stockholders	\$759	\$614	\$1,140	\$1,240

See Condensed Notes to Consolidated Financial Statements.

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VALERO ENERGY CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(millions of dollars)
(unaudited)

	Six Months Ended June 30,	
	2017	2016
Cash flows from operating activities:		
Net income	\$893	\$1,356
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization expense	999	956
Lower of cost or market inventory valuation adjustment	—	(747)
Asset impairment loss	—	56
Deferred income tax expense	24	195
Changes in current assets and current liabilities	859	1,130
Changes in deferred charges and credits and other operating activities, net	10	13
Net cash provided by operating activities	2,785	2,959
Cash flows from investing activities:		
Capital expenditures	(572)	(610)
Deferred turnaround and catalyst costs	(308)	(325)
Investment in joint venture	(222)	—
Acquisition of undivided interest in crude system assets	(72)	—
Other investing activities, net	—	4
Net cash used in investing activities	(1,174)	(931)
Cash flows from financing activities:		
Proceeds from debt issuances or borrowings	—	197
Repayments of debt and capital lease obligations	(11)	(24)
Purchase of common stock for treasury	(660)	(665)
Common stock dividends	(627)	(564)
Proceeds from issuance of Valero Energy Partners LP common units	36	—
Distributions to noncontrolling interests (public unitholders) of Valero Energy Partners LP	(18)	(14)
Distributions to other noncontrolling interests	(27)	(33)
Other financing activities, net	(21)	(134)
Net cash used in financing activities	(1,328)	(1,237)
Effect of foreign exchange rate changes on cash	108	20
Net increase in cash and temporary cash investments	391	811
Cash and temporary cash investments at beginning of period	4,816	4,114
Cash and temporary cash investments at end of period	\$5,207	\$4,925

See Condensed Notes to Consolidated Financial Statements.

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VALERO ENERGY CORPORATION
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. BASIS OF PRESENTATION AND SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

General

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. Operating results for the six months ended June 30, 2017 are not necessarily indicative of the results that may be expected for the year ending December 31, 2017.

The balance sheet as of December 31, 2016 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, 2016.

Reclassifications

Effective January 1, 2017, we revised our reportable segments to reflect a new reportable segment — VLP. The results of the VLP segment include the results of Valero Energy Partners LP (VLP), our majority-owned master limited partnership. Our prior period segment information has been retrospectively adjusted to reflect our current segment presentation. See Note 10 for additional information.

Certain amounts reported for the six months ended June 30, 2016 have been reclassified to conform with the 2017 presentation.

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 July 2015, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2015-11, “Inventory (Topic 330),” to simplify the measurement of inventory measured using the first-in, first-out or average cost methods. The provisions of this ASU require the inventory to be measured at the lower of cost and net realizable value rather than the lower of cost or market. Net realizable value is defined as the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. The provisions of this ASU are to be applied prospectively and are effective for annual reporting periods beginning after December 15, 2016, and interim reporting periods within those annual periods, with early adoption permitted. Our adoption of this ASU effective January 1,

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

2017 did not affect our financial position or results of operations since the majority of our inventory is stated at last-in, first-out (LIFO).

In October 2016, the FASB issued ASU No. 2016-16, "Income Taxes (Topic 740)," to improve the accounting for the income tax consequences of intra-entity transfers of assets other than inventory. The provisions of this ASU require an entity to recognize the income tax consequences of intra-entity transfers of assets other than inventory immediately when the transfer occurs. These provisions are effective for annual reporting periods beginning after December 15, 2017, and interim reporting periods within those annual periods, with early adoption permitted. The provisions should be applied on a modified retrospective basis with a cumulative-effect adjustment to the opening balance of retained earnings as of the beginning of the period of adoption to recognize the income tax consequences of intra-entity transfers of assets that occurred before the adoption date. Our early adoption of this ASU using the modified retrospective method effective January 1, 2017 did not have a material affect on our financial position or results of operations. Adoption of this guidance more accurately reflects the economics of an intra-entity asset transfer when it occurs by eliminating the previous exception that prohibited the recognition of the income tax consequences of an intra-entity asset transfer until the asset had been sold to an outside party.

In October 2016, the FASB issued ASU No. 2016-17, "Consolidation (Topic 810)," to provide guidance on how a reporting entity that is a single decision maker of a variable interest entity (VIE) should treat indirect interests in the entity held through related parties that are under common control with the reporting entity when determining whether it is the primary beneficiary. The provisions of this ASU are effective for annual reporting periods beginning after December 15, 2016, and interim reporting periods within those annual periods, with early adoption permitted. The provisions should be applied on a retrospective basis to all relevant prior periods beginning with the fiscal year in which the VIE guidance was adopted with a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. Our adoption of this ASU effective January 1, 2017 did not affect our financial position or results of operations.

In January 2017, the FASB issued ASU No. 2017-01, "Business Combinations (Topic 805)," to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The provisions of this ASU provide a more robust framework to use in determining when a set of assets and activities is a business by clarifying the requirements related to inputs, processes, and outputs. These provisions are to be applied prospectively and are effective for annual reporting periods beginning after December 15, 2017, with early adoption permitted. Our early adoption of this ASU effective January 1, 2017 did not have an effect on our financial position or results of operations. However, more of our future acquisitions may be accounted for as asset acquisitions.

Accounting Pronouncements Not Yet Adopted

In May 2014, the FASB issued ASU No. 2014-09, "Revenue from Contracts with Customers (Topic 606)," to clarify the principles for recognizing revenue. This new standard is effective for annual reporting periods beginning after December 15, 2017, including interim reporting periods within those annual periods. We recently completed our evaluation of the provisions of this standard and concluded that our adoption will not materially change the amount or timing of revenues recognized by us, nor will it materially affect our financial position. The majority of our revenues are generated from the sale of refined petroleum products and ethanol. These revenues are largely based on the current spot (market) prices of the products sold, which represents consideration specifically allocable to the products being sold on a given day, and we recognize

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

those revenues upon delivery and transfer of title to the products to our customers. The time at which delivery and transfer of title occurs is the point when our control of the products is transferred to our customers and when our performance obligation to our customers is fulfilled. We will adopt this new standard effective January 1, 2018, and we expect to use the modified retrospective method of adoption as permitted by the standard. Under that method, the cumulative effect of initially applying the standard is recognized as an adjustment to the opening balance of retained earnings, and revenues reported in the periods prior to the date of adoption are not changed. During 2017, we are developing our revenue disclosures and enhancing our accounting systems.

In January 2016, the FASB issued ASU No. 2016-01, “Financial Instruments—Overall (Subtopic 825-10),” to enhance the reporting model for financial instruments regarding certain aspects of recognition, measurement, presentation, and disclosure. The provisions of this ASU are effective for annual reporting periods beginning after December 15, 2017, and interim reporting periods within those annual periods. This ASU is to be applied using a cumulative-effect adjustment to the balance sheet as of the beginning of the fiscal year of adoption. The adoption of this ASU effective January 1, 2018 will not affect our financial position or results of operations, but will result in revised disclosures.

In February 2016, the FASB issued ASU No. 2016-02, “Leases (Topic 842),” 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 annual reporting periods beginning after December 15, 2018, and interim reporting periods within those annual periods, with early adoption permitted. We will adopt this new standard on January 1, 2019 and we expect to use the modified retrospective method of adoption as permitted by the standard. We are developing enhanced contracting and lease evaluation processes and information systems to support such processes, as well as new and enhanced accounting systems to account for our leases and support the required disclosures. We continue to evaluate the effect that adopting this standard will have on our financial statements and related disclosures.

In March 2017, the FASB issued ASU 2017-07, “Compensation—Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.” The provisions of this ASU require that an employer report the service cost component in the same line item as other compensation costs arising from services rendered by the pertinent employees during the period. It also requires the other components of net periodic pension cost and net periodic postretirement benefit cost to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations. This ASU is to be applied retrospectively for income statement items and prospectively for any capitalized benefit costs. The provisions of this ASU are effective for annual reporting periods beginning after December 15, 2017, and interim reporting periods within those annual periods, with early adoption permitted. The adoption of this ASU effective January 1, 2018 is not expected to materially affect our financial position or results of operations.

In May 2017, the FASB issued ASU 2017-09, “Compensation—Stock Compensation (Topic 718),” to reduce diversity in practice, as well as reduce cost and complexity regarding a change to the terms or conditions of a share-based payment award. The provisions of this ASU are effective for annual reporting periods beginning after December 15, 2017, and interim reporting periods within those annual periods, with early adoption permitted. The adoption of this ASU effective January 1, 2018 will not have an immediate effect on our

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CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

financial position or results of operations as it will be applied prospectively to an award modified on or after adoption.

2. ARUBA DISPOSITION

Prior to the Aruba Disposition discussed below, we recognized an asset impairment loss of \$56 million in June 2016 representing all of the remaining carrying value of our long-lived assets in Aruba. These assets were primarily related to our crude oil and refined petroleum products terminal and transshipment facility in Aruba (collectively, the Aruba Terminal), which were included in our refining segment. We recognized the impairment loss at that time because we concluded that it was more likely than not that we would ultimately transfer ownership of these assets to the Government of Aruba (GOA) as a result of agreements entered into in June 2016 between the GOA, CITGO Aruba Refining N.V. (CAR), and CITGO Petroleum Corporation (together with CAR and certain other affiliates, collectively, CITGO) providing for, among other things, the GOA's lease of those assets to CITGO. (See Note 12 for disclosure related to the method to determine fair value.)

Effective October 1, 2016, we (i) transferred ownership of all of our assets in Aruba, other than certain hydrocarbon inventories and working capital, to Refineria di Aruba N.V., an entity wholly-owned by the GOA, (ii) settled our obligations under various agreements with the GOA, including agreements that required us to dismantle our leasehold improvements under certain conditions, and (iii) sold the working capital of our Aruba operations, including hydrocarbon inventories, to the GOA and CITGO. We refer to this transaction as the "Aruba Disposition." The agreements associated with the Aruba Disposition were finalized in September 2016, including approval of such agreements by the Aruba Parliament. We no longer own any assets or have any operations in Aruba.

3. INVENTORIES

Inventories consisted of the following (in millions):

	June 30, December 31,	
	2017	2016
Refinery feedstocks	\$ 2,254	\$ 2,068
Refined petroleum products and blendstocks	2,941	3,153
Ethanol feedstocks and products	227	238
Materials and supplies	252	250
Inventories	\$ 5,674	\$ 5,709

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. 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 \$454 million and \$747 million for the three and six months ended June 30, 2016, respectively.

As of June 30, 2017 and December 31, 2016, the replacement cost (market value) of LIFO inventories exceeded their LIFO carrying amounts by \$1.1 billion and \$1.9 billion, respectively. As of June 30, 2017

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CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

and December 31, 2016, our non-LIFO inventories accounted for \$421 million and \$641 million, respectively, of our total inventories.

4. DEBT AND CAPITAL LEASE OBLIGATIONS

Debt

There was no significant activity related to our debt during the six months ended June 30, 2017.

During the six months ended June 30, 2016, the following activity occurred related to our debt:

VLP borrowed \$139 million under its \$750 million senior unsecured revolving credit facility (the VLP Revolver) in connection with VLP's acquisition from us of the McKee Terminal Services Business in April 2016, and

one of our consolidated joint ventures entered into a C\$72 million senior secured credit facility.

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

	Facility Amount	Maturity Date	June 30, 2017		Availability
			Outstanding Borrowings	Letters of Credit Issued	
Committed facilities:					
Valero Revolver	\$ 3,000	November 2020	\$ —	\$ 150	\$ 2,850
VLP Revolver	\$ 750	November 2020	\$ 30	\$ —	\$ 720
Canadian Revolver	C\$25	November 2017	C\$—	C\$10	C\$ 15
Accounts receivable sales facility (a)	\$ 1,300	July 2017	\$ 100	n/a	\$ 999
Letter of credit facility	\$ 100	November 2017	n/a	\$ —	\$ 100
Uncommitted facilities:					
Letter of credit facilities	n/a	n/a	n/a	\$ 202	n/a

As of June 30, 2017, the actual availability under the accounts receivable sales facility fell below the facility (a) borrowing capacity to \$1.1 billion due to a decrease in eligible trade receivables. In July 2017, we amended this facility to extend the maturity date from July 2017 to July 2018.

In June 2017, one of our committed letter of credit facilities with a borrowing capacity of \$125 million expired and was not renewed.

As of June 30, 2017 and December 31, 2016, the weighted-average interest rate on the VLP Revolver was 2.5625 percent and 2.3125 percent, respectively. As of June 30, 2017 and December 31, 2016, the weighted-average interest rate on the accounts receivable sales facility was 1.7249 percent and 1.3422 percent, respectively.

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CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Other Disclosures

Interest and debt expense, net of capitalized interest is comprised of the following (in millions):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Interest and debt expense	\$134	\$130	\$268	\$258
Less capitalized interest	15	19	28	39
Interest and debt expense, net of capitalized interest	\$119	\$111	\$240	\$219

Capital Leases

In January 2017, we recognized capital lease assets and related obligations totaling approximately \$490 million for the lease of storage tanks located at three of our refineries. These lease agreements have initial terms of 10 years each with successive 10-year automatic renewals.

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 among 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, limitations, and potential rights for contribution from the other responsible parties. We have recorded a liability for our 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.

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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		
	2017			2016		
	Valero Stockholders Equity	Non- controlling Interests (a)	Total Equity	Valero Stockholders Equity	Non- controlling Interests (a)	Total Equity
Balance as of beginning of period	\$20,024	\$ 830	\$20,854	\$20,527	\$ 827	\$21,354
Net income	853	40	893	1,309	47	1,356
Dividends	(627)	—	(627)	(564)	—	(564)
Stock-based compensation expense	25	—	25	23	—	23
Stock purchases in connection with stock-based compensation plans	(13)	—	(13)	(43)	—	(43)
Stock purchases under purchase program	(649)	—	(649)	(610)	—	(610)
Distributions to noncontrolling interests	—	(45)	(45)	—	(47)	(47)
Other	23	17	40	3	—	3
Other comprehensive income (loss)	287	—	287	(69)	1	(68)
Balance as of end of period	\$19,923	\$ 842	\$20,765	\$20,576	\$ 828	\$21,404

(a) The noncontrolling interests relate to third-party ownership interests in VIEs for which we are the primary beneficiary and therefore consolidate. See Note 7 for information about our consolidated VIEs.

Share Activity

There was no significant share activity during the six months ended June 30, 2017 and 2016.

Common Stock Dividends

On July 20, 2017, our board of directors declared a quarterly cash dividend of \$0.70 per common share payable on September 7, 2017 to holders of record at the close of business on August 9, 2017.

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CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Accumulated Other Comprehensive Loss

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

	Six Months Ended June 30,			2016		
	2017		Total	2016		Total
	Foreign Currency Translation Adjustments	Defined Benefit Plans		Foreign Currency Translation Adjustments	Defined Benefit Plans	
Balance as of beginning of period	\$(1,021)	\$(389)	\$(1,410)	\$(605)	\$(328)	\$(933)
Other comprehensive income (loss) before reclassifications	282	—	282	(81)	8	(73)
Amounts reclassified from accumulated other comprehensive loss	—	5	5	—	4	4
Net other comprehensive income (loss)	282	5	287	(81)	12	(69)
Balance as of end of period	\$(739)	\$(384)	\$(1,123)	\$(686)	\$(316)	\$(1,002)

7. VARIABLE INTEREST ENTITIES

Overview

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.

Our significant VIE's include:

• VLP, a publicly traded master limited partnership formed to own, operate, develop, and acquire crude oil and refined petroleum products pipelines, terminals, and other transportation and logistics assets; and

• Diamond Green Diesel Holdings LLC (DGD), a joint venture formed to construct and operate a biodiesel plant that processes animal fats, used cooking oils, and other vegetable oils into renewable green diesel.

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.

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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, 2017			
	VLPDGD	Other	Total	
Assets				
Cash and temporary cash investments	\$88	\$155	\$12	\$255
Other current assets	1	55	—	56
Property, plant, and equipment, net	945	371	130	1,446
Liabilities				
Current liabilities	\$14	\$17	\$6	\$37
Debt and capital lease obligations, less current portion	525	—	45	570
	December 31, 2016			
	VLPDGD	Other	Total	
Assets				
Cash and temporary cash investments	\$71	\$167	\$15	\$253
Other current assets	3	87	—	90
Property, plant, and equipment, net	865	355	133	1,353
Liabilities				
Current liabilities	\$15	\$17	\$7	\$39
Debt and capital lease obligations, less current portion	525	—	46	571

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8.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	
	2017	2016	2017	2016
Three months ended June 30:				
Service cost	\$30	\$28	\$ 2	\$ 1
Interest cost	22	21	2	3
Expected return on plan assets	(38)	(34)	—	—
Amortization of:				
Net actuarial (gain) loss	14	12	(1)	—
Prior service credit	(5)	(5)	(4)	(4)
Net periodic benefit cost (credit)	\$23	\$22	\$ (1)	\$ —

Six months ended June 30:

Service cost	\$61	\$56	\$ 3	\$ 3
Interest cost	43	42	5	6
Expected return on plan assets	(75)	(69)	—	—
Amortization of:				
Net actuarial (gain) loss	27	24	(2)	—
Prior service credit	(10)	(10)	(8)	(8)
Net periodic benefit cost (credit)	\$46	\$43	\$ (2)	\$ 1

We contributed \$14 million and \$14 million, respectively, to our pension plans and \$13 million and \$8 million, respectively, to our other postretirement benefit plans during the six months ended June 30, 2017 and 2016.

Management has elected to increase the discretionary contributions to our pension plans by \$80 million in the third quarter of 2017, resulting in expected contributions to our pension plans of \$108 million for 2017. Our anticipated contributions to our other postretirement benefit plans during 2017 have not changed from the amount previously disclosed in our financial statements for the year ended December 31, 2016.

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9. 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,			
	2017		2016	
	Common Stock	Participating Securities	Common Stock	Participating Securities
Earnings per common share:				
Net income attributable to Valero stockholders	\$ 548		\$ 814	
Less dividends paid:				
Common stock	311		281	
Participating securities	1		1	
Undistributed earnings	\$ 236		\$ 532	
Weighted-average common shares outstanding	2 444		1 467	
Earnings per common share:				
Distributed earnings	\$0.70	\$ 0.70	\$0.60	\$ 0.60
Undistributed earnings	0.53	0.53	1.14	1.14
Total earnings per common share	\$1.23	\$ 1.23	\$1.74	\$ 1.74

Earnings per common share –
assuming dilution:

Net income attributable to Valero stockholders	\$ 548	\$ 814
Weighted-average common shares outstanding	444	467
Common equivalent shares	2	3
Weighted-average common shares outstanding – assuming dilution	446	470
Earnings per common share – assuming dilution	\$ 1.23	\$ 1.73

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	Six Months Ended June 30,				
	2017		2016		
	Participating Securities	Common Stock	Participating Securities	Common Stock	
Earnings per common share:					
Net income attributable to Valero stockholders		\$ 853		\$ 1,309	
Less dividends paid:					
Common stock		625		562	
Participating securities		2		2	
Undistributed earnings		\$ 226		\$ 745	
Weighted-average common shares outstanding	2	446	1	468	
Earnings per common share:					
Distributed earnings		\$1.40	\$ 1.40	\$1.20	\$ 1.20
Undistributed earnings		0.50	0.50	1.59	1.59
Total earnings per common share		\$1.90	\$ 1.90	\$2.79	\$ 2.79
Earnings per common share – assuming dilution:					
Net income attributable to Valero stockholders		\$ 853		\$ 1,309	
Weighted-average common shares outstanding		446		468	
Common equivalent shares		2		3	
Weighted-average common shares outstanding – assuming dilution		448		471	
Earnings per common share – assuming dilution		\$ 1.90		\$ 2.78	

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

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10. SEGMENT INFORMATION

Effective January 1, 2017, we revised our reportable segments to align with certain changes in how our chief operating decision maker manages and allocates resources to our business. Accordingly, we created a new reportable segment — VLP. The results of the VLP segment, which include the results of our majority-owned master limited partnership referred to by the same name, were transferred from the refining segment. Our prior period segment information has been retrospectively adjusted to reflect our current segment presentation.

As a result, we have three reportable segments as follows:

• Refining segment includes our refining operations, the associated marketing activities, and certain logistics assets that support our refining operations that are not owned by VLP;

• Ethanol segment includes our ethanol operations, the associated marketing activities, and logistics assets that support our ethanol operations; and

• VLP segment includes the results of VLP, which provides transportation and terminaling services in support of our refining segment.

Operations that are not included in any of the reportable segments are included in the corporate category.

Our reportable segments are strategic business units that offer different products and services. They are managed separately as each business requires unique technologies and marketing strategies. Performance is evaluated based on segment operating income, which includes revenues and expenses that are directly attributable to the management of the respective segment. Intersegment sales are generally derived from transactions made at prevailing market rates.

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

	Refining	Ethanol	VLP	Corporate and Eliminations	Total
Three months ended June 30, 2017:					
Operating revenues:					
Operating revenues from external customers	\$21,415	\$ 839	\$ —	\$ —	\$22,254
Intersegment revenues	—	28	110	(138)	—
Total operating revenues	21,415	867	110	(138)	22,254
Costs and expenses:					
Cost of sales:					
Cost of sales from external customers	18,899	710	—	—	19,609
Intersegment cost of sales	138	—	—	(138)	—
Total cost of sales	19,037	710	—	(138)	19,609
Operating expenses	965	107	27	(2)	1,097
General and administrative expenses	—	—	—	178	178
Depreciation and amortization expense	454	19	12	14	499
Total costs and expenses	20,456	836	39	52	21,383
Operating income (loss)	\$959	\$ 31	\$ 71	\$ (190)	\$871
Three months ended June 30, 2016:					
Operating revenues:					
Operating revenues from external customers	\$18,664	\$ 920	\$ —	\$ —	\$19,584
Intersegment revenues	—	45	87	(132)	—
Total operating revenues	18,664	965	87	(132)	19,584
Costs and expenses:					
Cost of sales (excluding the lower of cost or market inventory valuation adjustment):					
Cost of sales from external customers	16,322	798	—	—	17,120
Intersegment cost of sales	132	—	—	(132)	—
Total cost of sales (excluding the lower of cost or market inventory valuation adjustment)	16,454	798	—	(132)	17,120
Lower of cost or market inventory valuation adjustment	(434)	(20)	—	—	(454)
Operating expenses (a)	878	99	24	—	1,001
General and administrative expenses	—	—	—	159	159
Depreciation and amortization expense (a)	430	19	11	11	471
Asset impairment loss	56	—	—	—	56
Total costs and expenses	17,384	896	35	38	18,353
Operating income (loss)	\$1,280	\$ 69	\$ 52	\$ (170)	\$1,231

(a) The VLP segment information for the three months ended June 30, 2016 has been retrospectively adjusted for VLP's acquisitions that occurred subsequent to June 30, 2016.

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	Refining	Ethanol	VLP	Corporate and Eliminations	Total
Six months ended June 30, 2017:					
Operating revenues:					
Operating revenues from external customers	\$42,302	\$1,724	\$—	\$ —	\$44,026
Intersegment revenues	—	88	216	(304)	—
Total operating revenues	42,302	1,812	216	(304)	44,026
Costs and expenses:					
Cost of sales:					
Cost of sales from external customers	37,540	1,497	—	—	39,037
Intersegment cost of sales	304	—	—	(304)	—
Total cost of sales	37,844	1,497	—	(304)	39,037
Operating expenses	1,949	216	51	(2)	2,214
General and administrative expenses	—	—	—	368	368
Depreciation and amortization expense	903	46	24	26	999
Total costs and expenses	40,696	1,759	75	88	42,618
Operating income (loss)	\$1,606	\$53	\$141	\$ (392)	\$1,408
Six months ended June 30, 2016:					
Operating revenues:					
Operating revenues from external customers	\$33,584	\$1,714	\$—	\$ —	\$35,298
Intersegment revenues	—	79	166	(245)	—
Total operating revenues	33,584	1,793	166	(245)	35,298
Costs and expenses:					
Cost of sales (excluding the lower of cost or market inventory valuation adjustment):					
Cost of sales from external customers	29,121	1,506	—	—	30,627
Intersegment cost of sales	245	—	—	(245)	—
Total cost of sales (excluding the lower of cost or market inventory valuation adjustment)	29,366	1,506	—	(245)	30,627
Lower of cost or market inventory valuation adjustment	(697)	(50)	—	—	(747)
Operating expenses (a)	1,785	198	48	—	2,031
General and administrative expenses	—	—	—	315	315
Depreciation and amortization expense (a)	879	31	23	23	956
Asset impairment loss	56	—	—	—	56
Total costs and expenses	31,389	1,685	71	93	33,238
Operating income (loss)	\$2,195	\$108	\$95	\$ (338)	\$2,060

(a) The VLP segment information for the six months ended June 30, 2016 has been retrospectively adjusted for VLP's acquisitions that occurred subsequent to June 30, 2016.

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

	June 30, December 31,	
	2017	2016
Refining	\$37,401	\$ 38,095
Ethanol	1,314	1,316
VLP	1,072	972
Corporate	6,187	5,790
Total assets	\$45,974	\$ 46,173

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,	
	2017	2016
Decrease (increase) in current assets:		
Receivables, net	\$1,396	\$(467)
Inventories	123	422
Income taxes receivable	45	169
Prepaid expenses and other	41	14
Increase (decrease) in current liabilities:		
Accounts payable	(942)	1,090
Accrued expenses	262	(113)
Taxes other than income taxes	(41)	7
Income taxes payable	(25)	8
Changes in current assets and current liabilities	\$859	\$1,130

Noncash investing and financing activities during the six months ended June 30, 2017 included the recognition of a capital lease asset and related obligation associated with an agreement for storage tanks near three of our refineries. This noncash transaction is further described in Note 4. There were no significant noncash investing or financing activities during the six months ended June 30, 2016.

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

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

	Six Months Ended June 30, 2017 2016	
Interest paid in excess of amount capitalized	\$235	\$213
Income taxes paid, net	263	137

12. FAIR VALUE MEASUREMENTS

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, 2017 and December 31, 2016.

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, 2017

	Fair Value Hierarchy			Total Fair Value	Effect of Counterparty 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	\$650	\$12	\$—	\$662	\$ (612)	\$ (5)	\$ 45	\$ —
Investments of certain benefit plans	59	—	11	70	n/a	n/a	70	n/a
Total	\$709	\$12	\$11	\$732	\$ (612)	\$ (5)	\$ 115	
Liabilities:								
Commodity derivative contracts	\$605	\$14	\$—	\$619	\$ (612)	\$ (7)	\$ —	\$ (68)
Environmental credit obligations	—	274	—	274	n/a	n/a	274	n/a
Physical purchase contracts	—	4	—	4	n/a	n/a	4	n/a
Foreign currency contracts	10	—	—	10	n/a	n/a	10	n/a
Total	\$615	\$292	\$—	\$907	\$ (612)	\$ (7)	\$ 288	

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	December 31, 2016			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
	Fair Value Hierarchy Level 1	Level 2	Level 3					
Assets:								
Commodity derivative contracts	\$874	\$38	\$ —	\$912	\$ (875)	\$ —	\$ 37	\$ —
Foreign currency contracts	3	—	—	3	n/a	n/a	3	n/a
Investments of certain benefit plans	58	—	11	69	n/a	n/a	69	n/a
Total	\$935	\$38	\$ 11	\$984	\$ (875)	\$ —	\$ 109	
Liabilities:								
Commodity derivative contracts	\$872	\$23	\$ —	\$895	\$ (875)	\$ (20)	\$ —	\$ (88)
Environmental credit obligations	—	188	—	188	n/a	n/a	188	n/a
Physical purchase contracts	—	5	—	5	n/a	n/a	5	n/a
Total	\$872	\$216	\$ —	\$1,088	\$ (875)	\$ (20)	\$ 193	

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.

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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), Quebec's Environmental Quality Act (the Quebec cap-and-trade system), and Ontario's Climate Change Mitigation and Low-Carbon Economy Act (the Ontario 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 levels for assets and liabilities held as of June 30, 2017 and December 31, 2016 that were measured at fair value on a recurring basis.

There was no activity during the three and six months ended June 30, 2017 and 2016 related to the fair value amounts categorized in Level 3 as of June 30, 2017 and December 31, 2016.

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 was 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 assets or liabilities that were measured at fair value on a nonrecurring basis as of June 30, 2017 and December 31, 2016.

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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, 2017		December 31, 2016	
	Carrying	Fair	Carrying	Fair
	Amount	Value	Amount	Value
Financial assets:				
Cash and temporary cash investments	\$5,207	\$5,207	\$4,816	\$4,816
Financial liabilities:				
Debt (excluding capital leases)	7,928	9,129	7,926	8,882

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).

13. PRICE RISK MANAGEMENT ACTIVITIES

We are exposed to market risks primarily related to the volatility in the price of commodities, and 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. The effect of these derivative instruments on our income is summarized below under "Effect of Derivative Instruments on Income."

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 petroleum 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.

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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 petroleum product inventories, (ii) fixed-price purchase contracts, and (iii) forecasted feedstock, refined petroleum product or natural gas purchases and refined petroleum product sales. The objectives of our economic hedges are to hedge price volatility in certain feedstock and refined petroleum product inventories and to lock in the price of forecasted feedstock, refined petroleum product, or natural gas purchases or refined petroleum 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, 2017, 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 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	
	2017	2018
	Crude oil and refined petroleum products:	
Swaps – long	14,194	—
Swaps – short	14,479	—
Futures – long	69,198	7,005
Futures – short	72,906	6,982
Corn:		
Futures – long	35,610	5
Futures – short	64,260	4,545
Physical contracts – long	28,720	4,573
Soybean oil:		
Futures – long	168,178	—
Futures – short	246,957	—

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Trading Derivatives – Our objective for entering into commodity derivative instruments for trading purposes is to take advantage of existing market conditions for crude oil and refined petroleum products.

As of June 30, 2017, 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	
	2017	2018
Crude oil and refined petroleum products:		
Swaps – long	2,070	—
Swaps – short	2,070	—
Futures – long	53,842	20,816
Futures – short	52,419	21,091
Options – long	75,375	102,300
Options – short	75,577	102,300
Natural gas:		
Futures – long	2,500	—
Futures – short	1,750	—
Corn:		
Futures – long	2,500	—
Futures – short	2,500	—

We had no commodity derivative contracts outstanding as of June 30, 2017 and 2016 or during the six months ended June 30, 2017 and 2016 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, 2017, we had forward contracts to purchase \$424 million of U.S. dollars. These commitments matured on or before July 31, 2017.

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

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CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

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 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 \$255 million and \$173 million for the three months ended June 30, 2017 and 2016, respectively, and \$401 million and \$334 million for the six months ended June 30, 2017 and 2016, respectively. These amounts are reflected in cost of sales.

We are subject to additional requirements under greenhouse gas (GHG) emission programs, including the cap-and-trade systems, as discussed in Note 12. Under these cap-and-trade systems, we purchase various GHG 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 three and six months ended June 30, 2017 and 2016 and expect to continue to recover the majority of these costs in the future. For the three and six months ended June 30, 2017 and 2016, 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, 2017 and December 31, 2016 (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.

	Balance Sheet Location	June 30, 2017 Asset Liability Derivatives	
Derivatives not designated as hedging instruments			
Commodity contracts:			
Futures	Receivables, net	\$ 650	\$ 605
Swaps	Receivables, net	8	12
Options	Receivables, net	4	2
Physical purchase contracts	Inventories	—	4
Foreign currency contracts	Accrued expenses	—	10
Total		\$ 662	\$ 633

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CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Balance Sheet Location	December 31, 2016	
	Asset	Liability
Derivatives not designated as hedging instruments	Derivatives	Derivatives
Commodity contracts:		
Futures	Receivables, net \$ 874	\$ 872
Swaps	Receivables, net 32	21
Options	Receivables, net 6	2
Physical purchase contracts	Inventories —	5
Foreign currency contracts	Receivables, net 3	—
Total	\$ 915	\$ 900

Market 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,	
		2017	2016	2017	2016
Commodity contracts	Cost of sales	\$25	\$(113)	\$(72)	\$(252)
Foreign currency contracts	Cost of sales	(20)	4	(26)	1

Trading Derivatives	Location of Gain (Loss) Recognized in Income on Derivatives	Three Months Ended June 30,		Six Months Ended June 30,	
		2017	2016	2017	2016
Commodity contracts	Cost of sales	\$(3)	\$(3)	\$(2)	\$ 38

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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," "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 petroleum 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 petroleum 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, ethanol, and midstream 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 petroleum products or receive feedstocks;
- political and economic conditions in nations that produce crude oil or consume refined petroleum products;
- demand for, and supplies of, refined petroleum 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;

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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 petroleum 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 RINs needed to comply with the U.S. federal Renewable Fuel Standard) and 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 petroleum 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), the Quebec cap-and-trade system, the Ontario 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, 2016 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. GAAP. These non-GAAP financial measures include adjusted net income attributable to Valero stockholders, gross margin, and adjusted operating income. 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" and note (d) to the accompanying tables for reconciliations of these non-GAAP financial measures to the most directly comparable U.S. GAAP financial measures. Also in note (d), we disclose the reasons why we believe our use of the non-GAAP financial measures provides useful information.

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OVERVIEW AND OUTLOOK

Overview

Second Quarter Results

In the second quarter of 2017, we reported net income attributable to Valero stockholders of \$548 million compared to \$814 million in the second quarter of 2016, which represents a decrease of \$266 million. This decrease is primarily due to lower operating income between the periods (net of the resulting decrease of \$95 million in income tax expense). Operating income was \$871 million in the second quarter of 2017 compared to \$1.2 billion in the second quarter of 2016, which represents a decrease of \$360 million.

Operating income and net income attributable to Valero stockholders in the second quarter of 2016 were positively impacted by a noncash benefit from a lower of cost or market inventory valuation adjustment, partially offset by a noncash charge from an impairment loss related to our Aruba Terminal. By excluding these items, adjusted operating income was \$833 million and adjusted net income attributable to Valero stockholders was \$503 million for the second quarter of 2016. Compared to these adjusted amounts, operating income and net income attributable to Valero stockholders in the second quarter of 2017 increased by \$38 million and \$45 million, respectively.

The \$38 million increase in adjusted operating income is due primarily to the following:

Refining segment. Refining segment operating income increased by \$57 million due to higher margins on refined petroleum products and higher throughput volumes, partially offset by lower discounts on sour crude oils, higher cost of biofuel credits, an increase in charges from the VLP segment related to additional transportation and terminaling services provided by that segment to the refining segment, and higher operating expenses. This is more fully described on pages 40 through 42.

Ethanol segment. Ethanol segment operating income decreased by \$18 million due to lower ethanol and corn related co-product prices and higher operating expenses, partially offset by lower corn prices. This is more fully described on page 42.

VLP segment. VLP segment operating income increased by \$19 million primarily due to incremental revenues generated from transportation and terminaling services provided to the refining segment associated with businesses acquired from Valero in 2016 and the acquisition of an undivided interest in crude system assets in January 2017. This is more fully described on pages 42 and 43.

General and administrative expenses. General and administrative expenses increased by \$19 million primarily due to an increase in legal and environmental reserves and charitable contributions.

First Six Months Results

In the first six months of 2017, we reported net income attributable to Valero stockholders of \$853 million compared to \$1.3 billion in the first six months of 2016, which represents a decrease of \$456 million. This decrease is primarily due to lower operating income between the periods (net of the resulting decrease of \$200 million in income tax expense). Operating income was \$1.4 billion in the first six months of 2017 compared to \$2.1 billion in the first six months of 2016, which represents a decrease of \$652 million.

Operating income and net income attributable to Valero stockholders in the first six months of 2016 were positively impacted by a noncash benefit from a lower of cost or market inventory valuation adjustment, partially offset by a noncash charge from an impairment loss related to our Aruba Terminal. By excluding

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these items, adjusted operating income was \$1.4 billion and adjusted net income attributable to Valero stockholders was \$786 million for the first six months of 2016. Compared to these adjusted amounts, operating income and net income attributable to Valero stockholders in the first six months of 2017 increased by \$39 million and \$67 million, respectively.

The \$39 million increase in adjusted operating income is due primarily to the following:

Refining segment. Refining segment operating income increased by \$52 million due to higher margins on refined petroleum products and higher throughput volumes, partially offset by lower discounts on sour crude oils, higher cost of biofuel credits, an increase in charges from the VLP segment related to additional transportation and terminaling services provided by that segment to the refining segment, and higher operating expenses. This is more fully described on pages 51 through 53.

Ethanol segment. Ethanol segment operating income decreased by \$5 million due to lower corn-related co-product prices and higher operating expenses, partially offset by higher ethanol prices and lower corn prices. This is more fully described on pages 53 and 54.

VLP segment. VLP segment operating income increased by \$46 million due to incremental revenues generated from transportation and terminaling services provided to the refining segment associated with businesses acquired from Valero in 2016 and the acquisition of an undivided interest in crude system assets in January 2017. This is more fully described on page 54.

General and administrative expenses. General and administrative expenses increased by \$53 million primarily due to an increase in legal and environmental reserves and charitable contributions.

Additional details and analysis of the changes in operating income and adjusted operating income for 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 measures reported under U.S. GAAP, are provided below under “RESULTS OF OPERATIONS” beginning on page 34.

Effective January 1, 2017, we revised our reportable segments to reflect a new reportable segment — VLP. The results of operations of the VLP segment were previously included in the refining segment. Our prior period segment information has been retrospectively adjusted to reflect our current segment presentation. See Note 10 of Condensed Notes to Consolidated Financial Statements for additional segment information.

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Outlook

Below are several factors that have impacted or may impact our results of operations during the third quarter of 2017:

Product margins are expected to continue to be supported by strong domestic and export demand.

Medium and heavy sour crude oil discounts are expected to remain narrower than their five-year averages as supplies of sour crude oils in the market remain suppressed.

Sweet crude oil discounts are expected to widen slightly as increased supplies from the Permian Basin are delivered into U.S. Gulf Coast markets.

Ethanol margins are expected to remain weak as domestic inventory levels remain at seasonal highs.

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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 stockholders, adjusted operating income, and gross margin. In note (d) to these tables, we disclose the reasons why we believe our use of non-GAAP financial measures provides useful information.

Effective January 1, 2017, we revised our reportable segments to align with certain changes in how our chief operating decision maker manages and allocates resources to our business. Accordingly, we created a new reportable segment — VLP. The results of the VLP segment, which include the results of our majority-owned master limited partnership referred to by the same name, were transferred from the refining segment. Our prior period segment information has been retrospectively adjusted to reflect our current segment presentation. The narrative following these tables provides an analysis of our results of operations.

Second Quarter Results -
Financial Highlights By Segment and Total Company
(millions of dollars)

	Three Months Ended June 30, 2017					Total Company
	Refining	Ethanol	VLP	Corporate and Eliminations		
Operating revenues:						
Operating revenues from external customers	\$21,415	\$ 839	\$—	\$ —		\$22,254
Intersegment revenues	—	28	110	(138)	—
Total operating revenues	21,415	867	110	(138)	22,254
Costs and expenses:						
Cost of sales:						
Cost of sales from external customers	18,899	710	—	—		19,609
Intersegment cost of sales	138	—	—	(138)	—
Total cost of sales	19,037	710	—	(138)	19,609
Operating expenses	965	107	27	(2)	1,097
General and administrative expenses	—	—	—	178		178
Depreciation and amortization expense	454	19	12	14		499
Total costs and expenses	20,456	836	39	52		21,383
Operating income (loss)	\$959	\$ 31	\$ 71	\$ (190)	871
Other income, net						16
Interest and debt expense, net of capitalized interest						(119)
Income before income tax expense						768
Income tax expense						196
Net income						572
Less: Net income attributable to noncontrolling interests						24
Net income attributable to Valero Energy Corporation stockholders						\$548

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Second Quarter Results -
 Financial Highlights By Segment and Total Company (continued)
 (millions of dollars)

	Three Months Ended June 30, 2016				
	Refining	Ethanol	VLP	Corporate and Eliminations	Total Company
Operating revenues:					
Operating revenues from external customers	\$18,664	\$ 920	\$—	\$ —	\$19,584
Intersegment revenues	—	45	87	(132)	—
Total operating revenues	18,664	965	87	(132)	19,584
Costs and expenses:					
Cost of sales (excluding the lower of cost or market inventory valuation adjustment):					
Cost of sales from external customers	16,322	798	—	—	17,120
Intersegment cost of sales	132	—	—	(132)	—
Total cost of sales (excluding the lower of cost or market inventory valuation adjustment)	16,454	798	—	(132)	17,120
Lower of cost or market inventory valuation adjustment (a)	(434)	(20)	—	—	(454)
Operating expenses (b)	878	99	24	—	1,001
General and administrative expenses	—	—	—	159	159
Depreciation and amortization expense (b)	430	19	11	11	471
Asset impairment loss (c)	56	—	—	—	56
Total costs and expenses	17,384	896	35	38	18,353
Operating income (loss)	\$1,280	\$ 69	\$ 52	\$ (170)	1,231
Other income, net					14
Interest and debt expense, net of capitalized interest					(111)
Income before income tax expense					1,134
Income tax expense					291
Net income					843
Less: Net income attributable to noncontrolling interests					29
Net income attributable to Valero Energy Corporation stockholders					\$814

See note references on pages 49 through 51.

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Second Quarter Results -
 Financial Highlights By Segment and Total Company (continued)
 (millions of dollars)

	Three Months Ended June 30, 2016				Total Company
	Refining	Ethanol	VLP	Corporate and Eliminations	
Reconciliation of actual (U.S. GAAP) to adjusted (non-GAAP) amounts (d)					
Actual and adjusted operating income (loss)					
Operating income (loss)	\$1,280	\$ 69	\$ 52	\$ (170)	\$ 1,231
Exclude adjustments:					
Lower of cost or market inventory valuation adjustment (a)	434	20	—	—	454
Asset impairment loss (c)	(56)	—	—	—	(56)
Adjusted operating income (loss)	\$902	\$ 49	\$ 52	\$ (170)	\$ 833
Actual and adjusted net income attributable to Valero Energy Corporation stockholders					
Net income attributable to Valero Energy Corporation stockholders					\$ 814
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 (c)					(56)
Total adjustments					311
Adjusted net income attributable to Valero Energy Corporation stockholders					\$ 503

See note references on pages 49 through 51.

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Second Quarter Results -
Refining Segment Operating Highlights
(millions of dollars, except per barrel amounts)

	Three Months Ended June 30,		
	2017	2016	Change
Throughput volumes (thousand barrels per day)			
Feedstocks:			
Heavy sour crude oil	517	380	137
Medium/light sour crude oil	508	505	3
Sweet crude oil	1,308	1,196	112
Residuals	228	272	(44)
Other feedstocks	142	170	(28)
Total feedstocks	2,703	2,523	180
Blendstocks and other	316	304	12
Total throughput volumes	3,019	2,827	192
Yields (thousand barrels per day)			
Gasolines and blendstocks	1,458	1,408	50
Distillates	1,167	1,071	96
Other products (e)	434	379	55
Total yields	3,059	2,858	201
Operating statistics			
Gross margin (d)	\$2,378	\$2,210	\$168
Adjusted operating income (d)	\$959	\$902	\$57
Throughput volumes (thousand barrels per day)	3,019	2,827	192
Throughput margin per barrel (f)	\$8.66	\$8.59	\$0.07
Operating costs per barrel:			
Operating expenses	3.51	3.41	0.10
Depreciation and amortization expense	1.66	1.67	(0.01)
Total operating costs per barrel	5.17	5.08	0.09
Adjusted operating income per barrel (g)	\$3.49	\$3.51	\$(0.02)

See note references on pages 49 through 51.

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Second Quarter Results -
Ethanol Segment Operating Highlights
(millions of dollars, except per gallon amounts)

	Three Months Ended June 30,		
	2017	2016	Change
Operating statistics			
Gross margin (d)	\$157	\$167	\$(10)
Adjusted operating income (d)	\$31	\$49	\$(18)
Production volumes (thousand gallons per day)	3,775	3,826	(51)
Gross margin per gallon of production (f)	\$0.46	\$0.48	\$(0.02)
Operating costs per gallon of production:			
Operating expenses	0.31	0.28	0.03
Depreciation and amortization expense	0.06	0.06	—
Total operating costs per gallon of production	0.37	0.34	0.03
Adjusted operating income per gallon of production (g)	\$0.09	\$0.14	\$(0.05)

Second Quarter Results -
VLP Segment Operating Highlights
(millions of dollars, except per barrel amounts)

	Three Months Ended June 30,		
	2017	2016	Change
Volumes (thousand barrels per day)			
Pipeline transportation throughput	1,003	851	152
Terminaling throughput	2,853	2,146	707
Operating statistics			
Pipeline transportation revenue	\$25	\$19	\$6
Pipeline transportation revenue per barrel (f)	\$0.27	\$0.25	\$0.02
Terminaling revenue	\$84	\$68	\$16
Terminaling revenue per barrel (f)	\$0.33	\$0.35	\$(0.02)
Storage and other revenue	\$1	\$—	\$1
Total operating revenues	\$110	\$87	\$23

See note references on pages 49 through 51.

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Second Quarter Results -
Average Market Reference Prices and Differentials
(dollars per barrel, except as noted)

	Three Months Ended		
	2017	2016	Change
Feedstocks			
Brent crude oil	\$50.91	\$46.94	\$ 3.97
Brent less West Texas Intermediate (WTI) crude oil	2.67	1.47	1.20
Brent less Alaska North Slope (ANS) crude oil	0.22	1.22	(1.00)
Brent less Louisiana Light Sweet (LLS) crude oil	0.60	(0.39)	0.99
Brent less Argus Sour Crude Index (ASCI) crude oil (h)	3.94	5.01	(1.07)
Brent less Maya crude oil	7.03	9.21	(2.18)
LLS crude oil	50.31	47.33	2.98
LLS less ASCI crude oil (h)	3.34	5.40	(2.06)
LLS less Maya crude oil	6.43	9.60	(3.17)
WTI crude oil	48.24	45.47	2.77
Natural gas (dollars per million British thermal units (MMBtu))	3.14	2.08	1.06
Products			
U.S. Gulf Coast:			
CBOB gasoline less Brent	10.38	11.13	(0.75)
Ultra-low-sulfur diesel less Brent	10.99	9.47	1.52
Propylene less Brent	0.04	(11.79)	11.83
CBOB gasoline less LLS	10.98	10.74	0.24
Ultra-low-sulfur diesel less LLS	11.59	9.08	2.51
Propylene less LLS	0.64	(12.18)	12.82
U.S. Mid-Continent:			
CBOB gasoline less WTI	14.16	13.77	0.39
Ultra-low-sulfur diesel less WTI	14.60	11.72	2.88
North Atlantic:			
CBOB gasoline less Brent	12.57	14.63	(2.06)
Ultra-low-sulfur diesel less Brent	12.21	11.17	1.04
U.S. West Coast:			
CARBOB 87 gasoline less ANS	23.01	21.56	1.45
CARB diesel less ANS	14.32	14.71	(0.39)
CARBOB 87 gasoline less WTI	25.46	21.81	3.65
CARB diesel less WTI	16.77	14.96	1.81
New York Harbor corn crush (dollars per gallon)	0.26	0.23	0.03

See note references on pages 49 through 51.

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Total Company, Corporate, and Other

Operating revenues increased \$2.7 billion and cost of sales increased \$2.5 billion in the second quarter of 2017 compared to the second quarter of 2016 due primarily to increases in refined petroleum product prices and crude oil feedstock costs, respectively, associated with our refining segment, reflecting improved product margins of \$181 million. This \$181 million margin improvement, along with the positive effect of the \$56 million asset impairment loss related to our Aruba Terminal in the second quarter of 2016, was more than offset by the negative effect of the \$454 million lower of cost or market inventory valuation adjustment in the second quarter of 2016, as well as increases in operating expenses, general and administrative expenses, and depreciation and amortization expense of \$96 million, \$19 million, and \$28 million, respectively, resulting in a decrease in operating income of \$360 million. This decrease in operating income is the primary driver of the \$266 million decrease in net income attributable to Valero stockholders from \$814 million in the second quarter of 2016 to \$548 million in the second quarter of 2017.

Excluding the \$454 million benefit from the lower of cost or market inventory valuation adjustment and the asset impairment loss of \$56 million related to our Aruba Terminal, adjusted operating income for the second quarter of 2016 was \$833 million. Compared to this adjusted amount, operating income increased by \$38 million in the second quarter of 2017 to \$871 million, with improved product margins being partially offset by the increased costs discussed above. Details regarding changes in product margins, operating expenses, and depreciation and amortization expense are discussed by segment in the individual segment analysis below.

General and administrative expenses increased \$19 million in the second quarter of 2017 compared to the second quarter of 2016 primarily due to an increase in legal and environmental reserves and charitable contributions.

Income tax expense decreased \$95 million from the second quarter of 2016 to the second quarter of 2017 primarily as a result of lower income before income tax expense. The effective tax rate of 26 percent in both the second quarter of 2017 and the second quarter of 2016 is lower than the U.S. statutory rate of 35 percent primarily because income from our international operations is taxed at statutory rates that are lower than in the U.S. The effective tax rate for the second quarter of 2017 was also impacted by the favorable resolution of an income tax audit.

Refining Segment Results

Refining segment operating revenues increased \$2.8 billion and cost of sales increased \$2.6 billion in the second quarter of 2017 compared to the second quarter of 2016 primarily due to an increase in refined petroleum product prices and crude oil feedstock costs, respectively, reflecting improved product margins (refining gross margin) of \$168 million. This \$168 million margin improvement, along with the positive effect of the \$56 million impairment loss related to our Aruba Terminal in the second quarter of 2016, was more than offset by the negative effect of the \$434 million lower of cost or market inventory valuation adjustment in the second quarter of 2016, as well as increases in operating expenses and depreciation and amortization expense of \$87 million and \$24 million, respectively, resulting in a decrease in operating income of \$321 million. Excluding the \$434 million benefit from the lower of cost or market inventory valuation adjustment and the asset impairment loss of \$56 million related to our Aruba Terminal, second quarter 2016 adjusted operating income for the refining segment was \$902 million. Compared to this adjusted amount, operating income increased by \$57 million in the second quarter of 2017 to \$959 million, with the \$168 million increase in refining gross margin being partially offset by the \$87 million increase in operating expenses and the \$24 million increase in depreciation and amortization expense.

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Refining gross margin increased \$168 million (a \$0.07 per barrel increase) in the second quarter of 2017 compared to the second quarter of 2016, primarily due to the following:

Increase in distillate margins. We experienced an increase in distillate margins throughout all of our regions in the second quarter of 2017 compared to the second quarter of 2016. For example, the Brent-based benchmark reference margin for U.S. Gulf Coast ultra-low-sulfur diesel was \$10.99 per barrel in the second quarter of 2017 compared to \$9.47 per barrel in the second quarter of 2016, representing a favorable increase of \$1.52 per barrel. Another example is the Brent-based benchmark reference margin for North Atlantic ultra-low-sulfur diesel that was \$12.21 per barrel in the second quarter of 2017 compared to \$11.17 per barrel in the second quarter of 2016, representing a favorable increase of \$1.04 per barrel. We estimate that the increase in distillate margins in the second quarter of 2017 compared to the second quarter of 2016 had a favorable impact to our refining margin of approximately \$195 million.

Higher throughput volumes. Refining throughput volumes increased by 192,000 barrels per day in the second quarter of 2017. We estimate that the increase in refining throughput volumes had a positive impact on our refining margin of approximately \$151 million.

Lower discounts on sour crude oils. The market prices of 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 when pricing terms are favorable. For example, ASCI crude oil sold at a discount of \$3.94 per barrel to Brent crude oil in the second quarter of 2017 compared to a discount of \$5.01 per barrel in the second quarter of 2016, representing an unfavorable decrease of \$1.07 per barrel. Another example is Maya crude oil that sold at a discount of \$7.03 per barrel to Brent crude oil in the second quarter of 2017 compared to a discount of \$9.21 per barrel in the second quarter of 2016, representing a decrease of \$2.18 per barrel. While we benefitted from processing these sour crudes oils in the second quarter of 2017, that benefit declined compared to the second quarter of 2016. We estimate that the reduction in the discounts for sour crude oils that we processed in the second quarter of 2017 had an unfavorable impact to our refining margin of approximately \$105 million.

Higher costs of biofuel credits. As more fully described in Note 13 of Condensed 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 \$82 million from \$173 million in the second quarter of 2016 to \$255 million in the second quarter of 2017.

Increase in charges from VLP. Charges from the VLP segment for transportation and terminaling services increased \$23 million in the second quarter of 2017 compared to the second quarter of 2016 primarily due to new charges from businesses acquired by VLP after the second quarter of 2016. Details regarding the increase in charges from VLP are discussed in the VLP segment analysis below.

The increase of \$87 million in refining segment operating expenses was primarily due to a \$68 million increase in energy costs driven by higher natural gas prices (\$3.14 per MMBtu in the second quarter of 2017 compared to \$2.08 per MMBtu in the second quarter of 2016).

The increase of \$24 million in depreciation and amortization expense was primarily due to an increase of \$23 million in refinery turnaround and catalyst amortization expense primarily due to costs incurred in the

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latter part of 2016 in connection with significant turnaround projects at our Port Arthur and Texas City Refineries.

Ethanol Segment Results

Ethanol segment operating revenues decreased \$98 million and cost of sales decreased \$88 million in the second quarter of 2017 compared to the second quarter of 2016 primarily due to a decrease in both ethanol prices and corn costs, respectively, reflecting lower product margins (ethanol gross margin) of \$10 million. This \$10 million decrease, along with the negative effect of the \$20 million lower of cost or market inventory valuation adjustment in the second quarter of 2016, and an increase in operating expenses of \$8 million, resulted in a total decrease in operating income of \$38 million. Excluding the \$20 million benefit from the lower of cost or market inventory valuation adjustment, second quarter 2016 adjusted operating income for the ethanol segment was \$49 million. Compared to this adjusted amount, operating income decreased by \$18 million in the second quarter of 2017 to \$31 million.

Ethanol segment gross margin decreased \$10 million (a \$0.02 per gallon decrease) in the second quarter of 2017 compared to the second quarter of 2016 primarily due to the following:

Lower ethanol prices. Ethanol prices were slightly lower in the second quarter of 2017 compared to the second quarter of 2016 primarily due to higher industry production, which resulted in excess domestic inventories. For example, the New York Harbor ethanol price was \$1.59 per gallon in the second quarter of 2017 compared to \$1.65 per gallon in the second quarter of 2016. We estimate this decrease had an unfavorable impact to our ethanol segment margins of \$20 million.

Lower co-product prices. A decrease in export demand for corn related co-products, primarily distillers grains, had an unfavorable effect on the prices we received. We estimate that the decrease in corn-related co-product prices had an unfavorable impact to our ethanol margin of \$27 million.

Lower corn prices. Corn prices were lower in the second quarter of 2017 compared to the second quarter of 2016 primarily due to ample corn supplies. For example, the Chicago Board of Trade (CBOT) corn price was \$3.68 per bushel in the second quarter of 2017 compared to \$3.91 per bushel in the second quarter of 2016. We estimate that the decrease in the price of corn had a favorable impact to our ethanol margin of \$40 million.

The increase of \$8 million in ethanol segment operating expenses was primarily due to an increase in energy costs driven by higher natural gas prices (\$3.14 per MMBtu in the second quarter of 2017 compared to \$2.08 per MMBtu in the second quarter of 2016).

VLP Segment Results

VLP segment operating revenues increased \$23 million in the second quarter of 2017 compared to the second quarter of 2016 primarily due to incremental revenues generated from transportation and terminaling services provided to the refining segment associated with businesses and assets acquired after the second quarter of 2016, as discussed below. This \$23 million increase in revenues was partially offset by an increase in operating expenses and depreciation and amortization expense of \$3 million and \$1 million, respectively, resulting in an increase in operating income of \$19 million.

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VLP segment operating revenues increased \$23 million in the second quarter of 2017 compared to the second quarter of 2016, primarily due to the following:

Incremental terminaling throughput from acquired business. VLP experienced a 16 percent increase in terminaling revenues in the second quarter of 2017 compared to the second quarter of 2016 generated by contributions from the Meraux and Three Rivers Terminal Services Business, which was acquired by VLP from Valero in the third quarter of 2016. The incremental throughput volumes generated by this business had a favorable impact to VLP's operating revenues of \$14 million.

Incremental operating revenues from acquired crude system assets. Incremental throughput volumes related to the crude system assets that were acquired by VLP in January 2017 had a favorable impact to VLP's operating revenues of \$3 million.

First Six Months Results -
Financial Highlights By Segment and Total Company
(millions of dollars)

	Six Months Ended June 30, 2017				
	Refining	Ethanol	VLP	Corporate and Eliminations	Total Company
Operating revenues:					
Operating revenues from external customers	\$42,302	\$ 1,724	\$—	\$ —	\$44,026
Intersegment revenues	—	88	216	(304)) —
Total operating revenues	42,302	1,812	216	(304)) 44,026
Costs and expenses:					
Cost of sales:					
Cost of sales from external customers	37,540	1,497	—	—	39,037
Intersegment cost of sales	304	—	—	(304)) —
Total cost of sales	37,844	1,497	—	(304)) 39,037
Operating expenses	1,949	216	51	(2)) 2,214
General and administrative expenses	—	—	—	368	368
Depreciation and amortization expense	903	46	24	26	999
Total costs and expenses	40,696	1,759	75	88	42,618
Operating income (loss)	\$1,606	\$ 53	\$ 141	\$ (392)) 1,408
Other income, net					33
Interest and debt expense, net of capitalized interest					(240)
Income before income tax expense					1,201
Income tax expense					308
Net income					893
Less: Net income attributable to noncontrolling interests					40
Net income attributable to Valero Energy Corporation stockholders					\$ 853

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First Six Months Results -
 Financial Highlights By Segment and Total Company (continued)
 (millions of dollars)

	Six Months Ended June 30, 2016				Total Company
	Refining	Ethanol	VLP	Corporate and Eliminations	
Operating revenues:					
Operating revenues from external customers	\$33,584	\$1,714	\$—	\$—	\$35,298
Intersegment revenues	—	79	166	(245)	—
Total operating revenues	33,584	1,793	166	(245)	35,298
Costs and expenses:					
Cost of sales (excluding the lower of cost or market inventory valuation adjustment):					
Cost of sales from external customers	29,121	1,506	—	—	30,627
Intersegment cost of sales	245	—	—	(245)	—
Total cost of sales (excluding the lower of cost or market inventory valuation adjustment)	29,366	1,506	—	(245)	30,627
Lower of cost or market inventory valuation adjustment (a)	(697)	(50)	—	—	(747)
Operating expenses (b)	1,785	198	48	—	2,031
General and administrative expenses	—	—	—	315	315
Depreciation and amortization expense (b)	879	31	23	23	956
Asset impairment loss (c)	56	—	—	—	56
Total costs and expenses	31,389	1,685	71	93	33,238
Operating income (loss)	\$2,195	\$108	\$95	\$ (338)	2,060
Other income, net					23
Interest and debt expense, net of capitalized interest					(219)
Income before income tax expense					1,864
Income tax expense					508
Net income					1,356
Less: Net income attributable to noncontrolling interests					47
Net income attributable to Valero Energy Corporation stockholders					\$1,309

See note references on pages 49 through 51.

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First Six Months Results -
 Financial Highlights By Segment and Total Company (continued)
 (millions of dollars)

	Six Months Ended June 30, 2016				Total Company
	Refining	Ethanol	VLP	Corporate and Eliminations	
Reconciliation of actual (U.S. GAAP) to adjusted (non-GAAP) amounts (d)					
Actual and adjusted operating income (loss)					
Operating income (loss)	\$2,195	\$ 108	\$ 95	\$ (338)	\$ 2,060
Exclude adjustments:					
Lower of cost or market inventory valuation adjustment (a)	697	50	—	—	747
Asset impairment loss (c)	(56)	—	—	—	(56)
Adjusted operating income (loss)	\$1,554	\$ 58	\$ 95	\$ (338)	\$ 1,369
Actual and adjusted net income attributable to Valero Energy Corporation stockholders					
Net income attributable to Valero Energy Corporation stockholders					\$ 1,309
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 (c)					(56)
Total adjustments					523
Adjusted net income attributable to Valero Energy Corporation stockholders					\$ 786

See note references on pages 49 through 51.

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First Six Months Results -

Refining Segment Operating Highlights

(millions of dollars, except per barrel amounts)

	Six Months Ended June		
	2017	2016	Change
Throughput volumes (thousand barrels per day)			
Feedstocks:			
Heavy sour crude oil	483	404	79
Medium/light sour crude oil	482	519	(37)
Sweet crude oil	1,277	1,184	93
Residuals	231	281	(50)
Other feedstocks	145	152	(7)
Total feedstocks	2,618	2,540	78
Blendstocks and other	311	313	(2)
Total throughput volumes	2,929	2,853	76
Yields (thousand barrels per day)			
Gasolines and blendstocks	1,409	1,393	16
Distillates	1,129	1,069	60
Other products (e)	429	425	4
Total yields	2,967	2,887	80
Operating statistics			
Gross margin (d)	\$4,458	\$4,218	\$ 240
Adjusted operating income (d)	\$1,606	\$1,554	\$ 52
Throughput volumes (thousand barrels per day)	2,929	2,853	76
Throughput margin per barrel (f)	\$8.41	\$8.12	\$0.29
Operating costs per barrel:			
Operating expenses	3.68	3.44	0.24
Depreciation and amortization expense	1.70	1.69	0.01
Total operating costs per barrel	5.38	5.13	0.25
Adjusted operating income per barrel (g)	\$3.03	\$2.99	\$0.04

See note references on pages 49 through 51.

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First Six Months Results -

Ethanol Segment Operating Highlights

(millions of dollars, except per gallon amounts)

	Six Months Ended		
	June 30,		
	2017	2016	Change
Operating statistics			
Gross margin (d)	\$315	\$287	\$28
Adjusted operating income (d)	\$53	\$58	\$(5)
Production volumes (thousand gallons per day)	3,908	3,783	125
Gross margin per gallon of production (f)	\$0.45	\$0.42	\$0.03
Operating costs per gallon of production:			
Operating expenses	0.31	0.29	0.02
Depreciation and amortization expense	0.06	0.05	0.01
Total operating costs per gallon of production	0.37	0.34	0.03
Adjusted operating income per gallon of production (g)	\$0.08	\$0.08	\$—

First Six Months Results -

VLP Segment Operating Highlights

(millions of dollars, except per barrel amounts)

	Six Months Ended		
	June 30,		
	2017	2016	Change
Volumes (thousand barrels per day)			
Pipeline transportation throughput	983	885	98
Terminaling throughput	2,794	1,998	796
Operating statistics			
Pipeline transportation revenue	\$48	\$39	\$9
Pipeline transportation revenue per barrel (f)	\$0.27	\$0.25	\$0.02
Terminaling revenue	\$167	\$127	\$40
Terminaling revenue per barrel (f)	\$0.33	\$0.35	\$(0.02)
Storage and other revenue	\$1	\$—	\$1
Total operating revenues	\$216	\$166	\$50

See note references on pages 49 through 51.

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First Six Months Results -
Average Market Reference Prices and Differentials
(dollars per barrel, except as noted)

	Six Months Ended June		
	2017	2016	Change
Feedstocks			
Brent crude oil	\$52.78	\$41.04	\$11.74
Brent less WTI crude oil	2.74	1.68	1.06
Brent less ANS crude oil	0.52	0.96	(0.44)
Brent less LLS crude oil	0.86	(0.17)	1.03
Brent less ASCI crude oil (h)	4.50	5.19	(0.69)
Brent less Maya crude oil	8.48	9.15	(0.67)
LLS crude oil	51.92	41.21	10.71
LLS less ASCI crude oil (h)	3.64	5.36	(1.72)
LLS less Maya crude oil	7.62	9.32	(1.70)
WTI crude oil	50.04	39.36	10.68
Natural gas (dollars per MMBtu)	3.05	2.01	1.04
Products			
U.S. Gulf Coast:			
CBOB gasoline less Brent	9.58	9.47	0.11
Ultra-low-sulfur diesel less Brent	11.06	8.70	2.36
Propylene less Brent	0.63	(7.09)	7.72
CBOB gasoline less LLS	10.44	9.30	1.14
Ultra-low-sulfur diesel less LLS	11.92	8.53	3.39
Propylene less LLS	1.49	(7.26)	8.75
U.S. Mid-Continent:			
CBOB gasoline less WTI	13.44	11.89	1.55
Ultra-low-sulfur diesel less WTI	14.30	11.38	2.92
North Atlantic:			
CBOB gasoline less Brent	10.63	12.47	(1.84)
Ultra-low-sulfur diesel less Brent	12.14	10.35	1.79
U.S. West Coast:			
CARBOB 87 gasoline less ANS	19.89	19.45	0.44
CARB diesel less ANS	14.58	12.95	1.63
CARBOB 87 gasoline less WTI	22.11	20.17	1.94
CARB diesel less WTI	16.80	13.67	3.13
New York Harbor corn crush (dollars per gallon)	0.26	0.18	0.08

See note references on pages 49 through 51.

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The following notes relate to references on pages 34 through 39 and 43 through 48.

(a) During the three months ended June 30, 2016, we recorded a change in our lower of cost or market inventory valuation reserve that was established on December 31, 2015, resulting in a noncash benefit of \$454 million (\$434 million and \$20 million attributable to our refining and ethanol segments, respectively). During the six months ended June 30, 2016, we recorded a change in our lower of cost or market inventory valuation reserve that was established on December 31, 2015, resulting in a noncash benefit of \$747 million (\$697 million and \$50 million attributable to our refining and ethanol segments, respectively). This adjustment is further discussed in Note 3 of Condensed Notes to Consolidated Financial Statements.

(b) The VLP segment information for the three and six months ended June 30, 2016 has been retrospectively adjusted for VLP's acquisitions that occurred subsequent to June 30, 2016.

(c) Effective October 1, 2016, we (i) transferred ownership of all of our assets in Aruba, other than certain hydrocarbon inventories and working capital, to Refineria di Aruba N.V., an entity wholly-owned by the GOA, (ii) settled our obligations under various agreements with the GOA, including agreements that required us to dismantle our leasehold improvements under certain conditions, and (iii) sold the working capital of our Aruba operations, including hydrocarbon inventories, to the GOA, CITGO Aruba Refining N.V. (CAR), and CITGO Petroleum Corporation (together with CAR and certain other affiliates, collectively, CITGO). We refer to this transaction as the "Aruba Disposition."

In June 2016, we recognized an asset impairment loss of \$56 million representing all of the remaining carrying value of the long-lived assets of our crude oil and refined petroleum products terminal and transshipment facility in Aruba (collectively, the Aruba Terminal). We recognized the impairment loss at that time because we concluded that it was more likely than not that we would ultimately transfer ownership of these assets to the GOA as a result of agreements entered into in June 2016 between the GOA and CITGO providing for, among other things, the GOA's lease of those assets to CITGO.

(d) We use certain financial measures (as noted below) that are not defined under U.S. GAAP and are considered to be non-GAAP measures.

We have defined these non-GAAP measures and believe they are useful to the external users of our financial statements, including industry analysts, investors, lenders, and rating agencies. We believe these measures are useful to assess our ongoing financial performance because, when reconciled to their most comparable U.S. GAAP measures, they provide improved comparability between periods through the exclusion of certain items that we believe are not indicative of our core operating performance and that may obscure our underlying business results and trends. These non-GAAP measures should not be considered as alternatives to their most comparable U.S. GAAP measures nor should they be considered in isolation or as a substitute for an analysis of our results of operations as reported under U.S. GAAP. In addition, these non-GAAP measures may not be comparable to similarly titled measures used by other companies because we may define them differently, which diminishes the utility of these measures.

Non-GAAP measures 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 and its related income tax effect, and the asset impairment loss.

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Gross margin for the refining and ethanol segments is defined as operating income excluding the lower of cost or market inventory valuation adjustment, operating expenses, depreciation and amortization expense, and the asset impairment loss as shown below:

	Three Months Ended June 30,			
	2017		2016	
	Refining	Ethanol	Refining	Ethanol
Reconciliation of operating income to gross margin				
Operating income	\$959	\$ 31	\$1,280	\$ 69
Add back:				
Lower of cost or market inventory valuation adjustment (a)	—	—	(434)	(20)
Operating expenses	965	107	878	99
Depreciation and amortization expense	454	19	430	19
Asset impairment loss	—	—	56	—
Gross margin	\$2,378	\$ 157	\$2,210	\$ 167
	Six Months Ended June 30,			
	2017		2016	
	Refining	Ethanol	Refining	Ethanol
Reconciliation of operating income to gross margin				
Operating income	\$1,606	\$ 53	\$2,195	\$ 108
Add back:				
Lower of cost or market inventory valuation adjustment (a)	—	—	(697)	(50)
Operating expenses	1,949	216	1,785	198
Depreciation and amortization expense	903	46	879	31
Asset impairment loss	—	—	56	—
Gross margin	\$4,458	\$ 315	\$4,218	\$ 287

Adjusted operating income is defined as operating income excluding the lower of cost or market inventory valuation adjustment and asset impairment loss.

- (e) Other products primarily include petrochemicals, gas oils, No. 6 fuel oil, petroleum coke, sulfur, and asphalt.

Throughput margin per barrel represents gross margin (as defined in (d) above) for our refining segment divided by throughput volumes. Gross margin per gallon of production represents gross margin (as defined in (d) above) for our ethanol segment divided by production volumes. Pipeline transportation revenue per barrel and terminaling revenue per barrel represents pipeline transportation revenue and terminaling revenue for our VLP segment divided by pipeline transportation throughput and terminaling throughput volumes, respectively. 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.

Adjusted operating income per barrel represents adjusted operating income (defined in (d) above) for our refining (g) segment divided by throughput volumes. Adjusted operating income per gallon of production represents adjusted operating income (defined in (d) above) for our ethanol segment divided by production volumes. Throughput and

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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.

Average market reference price differentials to Mars crude oil have been replaced by average market reference price differentials to ASCI crude oil. Mars crude oil is one of the three grades of sour crude oil used to create ASCI (h) crude oil, and therefore, ASCI crude oil is a more comprehensive price marker for medium sour crude oil.

Accordingly, the price differentials for ASCI crude oil for the three and six months ended June 30, 2016 are included to conform to the current presentation.

Total Company, Corporate, and Other

Operating revenues increased \$8.7 billion and cost of sales increased \$8.4 billion in the first six months of 2017 compared to the first six months of 2016 due primarily to increases in refined petroleum product prices associated with our refining segment, reflecting improved product margins of \$318 million. This \$318 million margin improvement, along with the positive effect of the \$56 million asset impairment loss related to our Aruba Terminal in the second quarter of 2016, was more than offset by the negative effect of the \$747 million lower of cost or market inventory valuation adjustment in the first six months of 2016, as well as increases in operating expenses, general and administrative expenses, and depreciation and amortization expense of \$183 million, \$53 million, and \$43 million, respectively, resulting in a decrease in operating income of \$652 million. This decrease in operating income is the primary driver of the \$456 million decrease in net income attributable to Valero stockholders from \$1.3 billion in the first six months of 2016 to \$853 million in the first six months of 2017.

Excluding the \$747 million benefit from the lower of cost or market inventory valuation adjustment and the asset impairment loss of \$56 million related to our Aruba Terminal, adjusted operating income for the first six months of 2016 was \$1.4 billion. Compared to this adjusted amount, operating income increased by \$39 million in the first six months of 2017 to \$1.4 billion, with improved product margins being partially offset by the increased costs discussed above. Details regarding changes in product margins, operating expenses, and depreciation and amortization expense are discussed by segment in the individual segment analysis below.

General and administrative expenses increased \$53 million in the first six months of 2017 compared to the first six months of 2016 primarily due to an increase in legal and environmental reserves and charitable contributions.

Income tax expense decreased \$200 million from the first six months of 2016 to the first six months of 2017 primarily as a result of lower income before income tax expense. The effective tax rates of 26 percent in the first six months of 2017 and 27 percent in the first six months of 2016 are lower than the U.S. statutory rate of 35 percent primarily 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 2017 was lower than the rate in the first six months of 2016 primarily due to the favorable resolution of an income tax audit.

Refining Segment Results

Refining segment operating revenues increased \$8.7 billion and cost of sales increased \$8.5 billion in the first six months of 2017 compared to the first six months of 2016 primarily due to an increase in refined petroleum product prices and crude oil feedstock costs, respectively, reflecting improved product margins (refining gross margin) of \$240 million. This \$240 million margin improvement, along with the positive effect of the \$56 million asset impairment loss related to our Aruba Terminal in the second quarter of 2016, was more than offset by the negative effect of the \$697 million lower of cost or market inventory valuation adjustment in the first six months of 2016, as well as increases in operating expenses and depreciation and amortization expense of \$164 million and \$24 million, respectively, resulting in a decrease in operating

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income of \$589 million. Excluding the \$697 million benefit from the lower of cost or market inventory valuation adjustment and the asset impairment loss of \$56 million related to our Aruba Terminal, adjusted operating income for the refining segment in the first six months of 2016 was \$1.6 billion. Compared to this adjusted amount, operating income increased by \$52 million in the first six months of 2017 to \$1.6 billion, with the \$240 million increase in refining gross margin being partially offset by the \$164 million increase in operating expenses and the \$24 million increase in depreciation and amortization expense.

Refining gross margin increased \$240 million (a \$0.29 per barrel increase) in the first six months of 2017 compared to the first six months of 2016, primarily due to the following:

Increase in distillate margins. We experienced an increase in distillate margins throughout all of our regions in the first six months of 2017 compared to the first six months of 2016. For example, the Brent-based benchmark reference margin for U.S. Gulf Coast ultra-low-sulfur diesel was \$11.06 per barrel in the first six months of 2017 compared to \$8.70 per barrel in the first six months of 2016, representing a favorable increase of \$2.36 per barrel. Another example is the Brent-based benchmark reference margin for North Atlantic ultra-low-sulfur diesel that was \$12.14 per barrel in the first six months of 2017 compared to \$10.35 per barrel in the first six months of 2016, representing a favorable increase of \$1.79 per barrel. We estimate that the increase in distillate margins in the first six months of 2017 compared to the first six months of 2016 had a favorable impact to our refining margin of approximately \$445 million.

Higher throughput volumes. Refining throughput volumes increased by 76,000 barrels per day in the first six months of 2017. We estimate that the increase in refining throughput volumes had a positive impact on our refining margin of approximately \$116 million.

Lower discounts on other feedstocks. In addition to crude oil, we utilize other feedstocks, such as residuals, in certain of our refining processes. We benefit when we process these other feedstocks that are priced at a discount to Brent crude oil when pricing terms are favorable. While we benefitted from processing these types of feedstocks in the first six months of 2017, that benefit declined compared to the first six months of 2016. We estimate that the reduction in the discounts for the other feedstocks that we processed in the first six months of 2017 had an unfavorable impact to our refining margin of approximately \$120 million.

Lower discounts on sour crude oils. The market prices of refined products generally track the price of Brent crude oil, which is a benchmark crude oil, and we benefit when we process crude oils that are priced at a discount to Brent crude oil when pricing terms are favorable. For example, ASCI crude oil processed in our U.S. Gulf Coast region sold at a discount of \$4.50 per barrel to Brent crude oil in the first six months of 2017 compared to a discount of \$5.19 per barrel in the first six months of 2016, representing an unfavorable decrease of \$0.69 per barrel. Another example is Maya crude oil, which sold at a discount of \$8.48 per barrel to Brent crude oil in the first six months of 2017 compared to \$9.15 per barrel in the first six months of 2016, representing an unfavorable decrease of \$0.67 per barrel. While we benefitted from processing these sour crude oils in the first six months of 2017, that benefit declined compared to the first six months of 2016. We estimate that the reduction in the discounts for sour crude oils that we processed in the first six months of 2017 had an unfavorable impact to our refining margins of \$71 million.

Higher costs of biofuel credits. As more fully described in Note 13 of Condensed 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

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of these credits (primarily RINs in the U.S.) increased by \$67 million from \$334 million in the first six months of 2016 to \$401 million in the first six months of 2017.

Increase in charges from VLP. Charges from the VLP segment for transportation and terminaling services increased \$50 million in the first six months of 2017 compared to the first six months of 2016 primarily due to new charges from businesses acquired by VLP in 2016. Details regarding the increase in charges from VLP are discussed in the VLP segment analysis below.

The increase of \$164 million in refining segment operating expenses was primarily due to a \$106 million increase in energy costs driven by higher natural gas prices (\$3.05 per MMBtu in the first six months of 2017 compared to \$2.01 per MMBtu in the first six months of 2016) and a \$33 million increase in costs associated with maintenance activities.

The increase of \$24 million in depreciation and amortization expense was primarily due to an increase of \$35 million in refinery turnaround and catalyst amortization expense primarily due to costs incurred in the latter part of 2016 in connection with significant turnaround projects at our Port Arthur and Texas City Refineries, partially offset by the effect of a \$16 million write-off of a cancelled project, which increased depreciation and amortization expense in 2016.

Ethanol Segment Results

Ethanol segment operating revenues increased \$19 million and cost of sales decreased \$9 million in the first six months of 2017 compared to the first six months of 2016 primarily due to an increase in ethanol and corn-related co-product prices and a decrease in corn costs, reflecting improved product margins (ethanol gross margin) of \$28 million. This \$28 million margin improvement was more than offset by the negative effect of the \$50 million lower of cost or market inventory valuation adjustment in the first six months of 2016, as well as increases in operating expenses and depreciation and amortization expense of \$18 million and \$15 million, respectively, resulting in a decrease in operating income of \$55 million. Excluding the \$50 million benefit from the lower of cost or market inventory valuation adjustment, adjusted operating income for the ethanol segment in the first six months of 2016 was \$58 million. Compared to this adjusted amount, operating income decreased by \$5 million in the first six months of 2017 to \$53 million, with the increase in ethanol gross margin being offset by the \$18 million increase in operating expenses and the \$15 million increase in depreciation and amortization expense.

Ethanol segment gross margin increased \$28 million (a \$0.03 per gallon increase) in the six months of 2017 compared to the first six months of 2016 primarily due to the following:

Lower corn prices. Corn prices were lower in the first six months of 2017 compared to the first six months of 2016 due to higher domestic corn supply. For example, the CBOT corn price was \$3.66 per bushel in the first six months of 2017 compared to \$3.77 per bushel in the first six months of 2016. We estimate that the decrease in the price of corn had a favorable impact to our ethanol margin of \$48 million.

Higher ethanol prices. Ethanol prices were slightly higher in the first six months of 2017 compared to the first six months of 2016 primarily due to increased ethanol demand, partially offset by the impact of excess domestic inventories. For example, the New York Harbor ethanol price was \$1.59 per gallon in the first six months of 2017 compared to \$1.55 per gallon in the first six months of 2016. We estimate that the increase in the price of ethanol had a favorable impact to our ethanol margin of \$15 million.

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Increased production volumes. Ethanol margin was favorably impacted by increased production volumes of 125,000 gallons per day in the first six months of 2017 compared to the first six months of 2016 due to improved operating efficiencies and mechanical reliability. We estimate that the increase in production volumes had a positive impact to our ethanol margin of \$11 million.

Lower co-product prices. A decrease in export demand for corn-related co-products, primarily distillers grains, had an unfavorable effect on the prices we received. We estimate that the decrease in corn-related co-product prices had an unfavorable impact to our ethanol margin of \$46 million.

The increase of \$18 million in ethanol segment operating expenses was primarily due to an increase in energy costs driven by higher natural gas prices (\$3.05 per MMBtu in the first six months of 2017 compared to \$2.01 per MMBtu in the first six months of 2016).

The increase of \$15 million in ethanol segment depreciation and amortization expense was primarily due to write-offs of assets that were idled in the first six months of 2017.

VLP Segment Results

VLP segment operating revenues increased \$50 million in the first six months of 2017 compared to the first six months of 2016 primarily due to incremental revenues generated from transportation and terminaling services provided to the refining segment associated with businesses and assets acquired in 2016, as discussed below. This \$50 million increase in revenues was partially offset by higher operating expenses and depreciation and amortization expense of \$3 million and \$1 million, respectively, resulting in an increase in operating income of \$46 million.

VLP segment operating revenues increased \$50 million in the first six months of 2017 compared to the first six months of 2016, primarily due to the following:

Incremental terminaling throughput from acquired businesses. VLP experienced a 22 percent increase in terminaling revenues in the first six months of 2017 compared to the first six months of 2016 generated by contributions from the McKee Terminal Services Business and the Meraux and Three Rivers Terminal Services Business, which were acquired by VLP from Valero in the second and third quarters of 2016, respectively. The incremental throughput volumes generated by these businesses had a favorable impact to VLP's operating revenues of \$37 million.

Incremental operating revenues from acquired crude system assets. Incremental throughput volumes related to the crude system assets that were acquired by VLP in January 2017 had a favorable impact to VLP's operating revenues of \$5 million.

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LIQUIDITY AND CAPITAL RESOURCES

Cash Flows for the Six Months Ended June 30, 2017

Our operations generated \$2.8 billion of cash in the first six months of 2017, driven primarily by net income of \$893 million, noncash charges to income of \$999 million related to depreciation and amortization expense, and a positive change in working capital of \$859 million. 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:

- a decrease in receivables, partially offset by a decrease in accounts payable, primarily as a result of the timing of collections of receivables and payments of invoices, respectively, combined with a decrease in commodity prices;
- an increase in accrued expenses mainly due to the timing of payments on our environmental compliance program obligations; and
- a decrease in inventory volumes held.

The \$2.8 billion of cash generated by our operations, along with (i) net proceeds of \$36 million from VLP’s sale of common units representing limited partner interests to the public and (ii) \$108 million from a favorable foreign exchange rate change on cash, were used mainly to:

- fund \$1.1 billion in capital investments, which include capital expenditures, deferred turnaround and catalyst costs, and equity-method joint venture investments;
- acquire an undivided interest in crude system assets for \$72 million;
- purchase common stock for treasury of \$660 million;
- pay common stock dividends of \$627 million;
- pay distributions to noncontrolling interests of \$45 million; and
- increase available cash on hand by \$391 million.

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, noncash charges to income of \$460 million, and a positive change in working capital of \$1.1 billion. Noncash charges included \$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;

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pay 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 to noncontrolling interests of \$47 million; and

increase available cash on hand by \$811 million.

Capital Investments

For 2017, we expect to incur approximately \$2.7 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 \$1.1 billion for growth strategies, including our 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. We have a 50 percent interest in Diamond Pipeline, which was formed by Plains All American Pipeline, L.P. (Plains) to construct and operate a 440-mile, 20-inch crude oil pipeline with a capacity of up to 200,000 barrels per day. The pipeline will deliver domestic sweet crude oil from the Plains' Cushing, Oklahoma terminal to our Memphis Refinery and will have the ability to connect into the Capline Pipeline. The pipeline is expected to be completed in December 2017 for an estimated cost of \$925 million. We have made cumulative cash contributions of \$352 million into Diamond Pipeline through June 2017 and expect to contribute \$111 million during the remainder of 2017.

Contractual Obligations

As of June 30, 2017, 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, 2017. However, in the ordinary course of business, we recognized capital lease assets and related obligations totaling approximately \$490 million in January 2017 for the lease of storage tanks located at three of our refineries. These lease agreements have initial terms of 10 years each with successive 10-year automatic renewals.

In July 2017, we entered into long-term agreements with Infraestructura Energetica Nova, S.A.B. de C.V. (IEnova) for the receipt, storage, and delivery of refined petroleum products at three terminals, including a marine terminal at the Port of Veracruz, Mexico and two inland terminals near Puebla and Mexico City, Mexico. IEnova plans to construct and operate the terminals, with completion of the Veracruz terminal expected in late 2018 and completion of the Puebla and Mexico City terminals expected in early 2019. The Veracruz, Puebla, and Mexico City terminals are expected to have storage capacity of approximately 1.4 million barrels, 500,000 barrels, and 800,000 barrels, respectively. In addition to our commitments to use these terminals, we also hold options to acquire a 50 percent equity interest in each terminal.

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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 our ratings on our senior unsecured debt are at or above investment grade level as follows:

Rating Agency	Rating	VLP
Moody's Investors Service	Baa2 (stable outlook)	Baa3 (stable outlook)
Standard & Poor's Ratings Services	BBB (stable outlook)	BBB- (stable outlook)
Fitch Ratings	BBB (stable outlook)	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

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

Facility	Amount	Maturity Date	June 30, 2017		Availability
			Outstanding Borrowings	Letters of Credit Issued	
Committed facilities:					
Valero Revolver	\$ 3,000	November 2020	\$ —	\$ 150	\$ 2,850
VLP Revolver	\$ 750	November 2020	\$ 30	\$ —	\$ 720
Canadian Revolver	C\$25	November 2017	C\$—	C\$ 10	C\$ 15
Accounts receivable sales facility (a)	\$ 1,300	July 2017	\$ 100	n/a	\$ 999
Letter of credit facility	\$ 100	November 2017	n/a	\$ —	\$ 100
Uncommitted facilities:					
Letter of credit facilities	n/a	n/a	n/a	\$ 202	n/a

As of June 30, 2017, the actual availability under the accounts receivable sales facility fell below the facility (a) borrowing capacity to \$1.1 billion due to a decrease in eligible trade receivables. In July 2017, we amended this facility to extend the maturity date from July 2017 to July 2018.

Letters of credit issued as of June 30, 2017 expire at various times in 2017 through 2018.

Other Matters Impacting Liquidity and Capital Resources

Stock Purchase Program

On September 21, 2016, our board of directors authorized our purchase of up to an additional \$2.5 billion of our outstanding common stock (the 2016 program) with no expiration date. This authorization was in addition to the remaining amount available under a \$2.5 billion program authorized on July 13, 2015 (the 2015 program). During the first quarter of 2017, we completed our purchases under the 2015 program. As

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of June 30, 2017, we had approximately \$1.9 billion remaining available under the 2016 program. We have no obligation to make purchases under this program.

Pension Plan Funding

As further discussed in Note 8 of Condensed Notes to Consolidated Financial Statements, management has elected to increase the discretionary contributions to our pension plans by \$80 million in the third quarter of 2017, resulting in expected contributions to our pension plans of \$108 million for 2017. Our plan to contribute approximately \$19 million to our other postretirement benefit plans during 2017 remains unchanged.

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 income tax returns from 2010 through 2015, and we have received Revenue Agent Reports (RARs) in connection with the 2010 and 2011 audit. 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 believe that the ultimate settlement of these audits will not be material to our financial position, results of operations, or liquidity.

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, 2017, \$2.7 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 petroleum 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.

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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 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 our financial statements and accompanying notes. Actual results could differ from those estimates. As of June 30, 2017, 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, 2016 was filed.

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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 petroleum 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 LIFO basis) differ from our previous year-end LIFO inventory levels, and forecasted feedstock and refined petroleum product purchases, refined petroleum 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, 2017:		
Gain (loss) in fair value resulting from:		
10% increase in underlying commodity prices	\$ (29)	\$ 3
10% decrease in underlying commodity prices	29	(8)
December 31, 2016:		
Gain (loss) in fair value resulting from:		
10% increase in underlying commodity prices	61	(22)
10% decrease in underlying commodity prices	(61)	11

See Note 13 of Condensed Notes to Consolidated Financial Statements for notional volumes associated with these derivative contracts as of June 30, 2017.

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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, 2017, 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 (dollars in millions), 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, 2017								
	Expected Maturity Dates								
	2017	2018	2019	2020	2021	There- after	Total (a)	Fair Value	
Fixed rate	\$—	\$—	\$750	\$850	\$—	\$6,224	\$7,824	\$8,949	
Average interest rate	— %	— %	9.4 %	6.1 %	— %	5.6 %	6.0 %	%	
Floating rate (b)	\$103	\$5	\$6	\$35	\$6	\$25	\$180	\$180	
Average interest rate	1.8 %	3.4%	3.4 %	2.7 %	3.4%	3.4 %	2.3 %	%	

	December 31, 2016								
	Expected Maturity Dates								
	2017	2018	2019	2020	2021	There- after	Total (a)	Fair Value	
Fixed rate	\$—	\$—	\$750	\$850	\$—	\$6,224	\$7,824	\$8,701	
Average interest rate	— %	— %	9.4 %	6.1 %	— %	5.6 %	6.0 %	%	
Floating rate (b)	\$105	\$5	\$5	\$35	\$5	\$26	\$181	\$181	
Average interest rate	1.4 %	3.4%	3.4 %	2.5 %	3.4%	3.4 %	2.1 %	%	

(a) Excludes unamortized discounts and debt issuance costs.

As of June 30, 2017 and December 31, 2016, we had an interest rate swap associated with \$50 million and (b) \$51 million, respectively, of our floating rate debt resulting in an effective interest rate of 3.85 percent as of each of those reporting dates. The fair value of the swap was immaterial for all periods presented.

FOREIGN CURRENCY RISK

As of June 30, 2017, we had commitments to purchase \$424 million of U.S. dollars. Our market risk was minimal on these contracts, as all of them matured on or before July 31, 2017.

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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, 2017.

(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.

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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, 2016.

Litigation

We 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.

Bay Area Air Quality Management District (BAAQMD) (Benicia Refinery). We currently have multiple outstanding Violation Notices (VNs) issued by the BAAQMD from 2013 to the present. These VNs are for alleged reporting violations and excess emissions at our Benicia Refinery and asphalt plant. We are working with the BAAQMD to resolve these VNs.

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ITEM 1A. RISK FACTORS

There have been no changes from the risk factors disclosed in our annual report on Form 10-K for the year ended December 31, 2016.

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 2017.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Not Purchased as Part of 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 2017	49,835	\$ 65.22	49,835	—	\$2.2 billion
May 2017	2,728,943	\$ 64.72	9,645	2,719,298	\$2.1 billion
June 2017	2,584,584	\$ 64.52	184	2,584,400	\$1.9 billion
Total	5,363,362	\$ 64.63	59,664	5,303,698	\$1.9 billion

The shares reported in this column represent purchases settled in the second quarter of 2017 relating to (i) our purchases of shares in open-market transactions to meet our obligations under stock-based compensation plans and (a)(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.

On September 21, 2016, we announced that our board of directors authorized our purchase of up to \$2.5 billion of our outstanding common stock (the 2016 program) with no expiration date, which was in addition to the remaining (b) amount available under our \$2.5 billion program previously authorized on July 13, 2015 (the 2015 program).

During the first quarter of 2017, we completed our purchases under the 2015 program. As of June 30, 2017, we had \$1.9 billion remaining available for purchase under the 2016 program.

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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.

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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 7, 2017