

VALERO ENERGY CORP/TX

Form 10-K

February 28, 2019

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2018

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, 78249

Texas

(Address

of principal executive offices) (Zip Code)

of

Registrant's

telephone

number,

including

area code:

(210)

345-2000

Securities registered pursuant to Section 12(b) of the Act: Common stock, \$0.01 par value per share listed on the New York Stock Exchange.

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

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

Yes No

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

Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for

such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

Large accelerated filer Accelerated filer Non-accelerated filer

Smaller reporting company Emerging growth company

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the voting and non-voting common stock held by non-affiliates was approximately \$47.5 billion based on the last sales price quoted as of June 29, 2018 on the New York Stock Exchange, the last business day of the registrant's most recently completed second fiscal quarter.

As of January 31, 2019, 417,614,487 shares of the registrant's common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

We intend to file with the Securities and Exchange Commission a definitive Proxy Statement for our Annual Meeting of Stockholders scheduled for April 30, 2019, at which directors will be elected. Portions of the 2019 Proxy Statement are incorporated by reference in Part III of this Form 10-K and are deemed to be a part of this report.

Table of Contents

CROSS-REFERENCE SHEET

The following table indicates the headings in the 2019 Proxy Statement where certain information required in Part III of this Form 10-K may be found.

Form 10-K Item No. and Caption	Heading in 2019 Proxy Statement
10. Directors, Executive Officers and Corporate Governance	Information Regarding the Board of Directors, Independent Directors, Audit Committee, Proposal No. 1 Election of Directors, Information Concerning Nominees and Other Directors, Identification of Executive Officers, Section 16(a) Beneficial Ownership Reporting Compliance, and Governance Documents and Codes of Ethics
11. Executive Compensation	Compensation Committee, Compensation Discussion and Analysis, Executive Compensation, Director Compensation, Pay Ratio Disclosure, and Certain Relationships and Related Transactions
12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	Beneficial Ownership of Valero Securities and Equity Compensation Plan Information
13. Certain Relationships and Related Transactions, and Director Independence	Certain Relationships and Related Transactions and Independent Directors
14. Principal Accountant Fees and Services	KPMG LLP Fees and Audit Committee Pre-Approval Policy

Copies of all documents incorporated by reference, other than exhibits to such documents, will be provided without charge to each person who receives a copy of this Form 10-K upon written request to Valero Energy Corporation, Attn: Secretary, P.O. Box 696000, San Antonio, Texas 78269-6000.

CONTENTS

	PAGE
<u>PART I</u>	<u>1</u>
<u>Items 1. & 2. Business and Properties</u>	<u>1</u>
<u>Overview</u>	<u>1</u>
<u>Available Information</u>	<u>1</u>
<u>Valero's Operations</u>	<u>2</u>
<u>Environmental Matters</u>	<u>13</u>
<u>Properties</u>	<u>13</u>
<u>Item 1A. Risk Factors</u>	<u>14</u>
<u>Item 1B. Unresolved Staff Comments</u>	<u>21</u>
<u>Item 3. Legal Proceedings</u>	<u>21</u>
<u>Item 4. Mine Safety Disclosures</u>	<u>22</u>
 <u>PART II</u>	 <u>22</u>
<u>Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u>	<u>22</u>
<u>Item 6. Selected Financial Data</u>	<u>24</u>
<u>Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations</u>	<u>25</u>
<u>Item 7A. Quantitative and Qualitative Disclosures About Market Risk</u>	<u>60</u>
<u>Item 8. Financial Statements and Supplementary Data</u>	<u>62</u>
<u>Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	<u>139</u>
<u>Item 9A. Controls and Procedures</u>	<u>139</u>
<u>Item 9B. Other Information</u>	<u>139</u>
 <u>PART III</u>	 <u>139</u>
<u>Item 10. Directors, Executive Officers and Corporate Governance</u>	<u>139</u>
<u>Item 11. Executive Compensation</u>	<u>139</u>
<u>Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	<u>139</u>
<u>Item 13. Certain Relationships and Related Transactions, and Director Independence</u>	<u>139</u>
<u>Item 14. Principal Accountant Fees and Services</u>	<u>139</u>
 <u>PART IV</u>	 <u>140</u>
<u>Item 15. Exhibits and Financial Statement Schedules</u>	<u>140</u>
 <u>Signature</u>	 <u>144</u>

Table of Contents

The terms “Valero,” “we,” “our,” and “us,” as used in this report, may refer to Valero Energy Corporation, to one or more of its consolidated subsidiaries, or to all of them taken as a whole. In this Form 10-K, we make certain forward-looking statements, including statements regarding our plans, strategies, objectives, expectations, intentions, and resources under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. You should read our forward-looking statements together with our disclosures beginning on page 25 of this report under the heading: “CAUTIONARY STATEMENT FOR THE PURPOSE OF SAFE HARBOR PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995.”

PART I

ITEMS 1. and 2. BUSINESS AND PROPERTIES

OVERVIEW

We are a Fortune 500 company based in San Antonio, Texas. Our corporate offices are at One Valero Way, San Antonio, Texas, 78249, and our telephone number is (210) 345-2000. We were incorporated in Delaware in 1981 under the name Valero Refining and Marketing Company. We changed our name to Valero Energy Corporation on August 1, 1997. Our common stock trades on the New York Stock Exchange (NYSE) under the trading symbol “VLO.” On January 31, 2019, we had 10,261 employees.

We own 15 petroleum refineries located in the United States (U.S.), Canada, and the United Kingdom (U.K.) with a combined throughput capacity of approximately 3.1 million barrels per day (BPD). Our refineries produce conventional gasolines, premium gasolines, gasoline meeting the specifications of the California Air Resources Board (CARB), diesel, low-sulfur diesel, ultra-low-sulfur diesel, CARB diesel, other distillates, jet fuel, asphalt, petrochemicals, lubricants, and other refined petroleum products. We sell our refined petroleum products in both the wholesale rack and bulk markets, and approximately 7,000 outlets carry our brand names in the U.S., Canada, the U.K., and Ireland. We also own 14 ethanol plants in the Mid-Continent region of the U.S. with a combined production capacity of approximately 1.73 billion gallons per year. We sell our ethanol in the wholesale bulk market.

On January 10, 2019, we completed our acquisition of all of the outstanding publicly held common units of Valero Energy Partners LP (VLP) as described in Note 2 of Notes to Consolidated Financial Statements, which is incorporated herein by reference.

AVAILABLE INFORMATION

Our website address is www.valero.com. Information on our website is not part of this report. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and other reports, as well as any amendments to those reports, filed with (or furnished to) the U.S. Securities and Exchange Commission (SEC) are available on our website (under “Investors”) free of charge, soon after we file or furnish such material. In this same location, we also post our corporate governance guidelines and other governance policies, codes of ethics, and the charters of the committees of our board of directors. These documents are available in print to any stockholder that makes a written request to Valero Energy Corporation, Attn: Secretary, P.O. Box 696000, San Antonio, Texas 78269-6000.

Table of Contents

VALERO'S OPERATIONS

As of December 31, 2018, we had three reportable segments as follows:

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

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

• VLP segment includes the operations of VLP, which is a limited partnership that owns logistics assets that provide transportation and terminaling services to our refining segment.

Financial information about these segments is presented in Note 17 of Notes to Consolidated Financial Statements, which is incorporated herein by reference.

Effective January 1, 2019, 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 — renewable diesel — because of the growing importance of renewable fuels in the market and the growth of our investments in renewable fuels production. The renewable diesel segment includes the operations of Diamond Green Diesel Holdings LLC (DGD), our consolidated joint venture as discussed in Note 12 of Notes to Consolidated Financial Statements. The operations of DGD have been included in the refining segment through December 31, 2018, but were transferred from that segment on January 1, 2019. Also effective January 1, 2019, we no longer have a VLP segment, and we include the operations of VLP in our refining segment. This change was made because of the Merger Transaction with VLP, as defined and discussed in Note 2 of Notes to Consolidated Financial Statements, and the resulting change in how we manage VLP's operations. We no longer manage VLP as a business but as logistics assets that support the operations of our refining segment.

Table of Contents

REFINING

Refining Operations

As of December 31, 2018, our refining operations included 15 petroleum refineries in the U.S., Canada, and the U.K., with a combined total throughput capacity of approximately 3.1 million BPD. The following table presents the locations of these refineries and their approximate feedstock throughput capacities as of December 31, 2018.

Refinery	Location	Throughput Capacity (a) (BPD)
U.S. Gulf Coast:		
Port Arthur	Texas	395,000
Corpus Christi (b)	Texas	370,000
St. Charles	Louisiana	340,000
Texas City	Texas	260,000
Houston	Texas	250,000
Meraux	Louisiana	135,000
Three Rivers	Texas	100,000
		1,850,000
U.S. Mid-Continent:		
McKee	Texas	200,000
Memphis	Tennessee	195,000
Ardmore	Oklahoma	90,000
		485,000
North Atlantic:		
Pembroke	Wales, U.K.	270,000
Quebec City	Quebec, Canada	235,000
		505,000
U.S. West Coast:		
Benicia	California	170,000
Wilmington	California	135,000
		305,000
Total		3,145,000

“Throughput capacity” represents estimated capacity for processing crude oil, inter-mediate, and other feedstocks.

(a) Total estimated crude oil capacity is approximately 2.6 million BPD.

(b) Represents the combined capacities of two refineries – the Corpus Christi East and Corpus Christi West Refineries.

Table of Contents

Total Refining System

The following table presents the percentages of principal charges and yields (on a combined basis) for all of our refineries for 2018, during which period our total combined throughput volumes averaged approximately 3.0 million BPD.

Combined Total Refining System Charges and Yields

Charges:

sour crude oil	30 %
sweet crude oil	47 %
residual fuel oil	8 %
other feedstocks	4 %
blendstocks	11 %

Yields:

gasolines and blendstocks	48 %
distillates	37 %
other products (primarily includes petrochemicals, gas oils, No. 6 fuel oil, petroleum coke, sulfur and asphalt)	15 %

U.S. Gulf Coast

The following table presents the percentages of principal charges and yields (on a combined basis) for the eight refineries in the U.S. Gulf Coast region for 2018, during which period total throughput volumes averaged approximately 1.8 million BPD.

Combined U.S. Gulf Coast Region Charges and Yields

Charges:

sour crude oil	40 %
sweet crude oil	33 %
residual fuel oil	11 %
other feedstocks	5 %
blendstocks	11 %

Yields:

gasolines and blendstocks	45 %
distillates	38 %
other products (primarily includes petrochemicals, gas oils, No. 6 fuel oil, petroleum coke, sulfur and asphalt)	17 %

Port Arthur Refinery. Our Port Arthur Refinery is located on the Texas Gulf Coast approximately 90 miles east of Houston. The refinery processes heavy sour crude oils and other feedstocks into gasoline, diesel, and jet fuel. The refinery receives crude oil by rail, marine docks, and pipelines. Finished products are distributed into the Colonial, Explorer, and other pipelines and across the refinery docks into ships and barges.

Corpus Christi East and West Refineries. Our Corpus Christi East and West Refineries are located on the Texas Gulf Coast along the Corpus Christi Ship Channel. The East Refinery processes sour crude oil, and the West Refinery processes sweet crude oil, sour crude oil, and residual fuel oil. The feedstocks are delivered by tanker and barge via deepwater docking facilities along the Corpus Christi Ship Channel, and West Texas or South Texas crude oil is delivered via pipelines. The refineries' physical locations allow for the transfer

Table of Contents

of various feedstocks and blending components between them. The refineries produce gasoline, aromatics, jet fuel, diesel, and asphalt. Truck racks service local markets for gasoline, diesel, jet fuels, liquefied petroleum gases, and asphalt. These and other finished products are also distributed by ship and barge across docks and third-party pipelines.

St. Charles Refinery. Our St. Charles Refinery is located approximately 25 miles west of New Orleans along the Mississippi River. The refinery processes sour crude oils and other feedstocks into gasoline and diesel. The refinery receives crude oil over docks and has access to the Louisiana Offshore Oil Port. Finished products are shipped over these docks and through our Parkway pipeline and the Bengal pipeline, which ultimately provide access to the Plantation and Colonial pipeline networks.

Texas City Refinery. Our Texas City Refinery is located southeast of Houston on the Houston Ship Channel. The refinery processes crude oils into gasoline, diesel, and jet fuel. The refinery receives its feedstocks by pipeline and by ship or barge via deepwater docking facilities along the Houston Ship Channel. The refinery uses ships and barges, as well as the Colonial, Explorer, and other pipelines for distribution of its products.

Houston Refinery. Our Houston Refinery is located on the Houston Ship Channel. It processes a mix of crude and intermediate oils into gasoline, jet fuel, and diesel. The refinery receives its feedstocks by tankers and barges at deepwater docking facilities along the Houston Ship Channel and by various interconnecting pipelines. The majority of its finished products are delivered to local, mid-continent U.S., and northeastern U.S. markets through various pipelines, including the Colonial and Explorer pipelines.

Meraux Refinery. Our Meraux Refinery is located approximately 15 miles southeast of New Orleans along the Mississippi River. The refinery processes sour and sweet crude oils into gasoline, diesel, jet fuel, and high sulfur fuel oil. The refinery receives crude oil at its dock and has access to the Louisiana Offshore Oil Port. Finished products are shipped from the refinery's dock and through the Colonial pipeline. The refinery is located about 40 miles from our St. Charles Refinery, allowing for integration of feedstocks and refined petroleum product blending.

Three Rivers Refinery. Our Three Rivers Refinery is located in South Texas between Corpus Christi and San Antonio. It processes sweet crude oils into gasoline, distillates, and aromatics. The refinery has access to crude oil from West Texas and South Texas through third-party pipelines and trucks. The refinery distributes its refined petroleum products primarily through third-party pipelines.

Table of Contents

U.S. Mid-Continent

The following table presents the percentages of principal charges and yields (on a combined basis) for the three refineries in the U.S. Mid-Continent region for 2018, during which period total throughput volumes averaged approximately 466,000 BPD.

Combined U.S. Mid-Continent Region Charges and Yields

Charges:

sour crude oil	1 %
sweet crude oil	91 %
blendstocks	8 %

Yields:

gasolines and blendstocks	55 %
distillates	36 %
other products (primarily includes petrochemicals, gas oils, No. 6 fuel oil, and asphalt)	9 %

McKee Refinery. Our McKee Refinery is located in the Texas Panhandle. It processes primarily sweet crude oils into gasoline, diesel, jet fuels, and asphalt. The refinery has access to local and Permian Basin crude oil sources via third-party pipelines. Refined petroleum products are transported primarily via third-party pipelines and rail to markets in Texas, New Mexico, Arizona, Colorado, Oklahoma, and Mexico.

Memphis Refinery. Our Memphis Refinery is located in Tennessee along the Mississippi River. It processes primarily sweet crude oils. Most of its production is gasoline, diesel, and jet fuels. Crude oil supply is primarily from Cushing, Oklahoma over the Diamond pipeline, which began operations in November 2017. Crude oil can be received, along with other feedstocks, via barge. Most of the refinery's products are distributed via truck rack and barges.

Ardmore Refinery. Our Ardmore Refinery is located in Oklahoma, approximately 100 miles south of Oklahoma City. It processes sour and sweet crude oils into gasoline, diesel, and asphalt. The refinery predominantly receives Permian Basin and Cushing-sourced crude oil via third-party pipelines. Refined petroleum products are transported via rail, trucks, and the Magellan pipeline system.

North Atlantic

The following table presents the percentages of principal charges and yields (on a combined basis) for the two refineries in the North Atlantic region for 2018, during which period total throughput volumes averaged approximately 466,000 BPD.

Combined North Atlantic Region Charges and Yields

Charges:

sweet crude oil	81 %
residual fuel oil	7 %
blendstocks	12 %

Yields:

gasoline and blendstocks	45 %
distillates	42 %
other products (primarily includes petrochemicals, gas oils, and No. 6 fuel oil)	13 %

Table of Contents

Pembroke Refinery. Our Pembroke Refinery is located in the County of Pembrokeshire in southwest Wales, U.K. The refinery processes primarily sweet crude oils into gasoline, diesel, jet fuel, heating oil, and low-sulfur fuel oil. The refinery receives all of its feedstocks and delivers some of its products by ship and barge via deepwater docking facilities along the Milford Haven Waterway, with its remaining products being delivered through our Mainline pipeline system and by trucks.

Quebec City Refinery. Our Quebec City Refinery is located in Lévis, Canada (near Quebec City). It processes sweet crude oils into gasoline, diesel, jet fuel, heating oil, and low-sulfur fuel oil. The refinery receives crude oil by ship at its deepwater dock on the St. Lawrence River and by pipeline and ship from western Canada. The refinery transports its products through our pipeline from Quebec City to our terminal in Montreal and to various other terminals throughout eastern Canada by rail, ships, trucks, and third-party pipelines.

U.S. West Coast

The following table presents the percentages of principal charges and yields (on a combined basis) for the two refineries in the U.S. West Coast region for 2018, during which period total throughput volumes averaged approximately 282,000 BPD.

Combined U.S. West Coast Region Charges and Yields

Charges:

sour crude oil	66%
sweet crude oil	9%
other feedstocks	12%
blendstocks	13%

Yields:

gasolines and blendstocks	60%
distillates	26%
other products (primarily includes gas oil, No. 6 fuel oil, petroleum coke, sulfur and asphalt)	14%

Benicia Refinery. Our Benicia Refinery is located northeast of San Francisco on the Carquinez Straits of San Francisco Bay. It processes sour crude oils into gasoline, diesel, jet fuel, and asphalt. Gasoline production is primarily California Reformulated Blendstock Gasoline for Oxygenate Blending (CARBOB), which meets CARB specifications when blended with ethanol. The refinery receives crude oil feedstocks via a marine dock and crude oil pipelines connected to a southern California crude oil delivery system. Most of the refinery's products are distributed via pipeline and truck rack into northern California markets.

Wilmington Refinery. Our Wilmington Refinery is located near Los Angeles, California. The refinery processes a blend of heavy and high-sulfur crude oils. The refinery produces CARBOB gasoline, diesel, CARB diesel, jet fuel, and asphalt. The refinery is connected by pipeline to marine terminals and associated dock facilities that move and store crude oil and other feedstocks. Refined petroleum products are distributed via pipeline systems to various third-party terminals in southern California, Nevada, and Arizona.

Feedstock Supply

Our crude oil feedstocks are purchased through a combination of term and spot contracts. Our term supply agreements are at market-related prices and are purchased directly or indirectly from various national oil companies as well as international and U.S. oil companies. The contracts generally permit the parties to amend the contracts (or terminate them), effective as of the next scheduled renewal date, by giving the other party proper notice within a prescribed period of time (e.g., 60 days, 6 months) before expiration of the

Table of Contents

current term. The majority of the crude oil purchased under our term contracts is purchased at the producer's official stated price (i.e., the "market" price established by the seller for all purchasers) and not at a negotiated price specific to us.

Marketing

Overview

We sell refined petroleum products in both the wholesale rack and bulk markets. These sales include refined petroleum products that are manufactured in our refining operations, as well as refined petroleum products purchased or received on exchange from third parties. Most of our refineries have access to marine transportation facilities and interconnect with common-carrier pipeline systems, allowing us to sell products in the U.S., Canada, the U.K., and other countries.

Wholesale Rack Sales

We sell our gasoline and distillate products, as well as other products, such as asphalt, lube oils, and natural gas liquids (NGLs), on a wholesale basis through an extensive rack marketing network. The principal purchasers of our refined petroleum products from terminal truck racks are wholesalers, distributors, retailers, and truck-delivered end users throughout the U.S., Canada, the U.K., Ireland, and Latin America through our operations in Peru and Mexico.

The majority of our rack volume is sold through unbranded channels. The remainder is sold to distributors and dealers that are members of the Valero-brand family that operate 5,335 branded sites in the U.S., 907 branded sites in the U.K. and Ireland, and 792 branded sites in Canada as of December 31, 2018. These sites are independently owned and are supplied by us under multi-year contracts. For branded sites, products are sold under the Valero®, Beacon®, Diamond Shamrock®, and Shamrock® brands in the U.S., the Texaco® brand in the U.K. and Ireland, and the Ultramar® brand in Canada.

Bulk Sales

We also sell our gasoline and distillate products, as well as other products, such as asphalt, petrochemicals, and NGLs, through bulk sales channels in the U.S. and international markets. Our bulk sales are made to various oil companies, traders, and bulk end-users, such as railroads, airlines, and utilities. Our bulk sales are transported primarily by pipeline, barges, and tankers to major tank farms and trading hubs.

We also enter into refined petroleum product exchange and purchase agreements. These agreements help minimize transportation costs, optimize refinery utilization, balance refined petroleum product availability, broaden geographic distribution, and provide access to markets not connected to our refined product pipeline systems. Exchange agreements provide for the delivery of refined petroleum products by us to unaffiliated companies at our and third-parties' terminals in exchange for delivery of a similar amount of refined petroleum products to us by these unaffiliated companies at specified locations. Purchase agreements involve our purchase of refined petroleum products from third parties with delivery occurring at specified locations.

Logistics

We own logistics assets (crude oil pipelines, refined petroleum product pipelines, terminals, tanks, marine docks, truck rack bays, and other assets) that support our refining operations, and these assets are not owned by VLP. See discussion of the VLP segment on page 10.

Table of Contents

ETHANOL

We own 14 ethanol plants with a combined ethanol production capacity of 1.73 billion gallons per year. Our ethanol plants are dry mill facilities^(a) that process corn to produce ethanol, distillers grains, and corn oil^(b). We source our corn supply from local farmers and commercial elevators. Our facilities receive corn primarily by rail and truck. We publish on our website a corn bid for local farmers and cooperative dealers to facilitate corn supply transactions.

We sell our ethanol primarily to refiners and gasoline blenders under term and spot contracts in bulk markets such as New York, Chicago, the U.S. Gulf Coast, Florida, and the U.S. West Coast. We also export our ethanol into the global markets. We ship our dry distillers grains (DDGs) by truck or rail primarily to animal feed customers in the U.S. and Mexico. We also sell modified distillers grains locally at our plant sites, and corn oil by truck and rail. We distribute our ethanol through logistics assets, which include railcars owned by us.

The following table presents the locations of our ethanol plants, their approximate annual production capacities for ethanol (in millions of gallons) and DDGs (in tons), and their approximate annual corn processing capacities (in millions of bushels).

State	City	Ethanol Production Capacity	Production of DDGs	Corn Processed
Indiana	Bluffton ^(c)	115	302,000	40
	Linden	135	355,000	47
	Mount Vernon	100	263,000	35
Iowa	Albert City	135	355,000	47
	Charles City	140	368,000	49
	Fort Dodge	140	368,000	49
	Hartley	140	368,000	49
	Lakota ^(c)	110	289,000	38
Michigan	Riga ^(c)	55	145,000	19
Minnesota	Welcome	140	368,000	49
Nebraska	Albion	135	355,000	47
Ohio	Bloomington	135	355,000	47
South Dakota	Aurora	140	368,000	49
Wisconsin	Jefferson	110	352,000	41
Total		1,730	4,611,000	606

The combined production of ethanol from our plants averaged 4.1 million gallons per day for 2018.

(a) Ethanol is commercially produced using either the wet mill or dry mill process. Wet milling involves separating the grain kernel into its component parts (germ, fiber, protein, and starch) prior to fermentation. In the dry mill process, the entire grain kernel is ground into flour. The starch in the flour is converted to ethanol during the fermentation process, creating carbon dioxide and distillers grains.

(b) During fermentation, nearly all of the starch in the grain is converted into ethanol and carbon dioxide, while the remaining nutrients (proteins, fats, minerals, and vitamins) are concentrated to yield corn oil, modified distillers grains, or, after further drying, dried distillers grains. Distillers grains generally are an economical partial replacement for corn and soybeans in feeds for cattle, swine, and poultry. Corn oil is produced as fuel grade and feed grade (not for human consumption), and is sold primarily as a feedstock for biodiesel or renewable diesel production with a smaller percentage sold into animal feed markets.

The Bluffton, Lakota, and Riga plants were acquired from two subsidiaries of Green Plains Inc. in November 2018. (c) The annual ethanol, DDG production, and corn processing capacities for these ethanol plants were only applicable for November and December of 2018.

Table of Contents

VLP

VLP is a limited partnership that owns and operates crude oil and refined petroleum products pipeline and terminal systems in the U.S. Gulf Coast and U.S. Mid-Continent regions that provide transportation and terminaling services to our refining segment and are integral to the operations of our Ardmore, Corpus Christi East and West, Houston, McKee, Memphis, Meraux, Port Arthur, St. Charles, and Three Rivers Refineries.

The following table summarizes information with respect to VLP's pipelines:

Pipeline	Diameter (inches)	Length (miles)	Throughput Capacity (thousand BPD)	Commodity	Associated Valero Refinery	Significant Third-party System Connections
Ardmore logistics system						
Hewitt segment of Red River crude oil pipeline	16	138	60 ^(a)	crude oil	Ardmore	Plains Red River, Plains Cushing
Wynnewood refined products pipeline	12	30	90	refined petroleum products	Ardmore	Magellan Central
McKee logistics system						
McKee crude system	multiple segments	145	72	crude oil	McKee	—
McKee products system						
McKee to El Paso pipeline	10	408	21 ^(b)	refined petroleum products	McKee	—
SFPP pipeline connection	16, 8	12	33 ^(c)	refined petroleum products	McKee	Kinder Morgan SFPP System
Memphis logistics system ^(d)						
Collierville crude system						
Collierville pipeline	10-20	52	210	crude oil	Memphis	Capline; Diamond ^(e)
Memphis products system						
Memphis Airport pipeline system	6	11	20	jet fuel	Memphis	Memphis International Airport
Shorthorn pipeline system	14, 12	9	120	refined petroleum products	Memphis	Exxon Memphis
Port Arthur logistics system						
Lucas crude system						
Lucas pipeline	30	12	400	crude oil	Port Arthur	

Nederland pipeline	32	5	600	crude oil	Port Arthur	Sunoco Logistics Nederland; Enterprise Beaumont; Cameron Highway; TransCanada Cushing MarketLink; Seaway
Port Arthur products system						Sunoco Logistics Nederland
12-10 pipeline	12, 10	13	60	refined petroleum products	Port Arthur	Sunoco Logistics MagTex; Enterprise TE Products, Enterprise Beaumont
20-inch diesel pipeline	20	3	216	diesel	Port Arthur	Explorer; Colonial
20-inch gasoline pipeline	20	4	144	gasoline	Port Arthur	Explorer; Colonial
St. Charles logistics system						
Parkway pipeline	16	140	110	refined petroleum products	St. Charles	Plantation; Colonial
Three Rivers logistics system						
Three Rivers crude system	12	3	110	crude oil	Three Rivers	Harvest Arrowhead; Plains Gardendale; EOG Eagle Ford West

See notes on page 12.

Table of Contents

The following table summarizes information with respect to VLP's terminals:

Terminal	Tank Storage Capacity (thousands of barrels)	Throughput Capacity (thousand BPD)	Commodity	Associated Valero Refinery	Significant Third-party System Connections
Ardmore logistics system					
Hewitt Station tanks	300	—	crude oil	Ardmore	Plains Red River
Wynnewood terminal	180	—	refined petroleum products	Ardmore	Magellan Central
Corpus Christi logistics system					
Corpus Christi East terminal	6,241	—	crude oil and refined petroleum products	Corpus Christi East	Eagle Ford Pipeline LLC; NuStar North Beach terminal, Eagle Ford pipelines & South Texas pipeline network
Corpus Christi West terminal	3,835	—	crude oil and refined petroleum products	Corpus Christi West	(same as Corpus Christi East terminal)
Houston logistics system					
Houston terminal	3,642	—	crude oil and refined petroleum products	Houston	HFOTCO; Magellan crude; Seaway; Kinder Morgan Pasadena & Galena Park; Magellan East Houston & Galena Park
McKee logistics system					
McKee crude system					
Various terminals	240	—	crude oil	McKee	—
McKee products system					
El Paso terminal	166 ^(f)	—	refined petroleum products	McKee	Kinder Morgan SFPP System
El Paso terminal truck rack	—	10 ^(g)	refined petroleum products	McKee	—
McKee terminal	4,400	—	crude oil and refined petroleum products	McKee	NuStar (several); NuStar/Phillips Denver
Memphis logistics system					
Collierville crude system					
Collierville terminal	975	—	crude oil	Memphis	Capline
St. James crude tank	330	—	crude oil	Memphis	Capline
Memphis products system					

Edgar Filing: VALERO ENERGY CORP/TX - Form 10-K

Memphis truck rack	8	110	refined petroleum products	Memphis	—
West Memphis terminal	1,080	—	refined petroleum products	Memphis	Exxon Memphis; Enterprise TE Products
West Memphis terminal dock	—	4 ^(h)	refined petroleum products	Memphis	—
West Memphis terminal truck rack	—	50	refined petroleum products	Memphis	—
Meraux logistics system					
Meraux terminal	3,900	—	crude oil and refined petroleum products	Meraux	LOOP; CAM; Plantation; Colonial

See notes on page 12.

Table of Contents

Terminal	Tank Storage Capacity (thousands of barrels)	Throughput Capacity (thousand BPD)	Commodity	Associated Valero Refinery	Significant Third-party System Connections
Port Arthur logistics system Lucas crude system					Sunoco Logistics Nederland; Enterprise Beaumont; Cameron Highway; TransCanada Cushing MarketLink; Seaway
Lucas terminal	1,915	—	crude oil	Port Arthur	
Seaway connection	—	750	crude oil	Port Arthur	Seaway
TransCanada connection	—	400	crude oil	Port Arthur	TransCanada Cushing MarketLink
Port Arthur products system					
El Vista terminal	1,210	—	gasoline	Port Arthur	Explorer; Colonial
PAPS terminal	1,144	—	diesel	Port Arthur	Explorer; Colonial
Port Arthur terminal	8,500	—	crude oil and refined petroleum products	Port Arthur	Sunoco Logistics Nederland; Explorer; Colonial; Sunoco Logistics MagTex; Cameron Highway; TransCanada Cushing MarketLink; Enterprise Beaumont
St. Charles logistics system					
St. Charles terminal	10,004	—	crude oil and refined petroleum products	St. Charles	LOOP; CAM; Plantation; Colonial
Diamond Green Diesel tank	180		renewable diesel	n/a	n/a
Three Rivers logistics system					
Three Rivers terminal	2,250	—	crude oil and refined petroleum products	Three Rivers	NuStar South Texas; Harvest Arrowhead; Plains Gardendale; EOG Eagle Ford West

(a) Capacity shown represents VLP's 40 percent undivided interest in the pipeline segment. Total capacity for the pipeline segment is 150,000 BPD.

(b) Capacity shown represents VLP's 33 percent undivided interest in the pipeline. Total capacity for the pipeline is 63,000 BPD.

(c) Capacity shown represents VLP's 33 percent undivided interest in the pipeline connection. Total capacity for the pipeline connection is 98,400 BPD.

(d)

Portions of VLP's Memphis logistics system pipelines are owned by Memphis Light, Gas and Water (MLGW), but they are operated and maintained exclusively by VLP under long-term arrangements with MLGW.

(e) The Diamond pipeline is owned 50 percent by Valero and 50 percent by Plains All American Pipeline, L.P.

(f) Capacity shown represents VLP's 33 percent undivided interest in the terminal. Total storage capacity is 499,000 barrels.

(g) Capacity shown represents VLP's 33 percent undivided interest in the truck rack. Total capacity is 30,000 BPD.

(h) Dock throughput is reflected in thousands of barrels per hour.

Table of Contents

ENVIRONMENTAL MATTERS

We incorporate by reference into this Item the environmental disclosures contained in the following sections of this report:

• Item 1A, “Risk Factors”—Compliance with and changes in environmental laws, including proposed climate change laws and regulations, could adversely affect our performance;

• Item 1A, “Risk Factors”—Compliance with the U.S. Environmental Protection Agency Renewable Fuel Standard could adversely affect our performance;

• Item 1A, “Risk Factors”—We may incur additional costs as a result of our use of rail cars for the transportation of crude oil and the products that we manufacture;

• Item 3, “Legal Proceedings” under the caption “Environmental Enforcement Matters,” and;

• Item 8, “Financial Statements and Supplementary Data” in Note 8 of Notes to Consolidated Financial Statements and Note 10 of Notes to Consolidated Financial Statements under the caption “Environmental Matters.”

Capital Expenditures Attributable to Compliance with Environmental Regulations. In 2018, our capital expenditures attributable to compliance with environmental regulations were \$270 million, and they are currently estimated to be \$170 million for 2019 and \$15 million for 2020. The estimates for 2019 and 2020 do not include amounts related to capital investments at our facilities that management has deemed to be strategic investments. These amounts could materially change as a result of governmental and regulatory actions.

PROPERTIES

Our principal properties are described above under the caption “Valero’s Operations,” and that information is incorporated herein by reference. We believe that our properties and facilities are generally adequate for our operations and that our facilities are maintained in a good state of repair. As of December 31, 2018, we were the lessee under a number of cancelable and noncancelable leases for certain properties. Our leases are discussed in Notes 9 and 10 of Notes to Consolidated Financial Statements. Financial information about our properties is presented in Note 6 of Notes to Consolidated Financial Statements and is incorporated herein by reference.

Our patents relating to our refining operations are not material to us as a whole. The trademarks and tradenames under which we conduct our branded wholesale business — Valero®, Diamond Shamrock®, Shamrock®, Ultramar®, Beacon®, and Texaco®— and other trademarks employed in the marketing of refined petroleum products are integral to our wholesale rack marketing operations.

Table of Contents

ITEM 1A. RISK FACTORS

You should carefully consider the following risk factors in addition to the other information included in this report. Each of these risk factors could adversely affect our business, operating results, and/or financial condition, as well as adversely affect the value of an investment in our common stock.

Our financial results are affected by volatile refining margins, which are dependent upon factors beyond our control, including the price of crude oil and the market price at which we can sell refined petroleum products.

Our financial results are primarily affected by the relationship, or margin, between refined petroleum product prices and the prices for crude oil and other feedstocks. Historically, refining margins have been volatile, and we believe they will continue to be volatile in the future. Our cost to acquire feedstocks and the price at which we can ultimately sell refined petroleum products depend upon several factors beyond our control, including regional and global supply of and demand for crude oil, gasoline, diesel, and other feedstocks and refined petroleum products. These in turn depend on, among other things, the availability and quantity of imports, the production levels of U.S. and international suppliers, levels of refined petroleum product inventories, productivity and growth (or the lack thereof) of U.S. and global economies, U.S. relationships with foreign governments, political affairs, and the extent of governmental regulation.

Some of these factors can vary by region and may change quickly, adding to market volatility, while others may have longer-term effects. The longer-term effects of these and other factors on refining and marketing margins are uncertain. We do not produce crude oil and must purchase all of the crude oil we refine. We may purchase our crude oil and other refinery feedstocks long before we refine them and sell the refined petroleum products. Price level changes during the period between purchasing feedstocks and selling the refined petroleum products from these feedstocks could have a significant effect on our financial results. A decline in market prices may negatively impact the carrying value of our inventories.

Economic turmoil and political unrest or hostilities, including the threat of future terrorist attacks, could affect the economies of the U.S. and other countries. Lower levels of economic activity could result in declines in energy consumption, including declines in the demand for and consumption of our refined petroleum products, which could cause our revenues and margins to decline and limit our future growth prospects.

Refining margins are also significantly impacted by additional refinery conversion capacity through the expansion of existing refineries or the construction of new refineries. Worldwide refining capacity expansions may result in refining production capability exceeding refined petroleum product demand, which would have an adverse effect on refining margins.

A significant portion of our profitability is derived from the ability to purchase and process crude oil feedstocks that historically have been cheaper than benchmark crude oils, such as Louisiana Light Sweet (LLS) and Brent crude oils. These crude oil feedstock differentials vary significantly depending on overall economic conditions and trends and conditions within the markets for crude oil and refined petroleum products, and they could decline in the future, which would have a negative impact on our results of operations.

Compliance with and changes in environmental laws, including proposed climate change laws and regulations, could adversely affect our performance.

The principal environmental risks associated with our operations are emissions into the air and releases into the soil, surface water, or groundwater. Our operations are subject to extensive environmental laws and regulations, including those relating to the discharge of materials into the environment, waste management,

Table of Contents

pollution prevention measures, greenhouse gas (GHG) emissions, and characteristics and composition of fuels, including gasoline and diesel. Certain of these laws and regulations could impose obligations to conduct assessment or remediation efforts at our facilities as well as at formerly owned properties or third-party sites where we have taken wastes for disposal or where our wastes have migrated. Environmental laws and regulations also may impose liability on us for the conduct of third parties, or for actions that complied with applicable requirements when taken, regardless of negligence or fault. If we violate or fail to comply with these laws and regulations, we could be fined or otherwise sanctioned.

Because environmental laws and regulations are becoming more stringent and new environmental laws and regulations are continuously being enacted or proposed, such as those relating to GHG emissions and climate change, the level of expenditures required for environmental matters could increase in the future. Current and future legislative action and regulatory initiatives could result in changes to operating permits, material changes in operations, increased capital expenditures and operating costs, increased costs of the goods we sell, and decreased demand for our products that cannot be assessed with certainty at this time. We may be required to make expenditures to modify operations, discontinue use of certain process units, or install pollution control equipment that could materially and adversely affect our business, financial condition, results of operations, and liquidity.

For example, the International Maritime Organization (IMO) will be implementing a new regulation for a global sulphur cap for marine bunker fuels by the year 2020 (IMO 2020). Under the IMO 2020 cap, vessels will be required to use marine fuels with a sulphur content of no more than 0.50 percent beginning in January 2020, versus the current sulphur limit of 3.50 percent. While there are many uncertainties, IMO 2020 could affect our business by creating the continued need for new and updated process units necessary to produce the low sulphur marine fuel, and could increase the costs of our products.

In addition, in 2015, the U.S., Canada, and the U.K. participated in the United Nations Conference on Climate Change, which led to the creation of the Paris Agreement. The Paris Agreement, which was signed by the U.S. in April 2016, requires countries to review and “represent a progression” in their intended nationally determined contributions (which set GHG emission reduction goals) every five years beginning in 2020. While the current U.S. administration announced its intent to withdraw from the Paris Agreement in June 2017, under the agreement’s terms the earliest the U.S. can withdraw is 2020. There are no guarantees that the agreement will not be re-implemented in the U.S., or re-implemented in part by specific U.S. states or local governments. However, the Paris Agreement could still affect our operations in Canada, the U.K., Ireland, and Latin America. Restrictions on emissions of methane or carbon dioxide that have been or may be imposed in various U.S. states, at the U.S. federal level, or in other countries could adversely affect the oil and gas industry.

Severe weather events may have an adverse effect on our assets and operations.

Some members within the scientific community believe that the increasing concentrations of greenhouse gas emissions in the Earth’s atmosphere, among other reasons, may produce climate changes that have significant physical effects, such as increased frequency and severity of storms, droughts and floods and other climatic events. If any such climatic events were to occur, they could have an adverse effect on our assets and operations.

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

The U.S. Environmental Protection Agency (EPA) has implemented a Renewable Fuel Standard (RFS) pursuant to the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007. The RFS program sets annual quotas for the quantity of renewable fuels (such as ethanol) that must be blended into

Table of Contents

transportation fuels consumed in the U.S. A Renewable Identification Number (RIN) is assigned to each gallon of renewable fuel produced in or imported into the U.S. As a producer of petroleum-based transportation fuels, we are obligated to blend renewable fuels into the products we produce at a rate that is at least commensurate to the U.S. EPA's quota and, to the extent we do not, we must purchase RINs in the open market to satisfy our obligation under the RFS program.

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

Disruption of our ability to obtain crude oil could adversely affect our operations.

A significant portion of our feedstock requirements is satisfied through supplies originating in the Middle East, Africa, Asia, North America, and South America. We are, therefore, subject to the political, geographic, and economic risks attendant to doing business with suppliers located in, and supplies originating from, these areas. If one or more of our supply contracts were terminated, or if political events disrupt our traditional crude oil supply, we believe that adequate alternative supplies of crude oil would be available, but it is possible that we would be unable to find alternative sources of supply. If we are unable to obtain adequate crude oil volumes or are able to obtain such volumes only at unfavorable prices, our results of operations could be materially adversely affected, including reduced sales volumes of refined petroleum products or reduced margins as a result of higher crude oil costs.

In addition, the U.S. government can prevent or restrict us from doing business in or with other countries. These restrictions, and those of other governments, could limit our ability to gain access to business opportunities in various countries. Actions by both the U.S. and other countries have affected our operations in the past and will continue to do so in the future.

Any attempt by the U.S. government to withdraw from or materially modify existing international trade agreements could adversely affect our business, financial condition and results of operations.

The current U.S. administration has questioned certain existing and proposed trade agreements. For example, the administration has withdrawn the U.S. from the Trans-Pacific Partnership, and has indicated that the administration may withdraw the U.S. from the North American Free Trade Agreement (NAFTA) in order to encourage the U.S. Congress to vote on ratification of the United States-Mexico-Canada Agreement (USMCA), which was signed in November 2018 and is intended to be the successor to NAFTA. In addition, the administration has implemented and proposed various trade tariffs, which have resulted in foreign governments responding with tariffs on U.S. goods. Changes in U.S. social, political, regulatory and economic conditions or in laws and policies governing foreign trade, manufacturing, development and investment could adversely affect our business. For example, the imposition of tariffs or other trade barriers with other countries could affect our ability to obtain feedstocks from international sources, increase our costs and reduce the competitiveness of our products.

While there is currently a lack of certainty around the likelihood, timing, and details of any such policies and reforms, if the current U.S. administration takes action to withdraw from, or materially modify, existing international trade agreements, our business, financial condition and results of operations could be adversely affected.

Table of Contents

We are subject to interruptions and increased costs as a result of our reliance on third-party transportation of crude oil and the products that we manufacture.

We use the services of third parties to transport feedstocks to our facilities and to transport the products we manufacture to market. If we experience prolonged interruptions of supply or increases in costs to deliver our products to market, or if the ability of the pipelines, vessels, or railroads to transport feedstocks or products is disrupted because of weather events, accidents, derailment, collision, fire, explosion, governmental regulations, or third-party actions, it could have a material adverse effect on our financial position, results of operations, and liquidity.

We may incur additional costs as a result of our use of rail cars for the transportation of crude oil and the products that we manufacture.

We currently use rail cars for the transportation of some feedstocks to certain of our facilities and for the transportation of some of the products we manufacture to their markets. We own and lease rail cars for our operations. Rail transportation is subject to a variety of federal, state, and local regulations. New laws and regulations, and changes in existing laws and regulations, are frequently enacted or proposed, and could result in increased expenditures for compliance, either directly through costs for our owned and leased rail assets, or as passed along to us by rail carriers and operators. For example, in the past several years, the Department of Transportation, the Pipeline and Hazardous Materials Safety Administration, and the Federal Railroad Administration have issued orders and rules, pursuant to the Rail Safety Improvement Act of 2008, Fixing America's Surface Transportation Act of 2015 and other statutory authorities, concerning such matters as enhanced tank car standards, operational controls, safety training programs, and notification requirements. While some recent actions have provided some regulatory relief, the general trend has been toward greater regulation. We do not believe these orders and rules will have a material impact on our financial position, results of operations, and liquidity, although further changes in law, regulations or industry standards could require us to incur additional costs to the extent they are applicable to us.

Competitors that produce their own supply of feedstocks, own their own retail sites, have greater financial resources, or provide alternative energy sources may have a competitive advantage.

The refining and marketing industry is highly competitive with respect to both feedstock supply and refined petroleum product markets. We compete with many companies for available supplies of crude oil and other feedstocks and for sites for our refined petroleum products. We do not produce any of our crude oil feedstocks and, following the separation of our retail business in 2013, we do not have a company-owned retail network. Many of our competitors, however, obtain a significant portion of their feedstocks from company-owned production and some have extensive retail sites. Such competitors are at times able to offset losses from refining operations with profits from producing or retailing operations, and may be better positioned to withstand periods of depressed refining margins or feedstock shortages.

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

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

Our ability to obtain credit and capital depends in large measure on capital markets and liquidity factors that we do not control. Our ability to access credit and capital markets may be restricted at a time when we would like, or need, to access those markets, which could have an impact on our flexibility to react to changing economic and business conditions. In addition, the cost and availability of debt and equity financing may

Table of Contents

be adversely impacted by unstable or illiquid market conditions. Protracted uncertainty and illiquidity in these markets also could have an adverse impact on our lenders, commodity hedging counterparties, or our customers, causing them to fail to meet their obligations to us. In addition, decreased returns on pension fund assets may also materially increase our pension funding requirements.

Our access to credit and capital markets also depends on the credit ratings assigned to our debt by independent credit rating agencies. We currently maintain investment-grade ratings by Standard & Poor's Ratings Services, Moody's Investors Service, and Fitch Ratings on our senior unsecured debt. Ratings from credit agencies are not recommendations to buy, sell, or hold our securities. Each rating should be evaluated independently of any other rating. We cannot provide assurance that any of our current ratings will remain in effect for any given period of time or that a rating will not be lowered or withdrawn entirely by a rating agency if, in its judgment, circumstances so warrant. Specifically, if ratings agencies were to downgrade our long-term rating, particularly below investment grade, our borrowing costs would increase, which could adversely affect our ability to attract potential investors and our funding sources could decrease. In addition, we may not be able to obtain favorable credit terms from our suppliers or they may require us to provide collateral, letters of credit, or other forms of security, which would increase our operating costs. As a result, a downgrade below investment grade in our credit ratings could have a material adverse impact on our financial position, results of operations, and liquidity.

From time to time, our cash needs may exceed our internally generated cash flow, and our business could be materially and adversely affected if we were unable to obtain necessary funds from financing activities. From time to time, we may need to supplement our cash generated from operations with proceeds from financing activities. We have existing revolving credit facilities, committed letter of credit facilities, and an accounts receivable sales facility to provide us with available financing to meet our ongoing cash needs. In addition, we rely on the counterparties to our derivative instruments to fund their obligations under such arrangements. Uncertainty and illiquidity in financial markets may materially impact the ability of the participating financial institutions and other counterparties to fund their commitments to us under our various financing facilities or our derivative instruments, which could have a material adverse effect on our financial position, results of operations, and liquidity.

A significant interruption in one or more of our refineries could adversely affect our business.

Our refineries are our principal operating assets. As a result, our operations could be subject to significant interruption if one or more of our refineries were to experience a major accident or mechanical failure, be damaged by severe weather or other natural or man-made disaster, such as an act of terrorism, or otherwise be forced to shut down. If any refinery were to experience an interruption in operations, earnings from the refinery could be materially adversely affected (to the extent not recoverable through insurance) because of lost production and repair costs. Significant interruptions in our refining system could also lead to increased volatility in prices for crude oil feedstocks and refined petroleum products, and could increase instability in the financial and insurance markets, making it more difficult for us to access capital and to obtain insurance coverage that we consider adequate.

A significant interruption related to our information technology systems could adversely affect our business.

Our information technology systems and network infrastructure may be subject to unauthorized access or attack, which could result in (i) a loss of intellectual property, proprietary information, or employee, customer or vendor data; (ii) public disclosure of sensitive information; (iii) increased costs to prevent, respond to, or mitigate cybersecurity events, such as deploying additional personnel and protection technologies, training employees, and engaging third-party experts and consultants; (iv) systems interruption; (v) disruption of our business operations; (vi) remediation costs for repairs of system damage; (vii) reputational damage that

Table of Contents

adversely affects customer or investor confidence; and (viii) damage to our competitiveness, stock price, and long-term stockholder value. A breach could also originate from, or compromise, our customers' and vendors' or other third-party networks outside of our control. A breach may also result in legal claims or proceedings against us by our shareholders, employees, customers, vendors, and governmental authorities (U.S. and non-U.S.). There can be no assurance that our infrastructure protection technologies and disaster recovery plans can prevent a technology systems breach or systems failure, which could have a material adverse effect on our financial position or results of operations. Furthermore, the continuing and evolving threat of cyber-attacks has resulted in increased regulatory focus on prevention. To the extent we face increased regulatory requirements, we may be required to expend significant additional resources to meet such requirements.

In addition, new laws and regulations governing data privacy and the unauthorized disclosure of confidential information, including the European Union General Data Protection Regulation and recent California legislation, pose increasingly complex compliance challenges and potentially elevate our costs. Any failure by us to comply with these laws and regulations, including as a result of a security or privacy breach, could result in significant penalties and liabilities for us. Additionally, if we acquire a company that has violated or is not in compliance with applicable data protection laws, we may incur significant liabilities and penalties as a result.

Our business may be negatively affected by work stoppages, slowdowns or strikes by our employees, as well as new labor legislation issued by regulators.

Workers at some of our refineries are covered by collective bargaining or similar agreements. To the extent we are in negotiations for labor agreements expiring in the future, there is no assurance an agreement will be reached without a strike, work stoppage, or other labor action. Any prolonged strike, work stoppage, or other labor action could have an adverse effect on our financial condition or results of operations. In addition, future federal, state, or foreign labor legislation could result in labor shortages and higher costs, especially during critical maintenance periods.

We are subject to operational risks and our insurance may not be sufficient to cover all potential losses arising from operating hazards. Failure by one or more insurers to honor its coverage commitments for an insured event could materially and adversely affect our financial position, results of operations, and liquidity.

Our operations are subject to various hazards common to the industry, including explosions, fires, toxic emissions, maritime hazards, and natural catastrophes. As protection against these hazards, we maintain insurance coverage against some, but not all, potential losses and liabilities. We may not be able to maintain or obtain insurance of the type and amount we desire at reasonable rates. As a result of market conditions, premiums and deductibles for certain of our insurance policies could increase substantially. In some instances, certain insurance could become unavailable or available only for reduced amounts of coverage. For example, coverage for hurricane damage is very limited, and coverage for terrorism risks includes very broad exclusions. If we were to incur a significant liability for which we were not fully insured, it could have a material adverse effect on our financial position, results of operations, and liquidity.

Our insurance program includes a number of insurance carriers. Significant disruptions in financial markets could lead to a deterioration in the financial condition of many financial institutions, including insurance companies. We can make no assurances that we will be able to obtain the full amount of our insurance coverage for insured events.

Table of Contents

Large capital projects can take many years to complete, and market conditions could deteriorate over time, negatively impacting project returns.

We may engage in capital projects based on the forecasted project economics and level of return on the capital to be employed in the project. Large-scale projects take many years to complete, and market conditions can change from our forecast. As a result, we may be unable to fully realize our expected returns, which could negatively impact our financial condition, results of operations, and cash flows.

Compliance with and changes in tax laws could adversely affect our performance.

We are subject to extensive tax liabilities imposed by multiple jurisdictions, including income taxes, indirect taxes (excise/duty, sales/use, gross receipts, and value-added taxes), payroll taxes, franchise taxes, withholding taxes, and ad valorem taxes. New tax laws and regulations and changes in existing tax laws and regulations are continuously being enacted or proposed that could result in increased expenditures for tax liabilities in the future. Many of these liabilities are subject to periodic audits by the respective taxing authority. Subsequent changes to our tax liabilities as a result of these audits may subject us to interest and penalties.

On December 22, 2017, tax legislation commonly known as the Tax Cuts and Jobs Act of 2017 (Tax Reform) was enacted. Among other things, Tax Reform reduces the U.S. corporate income tax rate from 35 percent to 21 percent and implements a new system of taxation for non-U.S. earnings, including by imposing a one-time tax on the deemed repatriation of undistributed earnings of non-U.S. subsidiaries. Tax Reform also generally will (i) limit our annual deductions for interest expense to no more than 30 percent of our “adjusted taxable income” (plus 100 percent of our business interest income) for the year and (ii) permit us to offset only 80 percent (rather than 100 percent) of our taxable income with any net operating losses we generate after 2017. We have evaluated the effects of Tax Reform, including the one-time deemed repatriation tax and the re-measurement of our deferred tax assets and liabilities, and the provisions of Tax Reform, taken as a whole, did not have an adverse impact on our cash tax liabilities, results of operations, or financial condition. We have used reasonable interpretations and assumptions in applying Tax Reform, but it is possible that the Internal Revenue Service (IRS) could issue subsequent guidance or take positions on audit that differ from our prior interpretations and assumptions, which could adversely impact our cash tax liabilities, results of operations, and financial condition.

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

We currently use commodity derivative instruments, and we expect to continue their use in the future. If the instruments we use to hedge our exposure to various types of risk are not effective, we may incur losses. In addition, we may be required to incur additional costs in connection with future regulation of derivative instruments to the extent it is applicable to us.

Changes in the method of determining the London Interbank Offered Rate (LIBOR), or the replacement of LIBOR with an alternative reference rate, may adversely affect interest rates.

On July 27, 2017, the Financial Conduct Authority (FCA) in the U.K. announced that it would phase out LIBOR as a benchmark by the end of 2021. It is unclear whether new methods of calculating LIBOR will be established such that it continues to exist after 2021, or whether different benchmark rates used to price indebtedness will develop. In the future, we may need to renegotiate our revolving credit facility (the Valero Revolver) or incur other indebtedness, and the phase-out of LIBOR may negatively impact the terms of such indebtedness. In addition, the overall financial market may be disrupted as a result of the phase-out or replacement of LIBOR. Disruption in the financial market could have a material adverse effect on our financial position, results of operations, and liquidity.

Table of Contents

Changes in the U.K.'s economic and other relationships with the European Union could adversely affect us. In June 2016, the U.K. elected to withdraw from the European Union in a national referendum (Brexit). Withdrawal negotiations have yet to produce an overall structure for an ongoing relationship between the U.K. and the European Union following Brexit. The ongoing uncertainty and potential imposition of border controls and customs duties on trade as a result of Brexit could negatively impact our competitive position, supplier and customer relationships, and financial performance. The ultimate effects of Brexit will depend on the specific terms of any agreement reached by the U.K. and the European Union.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 3. LEGAL PROCEEDINGS

LITIGATION

We incorporate by reference into this Item our disclosures made in Part II, Item 8 of this report included in Note 1 of Notes to Consolidated Financial Statements under the caption "Legal Contingencies."

ENVIRONMENTAL ENFORCEMENT MATTERS

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

U.S. EPA (Fuels). We have an outstanding Notice of Violation (NOV) from the U.S. EPA related to violations from a 2015 Mobile Source Inspection. We are working with the EPA to resolve this matter.

Bay Area Air Quality Management District (BAAQMD) (Benicia Refinery). We have outstanding Violation Notices (VNs) issued by the BAAQMD from 2017 to present. These VNs are for various alleged air regulation and air permit violations at our Benicia Refinery and asphalt plant. We are working with the BAAQMD to resolve the VNs.

South Coast Air Quality Management District (SCAQMD) (Wilmington Refinery). We have outstanding NOV's issued by the SCAQMD. These NOV's are for alleged reporting violations and excess emissions at our Wilmington Refinery. We are working with the SCAQMD to resolve these NOV's.

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

TCEQ (Port Arthur). We have an outstanding Notice of Enforcement (NOE) from the TCEQ alleging unauthorized emissions associated with a November 18, 2017 release of crude oil from the 24-inch fill pipe of Tank T-285. We are working with the TCEQ to resolve this matter.

Table of Contents

TCEQ and Harris County Pollution Control Services Department (HCPCS) (Houston Terminal). We have an outstanding NOE from the TCEQ and an outstanding VN from the HCPCS alleging excess emissions from Tank 003 that occurred during Hurricane Harvey. We are working with the pertinent authorities to resolve these matters.

ITEM 4. MINE SAFETY DISCLOSURES

None.

PART II

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

Our common stock trades on the NYSE under the trading symbol "VLO."

As of January 31, 2019, there were 5,271 holders of record of our common stock.

Dividends are considered quarterly by the board of directors, may be paid only when approved by the board, and will depend on our financial condition, results of operations, cash flows, prospects, industry conditions, capital requirements, and other factors and restrictions our board deems relevant. There can be no assurance that we will pay a dividend at the rates we have paid historically, or at all, in the future.

The following table discloses purchases of shares of our common stock made by us or on our behalf during the fourth quarter of 2018.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Not Purchased as Part of Publicly Announced Plans or Programs (a)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (b)
October 2018	939,957	\$ 87.23	8,826	931,131	\$2.7 billion
November 2018	3,655,945	\$ 87.39	216,469	3,439,476	\$2.4 billion
December 2018	3,077,364	\$ 73.43	4,522	3,072,842	\$2.2 billion
Total	7,673,266	\$ 81.77	229,817	7,443,449	\$2.2 billion

The shares reported in this column represent purchases settled in the fourth quarter of 2018 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 January 23, 2018, we announced that our board of directors authorized our purchase of up to \$2.5 billion of our outstanding common stock (the 2018 Program), with no expiration date, which was in addition to the remaining (b) amount available under a \$2.5 billion program authorized on September 21, 2016 (the 2016 Program). During the fourth quarter of 2018, we completed our purchases under the 2016 Program. As of December 31, 2018, we had \$2.2 billion remaining available for purchase under the 2018 Program.

Table of Contents

The following performance graph is not “soliciting material,” is not deemed filed with the SEC, and is not to be incorporated by reference into any of Valero’s filings under the Securities Act of 1933 or the Securities Exchange Act of 1934, as amended, respectively.

This performance graph and the related textual information are based on historical data and are not indicative of future performance. The following line graph compares the cumulative total return^(a) on an investment in our common stock against the cumulative total return of the S&P 500 Composite Index and an index of peer companies (that we selected) for the five-year period commencing December 31, 2013 and ending December 31, 2018. Our peer group comprises the following eight companies: BP plc; CVR Energy, Inc.; Delek US Holdings, Inc.; HollyFrontier Corporation; Marathon Petroleum Corporation; PBF Energy Inc.; Phillips 66; and Royal Dutch Shell plc.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN^(a)

Among Valero Energy Corporation, the S&P 500 Index,
and Peer Group

	As of December 31,					
	2013	2014	2015	2016	2017	2018
Valero Common Stock	\$100.00	\$100.24	\$147.15	\$148.30	\$207.60	\$174.97
S&P 500	100.00	113.69	115.26	129.05	157.22	150.33
Peer Group	100.00	91.36	80.82	97.00	122.98	114.59

Assumes that an investment in Valero common stock and each index was \$100 on December 31, 2013. “Cumulative (a)total return” is based on share price appreciation plus reinvestment of dividends from December 31, 2013 through December 31, 2018.

Table of Contents

ITEM 6. SELECTED FINANCIAL DATA

The selected financial data for the five-year period ended December 31, 2018 was derived from our audited financial statements. The following table should be read together with Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and with the historical financial statements and accompanying notes included in Item 8, “Financial Statements and Supplementary Data.”

The following summaries are in millions of dollars, except for per share amounts:

	Year Ended December 31,				
	2018	2017 (a)	2016 (b)	2015 (c)	2014
Revenues	\$117,033	\$93,980	\$75,659	\$87,804	\$130,844
Income from continuing operations	3,353	4,156	2,417	4,101	3,775
Earnings per common share from continuing operations – assuming dilution	7.29	9.16	4.94	7.99	6.97
Dividends per common share	3.20	2.80	2.40	1.70	1.05
Total assets	50,155	50,158	46,173	44,227	45,355
Debt and capital lease obligations, less current portion	8,871	8,750	7,886	7,208	5,747

(a) Includes the impact of Tax Reform that was enacted on December 22, 2017 and resulted in a net income tax benefit of \$1.9 billion as described in Note 15 of Notes to Consolidated Financial Statements.

(b) Includes a noncash lower of cost or market inventory valuation reserve adjustment that resulted in a net benefit to our results of operations of \$747 million as described in Note 5 of Notes to Consolidated Financial Statements.

(c) Includes a noncash lower of cost or market inventory valuation reserve adjustment that resulted in a net charge to our results of operations of \$790 million.

Table of Contents

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

The following review of our results of operations and financial condition should be read in conjunction with Item 1A, "Risk Factors," and Item 8, "Financial Statements and Supplementary Data," included in this report.

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

This report, 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," "scheduled," "estimate," "project," "projection," "predict," "budget," "forecast," "goal," "could," "would," "should," "will," "may," and similar expressions.

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

- future refining segment margins, including gasoline and distillate margins;
- future ethanol segment 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;

Table of Contents

refinery overcapacity or undercapacity;

our ability to successfully integrate any acquired businesses into our operations;

the actions taken by competitors, including both pricing and adjustments to refining capacity in response to market conditions;

the level of competitors' imports into markets that we supply;

accidents, unscheduled shutdowns, or other catastrophes affecting our refineries, machinery, pipelines, equipment, and information systems, or those of our suppliers or customers;

changes in the cost or availability of transportation for feedstocks and refined 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 RFS) 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 tariffs and tax and environmental regulations, such as those implemented under the California cap-and-trade system (also known as AB 32) and similar programs, 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, the euro, the Mexican peso, and the Peruvian sol 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 Item 1A, "Risk Factors" in this report.

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 report includes references to financial measures that are not defined under U.S. generally accepted accounting principles (GAAP). These non-GAAP financial measures include adjusted net income attributable to Valero stockholders, adjusted operating income (including adjusted operating income for each of our reportable segments), and refining and ethanol segment margin. We have included these non-GAAP financial measures to help facilitate the comparison of operating results between years. See the accompanying financial tables in "RESULTS OF OPERATIONS" and note (h) to the accompanying tables for reconciliations of

Table of Contents

these non-GAAP financial measures to the most directly comparable U.S. GAAP financial measures. Also in note (h), we disclose the reasons why we believe our use of the non-GAAP financial measures provides useful information.

OVERVIEW AND OUTLOOK

Overview

For 2018, we reported net income attributable to Valero stockholders of \$3.1 billion compared to \$4.1 billion for 2017, which represents a decrease of \$943 million. This decrease is primarily due to a \$1.9 billion tax benefit in 2017 resulting from Tax Reform, which is discussed in Note 15 of Notes to Consolidated Financial Statements, partially offset by a \$1.0 billion increase in income before income tax expense. The increase in income before income tax expense is primarily due to higher operating income between the years as described below.

Operating income was \$4.6 billion for 2018 compared to \$3.6 billion for 2017, which represents an increase of \$1.0 billion. Excluding the adjustments to operating income reflected in the tables on page 32, adjusted operating income increased by \$931 million in 2018 compared to 2017.

The \$931 million increase in adjusted operating income is primarily due to the following:

Refining segment. Refining segment adjusted operating income increased \$961 million primarily due to improved distillate margins, favorable crude oil discounts, and lower costs of biofuel credits, partially offset by lower gasoline margins. This is more fully described on pages 36 through 37.

Ethanol segment. Ethanol segment operating income decreased by \$90 million primarily due to lower ethanol prices and higher corn prices, partially offset by higher corn related co-products prices. This is more fully described on pages 37 through 38.

VLP segment. VLP segment adjusted operating income increased by \$50 million primarily due to incremental revenues, partially offset by higher cost of sales, generated from transportation and terminaling services associated with a terminal and a product pipeline system acquired by VLP in November 2017 that were formerly a part of the refining segment. This is more fully described on page 38.

Corporate and eliminations. Adjusted corporate and eliminations decreased by \$10 million primarily due to expenses in 2017 associated with the termination of the acquisition of certain assets from Plains All American Pipeline, L.P. (Plains). This is more fully described on page 38.

Additional details and analysis for the changes in operating income and adjusted operating income for our reportable 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".

Table of Contents

Outlook

Below are several factors that have impacted or may impact our results of operations during the first quarter of 2019: Refining and ethanol margins are expected to remain near current levels.

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

Sweet crude oil discounts are expected to remain near current levels as export demand remains strong and freight costs continue to rise. U.S. inland sweet crude oil discounts are also expected to remain wide with higher production and limited pipeline capacity to transport crude oil out of the Permian Basin and other producing regions in the U.S.

Our refining operations in the U.K. could be adversely affected by Brexit, which is currently scheduled to occur on March 29, 2019. The U.K. and the European Union have yet to finalize the terms of Brexit, and the U.K.'s exit from the European Union without an agreement on an overall structure for an ongoing relationship with the European Union could result in the imposition of border controls and customs duties on trade that could negatively impact the operations of our Pembroke Refinery. While we do not believe that Brexit will have a material impact on us, we are taking steps to minimize the impact of possible delays on importing certain materials critical to our refining operations. The ultimate effect of Brexit will depend on the specific terms of any agreement reached by the U.K. and the European Union. See Item 1A "Risk Factors"—Changes in the U.K.'s economic and other relationships with the European Union could adversely affect us.

RESULTS OF OPERATIONS

The following tables highlight our results of operations, our operating performance, and market reference 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 refining and ethanol segment margin. In note (h) to these tables, we disclose the reasons why we believe our use of non-GAAP financial measures provides useful information.

On January 10, 2019, we completed our acquisition of all the outstanding publicly held common units of VLP pursuant to the Merger Agreement with VLP as defined and discussed in Note 2 of Notes to Consolidated Financial Statements. Upon completion of the Merger Transaction, VLP became an indirect wholly owned subsidiary of Valero.

Table of Contents

2018 Compared to 2017

Financial Highlights by Segment and Total Company
(millions of dollars)

	Year Ended December 31, 2018				Total
	Refining	Ethanol	VLP and Eliminations	Corporate	
Revenues:					
Revenues from external customers	\$ 113,601	\$ 3,428	\$ —	\$ 4	